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**Rebranding the Climate Change
Counter Movement: A Critical
Examination of Counter Movement
Messaging through a Criminological
and Political Economic Lens.**

Ruth E. McKie

PhD

2017

Volume One of Two

**Rebranding the Climate Change
Counter Movement: A Critical
Examination of Counter Movement
Messaging through a Criminological
and Political Economic Lens.**

Ruth E. McKie

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the requirement for the award for the
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Volume One of Two

Abstract

The climate change counter movement (CCCM) has been the focus of social scientists and environmental activists for several years (e.g. Greenpeace, nd, Dunlap and McCright, 2015). The movement is made up of an organised group of actors that have campaigned, distorted and minimised the impacts of climate change, and criticised domestic and international level policy to remedy climate change. The purpose of this study is to add to this area of investigation having located 465 CCCM organisations across the globe.

To examine the CCCM I adopt a two-part theoretical framework synthesising a perspective from the political economic and sociology of crime and deviance literatures. First, I propose that the operation of CCCM organisations can be explained through a Gramscian (1971) lens of Hegemony. Second, I propose the messages adopted by CCCM organisation can be understood through a crime and deviance lens. Specifically, I propose these messages can be rebranded as CCCM neutralisation techniques (Sykes and Matza, 1957)

I conducted a content analysis of 805 documents taken from these organisations to see if CCCM organisations adopted messages that could be rebranded as techniques of neutralisation. I then conducted a cross-national analysis to (1) predict the number of organisations, and (2) predict the use of neutralisation techniques across countries. A series of negative binomial regression and ordinary least squared regression equations to test whether political, economic, and ecological factors can explain the number of CCCM organisations across countries and the messages they adopt.

These results reveal strong support for the notion that CCCM organisations operate and use CCCM neutralisation techniques to protect fossil fuel hegemony against climate action. Several techniques of neutralisation are used to justify the continued use of fossil fuels and rationalise the ecological consequences to help sustain support for the hegemonic global capitalist economy. Moreover, CCCM organisations operate to challenge the rise of environmentalism and environmental protection that aims to respond to and remedy climate change.

Declaration

I declare that the work contained in this thesis has not been submitted for any other award and that it is all my own work. I also confirm that this work fully acknowledges opinions, ideas and contributions from the work of others. Any ethical clearance for the research presented in this thesis has been approved. Approval has been sought and granted by the Faculty Ethics Committee on 24th July 2015.

I declare that the Word Count of this Thesis is 77784 words

Name: Ruth E. McKie

Signature:

Date: 6th October 2017

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Abbreviations

AHL Appeal to Higher Loyalties
CCCM Climate Change Counter Movement
CEL Centre for Environmental Law
CO₂ Carbon Dioxide
COC Condemnation of the Condemner
COP15 Conference of the Parties (2009)
COP21 Conference of the Parties (2015)
CTT Conservative Think Tank
DOR Denial of Responsibility
DOI1 Denial of Injury One
DOI2 Denial of Injury Two
DOV1 Denial of Victim One
DOV2 Denial of Victim Two
DSP Dominant Social Paradigm
ENGO Environmental Non-Governmental Organisation
FOI Freedom of Information
GHG Greenhouse Gas Emissions
GPN Global Production Networks
INGO International Non-Governmental Organisations
IPCC International Panel of Climate Change
JBC Justification by Comparison
MNC Multinational Corporations
NASA National Aeronautics and Space Administration
NBR Negative Binomial Regression
NEP New Environmental Paradigm
NGO Non-Governmental Organisation
NRR Natural Resource Rents
OLS Ordinary Least Squares

PAC Political Action Committee

TCC Transnational Capitalist Class

TMC Transnational Managerialist class

TNC Transnational Corporations

UK United Kingdom

UNCTAD United Nations Conference on Trade and Development

UNFCCC United Frameworks Convention on Climate Change

US United States of America

VIF Variance Inflation Factor

ZINB Zero Inflated Negative Binomial Regression

List Of Climate Change Counter Movement Organisation

Abbreviation	Name	Country
-	Instituti Liberal Shqiptar	Albania
-	Fundacion Atlas	Argentina
-	Centro de Investifaciones de Instituciones y Mercados de Argentina	Argentina
-	Instituto Acton	Argentina
-	Fundacion Bases	Argentina
-	Libertad Progress	Argentina
-	Bert Kelly Research Centre	Australia
APF	Australian Privacy Foundation	Australia
-	Australian Taxpayers Alliance	Australia
CIS	Centre for Independent Studies	Australia
-	Climate Sceptics Party	Australia
-	The H.R. Nicholls Society	Australia
-	The Galileo Movement	Australia
-	Lavoisier Group	Australia
-	Carbon Sense Coalition	Australia
-	Mannkal Economic Education Foundation	Australia
AEF	Australian Environmental Foundation	Australia
IPA	Institute for Public Affairs	Australia
-	Australian Libertarian Society	Australia
-	Hayek Institute	Austria
-	Austrian Economics Centre	Austria
-	The Nassau Institute	Bahamas
-	Thomas More Institute (Belgium)	Belgium
-	European Enterprise Institute	Belgium
-	Instituti Economique Molinari	Belgium
-	European Centre for International Political Economy	Belgium
-	LIBERA	Belgium
-	Centre for New a Europe	Belgium
-	Scientific Research Mises Centre	Belurus
-	Instituto Liberdade	Brazil
-	Fake Climate.com	Brazil
-	The Plinio Correa De Oliveira Institute	Brazil
-	Instituto Ordem Livre	Brazil
-	Instituto Mlllenium	Brazil
-	Liberty Institute	Bulgaria
-	Institute for Market Economics	Bulgaria
-	Centre for Human Affairs	Burkino Faso
-	Foundation for Habitat Conservation	Canada
FCPP	Frontier Centre for Public Policy	Canada
-	C.D Howe Institute	Canada
-	Macdonald Laurier Institute	Canada
FOS	Friends of Science	Canada
-	Coal Association of Canada	Canada
-	Ontario Petroleum Institute	Canada
-	Manning Centre	Canada
-	Fraser Institute	Canada
-	Environment Probe International	Canada
AIMS	Atlantic Institute for Market Studies	Canada
-	Montreal Economic Institute	Canada
NRSP	Natural Resources Stewardship Project	Canada
-	Canadian Taxpayers Federation	Canada
-	Ludwig Von Mises Institute Canada Branch	Canada
-	Institute for Competitiveness and Prosperity	Canada
-	Democracy and Market Institute	Chile
-	Instituto Libertad y Desarrollo	Chile
-	Cathay Institute for Public Affairs	China
-	Uni-rule Institute of Economics	China
-	Centre for Economic Transition	China
IPENCIL	IPENCIL Economic Research Institute	China
-	China Centre for Economic Research	China

ILPPA	Institute for Liberty and Public Policy Analysis	Costa Rica
-	Association for Free Consumer	Costa Rica
CEVRO	CEVRO: Liberal Conservative Academy	Czech Republic
PSSI	Prague Security Studies Institute	Czech Republic
-	Civic Institute	Czech Republic
-	Liberalni Institute	Czech Republic
-	Environmental Assessment Institute	Denmark
CEPOS	Centre for Political Studies	Denmark
-	The Copenhagen Institute	Denmark
IEEP	Ecuadorian Institute of Political Economy	Ecuador
-	Institut Turgot	France
-	Institut Coppet	France
-	Institute for Research in Economic and Fiscal Issues	France
-	Institut Euro 92	France
-	Thomas More Institute (France)	France
IES	Institute for Economic Studies	France
-	Contribuales Association	France
-	Libres.org	France
ICREI	International Centre for Research on Environmental issues	France
-	New Economic School	Georgia
-	Die Familien Unternehmer	Germany
-	Institute for Free Enterprise	Germany
CFACT(Europe)	Committee for a Constructive Tomorrow (European Branch)	Germany
-	The Friedrich Naumann Foundation	Germany
EIKE	European Institute for Climate and Energy	Germany
IMANI	Imani Centre for Policy and Education	Ghana
CESS	Centre for Economic and Social Studies	Guatemala
CEES	Centro De Investigación es Economicas Nacionales	Guatemala
-	Universidad Francisco Marroquin	Guatemala
-	Lion Rock Institute	Hong Kong
CCS	Centre for Civil Society	India
-	Liberty Institute	India
JIMS	Jerusalem Institute for Market Studies	Israel
-	Fondazione Respublica Italy	Italy
-	Fondazione Magna Carta	Italy
-	Bruno Leoni Institute	Italy
-	Lithuanian Free Market Institute	Lithuania
IDEAS	Institute for Democracy and Economic Affairs	Malaysia
-	Malaysia Think Tank	Malaysia
RELIAL	Red Liberal de American Latina	Mexico
-	Caminos de la liberated	Mexico
-	Planck Foundation	Netherlands
NZCSC	The New Zealand Climate Science Coalition (NZCSC)	New Zealand
-	New Zealand Initiative	New Zealand
-	Climate Realists (New Zealand)	New Zealand
NZCPR	New Zealand Centre for Political Research	New Zealand
ACAHD	African Centre for Advocacy and Human Development	Nigeria
IPPA	Initiative of Public Policy Analysis	Nigeria
-	The Centre for Ethics and Technological Development	Nigeria
-	Centre for Business and Society Incorporated	Norway
-	Alternate Solutions Institute	Pakistan
-	Paraguayan Centre for the Promotion of Economic and Social Justice	Paraguay
-	Instituto Libertad y Democracia	Peru
-	Andes Libres	Peru
-	Instituto De Libre Empresa	Peru
-	The Inter-American Institute	Peru
-	The Institute for the Study of Humane Action	Peru
-	Minimal Government Thinkers	Philippines
-	Instytut Globalizacji	Poland
-	Romanian Centre for European Policies	Romania
IEA	Institute for Economic Analysis	Russia
-	M.R Stefanik Conservative Institute	Slovakia
INESS	Institute of Economic and Social Studies	Slovakia

-	Africa Fighting Malaria	South Africa
-	Free Market Foundation South Africa	South Africa
-	Centre for Free Enterprise	South Korea
SSG	Strategic Studies Group	Spain
-	Juan de Mariana Institute	Spain
-	Timbro	Sweden
-	Librerat Institut	Switzerland
-	Institut Constant de Rebecque	Switzerland
EFNAsia	Economic Freedom Network Asia	Thailand
-	Association of Liberal Thinking	Turkey
-	Open Europe	UK
IPN	International Policy Network	UK
-	Taxpayers Alliance UK	UK
-	Sense about Science UK	UK
CPS	Centre for Policy Studies	UK
-	Adam Smith Institute	UK
CIVITAS	Institute for the Study of Civil Society	UK
-	The Social Affairs Unit	UK
-	World Energy Council	UK
-	The Scientific Alliance	UK
-	Clexit	UK
-	Libre Afrique	UK
-	Freedom to Trade Campaign	UK
IEA	Institute for Economic Affairs	UK
GWPF	Global Warming Policy Foundation	UK
-	The Statistical Assessments Service	UK
-	Network for a Free Society	UK
-	Centre for Human Development	Uruguay
-	Michigan Agri-business Association	USA
-	The Rutherford Institute	USA
IPAA	Independent Petroleum Association of America	USA
-	Rocky Mountain Agri-Business	USA
SBSC	Small Business Survival Committee	USA
-	Traditional Values Coalition	USA
-	Maine Heritage Policy Centre	USA
NTU	National Taxpayers Union	USA
ALF	Atlantic Legal Foundation	USA
-	Goldwater Institute	USA
ISEM	Institute for the Study of Earth and Man	USA
-	Centre for Consumer Freedom	USA
AFOA	Alabama Forest Owners Association	USA
AGA	American Gas Association	USA
CAST	Council for Agricultural Science and Technology	USA
-	Discovery Institute	USA
-	American Recreation Coalition	USA
-	Allegheny Institute of Public Policy	USA
-	Citizens for Affordable Energy	USA
-	Centre for Strategic and International Studies	USA
-	Foundation for Defence of Democracies	USA
GCC	Global Climate Coalition	USA
ANGA	American Natural Gas Alliance	USA
CRI	Capitol Resource Institute	USA
-	Consumer Energy Alliance	USA
-	Lindenwood University: The Hammond Institute: Centre for Economics and the Environment	USA
PERC	Property and Environment Research Centre	USA
-	Fed up at the Pump	USA
IER	Institute for Energy Research	USA
PLA	Pennsylvania Landowners Association	USA
-	Tax Foundation	USA
AEI	American Enterprise Institute	USA
-	Pennsylvania Coal Alliance	USA
CABPRO	California Association of Business and Property and Resource Owners	USA

-	Collegians for a Constructive Tomorrow	USA
-	Commonwealth Foundation	USA
-	Edison Electric Institute	USA
-	Institute for 21st Century Energy	USA
-	American Farm Bureau	USA
FRC	Family Research Council	USA
ARLA	American Land Rights Association	USA
NCPPR	National Centre for Public Policy Research	USA
NCC	National Coal Council	USA
PRI	Pacific Research Institute	USA
-	The California Drivers Alliance	USA
-	Free to Choose Network	USA
AFF	Americas Future Foundation	USA
NAHB	National Association of Home Builders	USA
NARUC	National Association of Regulatory Utility Commissioners	USA
-	Chamber of Commerce of the United States of America	USA
-	Rightchange.com	USA
-	American Coal Council	USA
ARADC	Agricultural Retailers Association	USA
NPC	National Petroleum Council	USA
OICA	International Organisation of Motor Vehicle Manufacturers	USA
PPRC	Pulp and Paper-workers Resource Council	USA
ALEC	American Legislative Exchange Council	USA
LOGA	Louisiana Oil and Gas Association	USA
IECA	Industrial Energy Consumers of America	USA
-	Interstate National Gas Association	USA
-	World Affairs Council of America	USA
AEEG	Alliance for Energy and Economic Growth	USA
-	ICEAGENOW	USA
-	Lignite Energy Council	USA
NSWA	National Stripper Well Association	USA
-	Smithsonian Astrophysical Observatory	USA
-	Charles Koch Institute	USA
-	Harvard Centre for Risk Analysis	USA
-	Pioneer Institute	USA
-	Show-me Institute	USA
-	Alaska Forest Association	USA
AXPC	American Exploration Production Council	USA
-	Centre for Competitive Politics	USA
-	Junkscience.com	USA
AGF	American Gas Foundation	USA
-	Global Carbon Project	USA
-	US Grains Council	USA
-	Leadership Institute	USA
NCGA	National Corn Growers Association	USA
-	Natural Gas Supply Association	USA
NGSA	National Gas Supply Association	USA
-	South-eastern Legal Foundation	USA
-	World Coal Association	USA
-	energytomorrow.org	USA
-	The Intercollegiate Studies Institute	USA
-	National Policy Institute	USA
NRECA	National Rural Electric Cooperative Association	USA
-	Sense About Science USA	USA
CURE	Centre for Urban Renewal and Education	USA
-	Property Rights Alliance	USA
API	American Petroleum Institute	USA
-	Colderside.com	USA
BRC	Blue Ribbon Coalition	USA
FACES	Federation for American Coal, Energy and Security	USA
-	Institute for Liberty	USA
-	American Friends of the Institute of Economic Affairs	USA
NCC	National Consumer Coalition	USA
-	US Chamber of Commerce Foundation	USA

-	American Association of Petroleum Geologists	USA
-	Media Institute	USA
CDFE	Centre for the Defence of Free Enterprise	USA
-	West Virginia Coal Association	USA
-	Institute on Religion and Public Life	USA
-	The Environmental Conservation Organisation	USA
-	Consumer Alert Inc	USA
-	Property Rights Research	USA
CEI	Competitive Enterprise Institute	USA
CAGW	Citizens Against Government Waste	USA
CSCCC	Civil Society of Coalition on Climate Change	USA
NAM	National Association of Manufacturers	USA
PPF	Progress and Freedom Foundation	USA
-	Mackinac Centre for Public Policy	USA
WSPA	Western States Petroleum Association	USA
VA-SEEE	Northern Virginia Chapter of SEEE	USA
TASSC	The Advancement of Sound Science	USA
-	American Council for Capital Formation	USA
-	American Energy Alliance	USA
-	CO ₂ Coalition	USA
ACU	American Conservative Union Foundation	USA
-	Eagle Forum	USA
-	Freedom Foundation of Minnesota	USA
RDC	Resource Development Council	USA
-	Federalist Society for Law and Policy Studies	USA
CRC	Capital Research Centre	USA
-	Environmental Literacy Council	USA
-	American Society of Mechanical Engineers	USA
-	Cato Institute	USA
-	The Conservative Caucus Inc	USA
-	Frontiers of Freedom	USA
IPANM	Independent Petroleum Association of New Mexico	USA
SPPI	Science and Public Policy Institute	USA
ATR	Americans for Tax Reform	USA
-	Beacon Hill Institute	USA
CFACT	Committee for a Constructive Tomorrow (USA Branch)	USA
-	Council for National Policy	USA
-	Citizen Outreach	USA
DDP	Doctors for Disaster Preparedness	USA
-	American Energy Freedom Centre	USA
-	Independent Institute	USA
IPI	Institute for Policy Innovation	USA
IWF	Independent Women's Forum	USA
KIOGA	Kansas Independent Oil and Gas Association	USA
-	Kriebel Foundation	USA
-	Maine Woods Coalition	USA
-	National Black Chamber of Commerce	USA
-	Environment and Enterprise Institute	USA
NTUF	National Taxpayers Union Foundation	USA
-	Oregon Institute on Science and Medicine	USA
-	Resources for the Future	USA
-	Seniors Coalition	USA
-	Thomas Jefferson Institute	USA
-	United for Jobs 2004	USA
VPPI	Virginia Public Policy Institute	USA
-	Atlas Society	USA
CWA	Concerned Women of America	USA
-	Ethan Allen Institute	USA
-	Americans for a Limited Government	USA
-	Clare Booth Luce Policy Institute	USA
FEE	Foundation for Economic Education	USA
-	Heartland Institute	USA
-	Kansas Policy Institute	USA
CMA	Colorado Mining Association	USA

-	Lincoln Institution of Public Opinion Research	USA
ACSH	American Council on Science and Health	USA
-	Annapolis Centre for Science	USA
CORE	Congress of Racial Equality	USA
FTE	Foundation for Teaching Economics	USA
GES	Greening Earth Society	USA
-	The Heritage Foundation	USA
-	Physicians for Civil Defence	USA
CARE	Citizens Alliance for a Responsible Energy	USA
-	Weidenbaum Centre on the Economy, Government and Public Policy	USA
-	John Locke Foundation	USA
-	George C Marshall Institute	USA
-	Centre for Security Policy	USA
-	CO ₂ Science	USA
GPPF	Georgia Public Policy Foundation	USA
-	Hudson Institute	USA
NCPA	National Centre for Policy Analysis	USA
NAM	National Mining Association	USA
SEPP	Science and Environmental Policy Project	USA
APC	American Policy Centre	USA
APR	American Policy Roundtable	USA
NLPC	National Legal and Policy Centre	USA
FWF	Freedom Works Foundation	USA
-	Grassroots Institute of Hawaii	USA
-	American Dream Coalition	USA
-	Centre for Military Readiness	USA
DEPA	Domestic Energy Producers Alliance	USA
E&E Legal	Energy and Environmental Legal Institute	USA
-	Energy Citizens	USA
-	Americans for Competitive Enterprise	USA
-	Locke-Smith Institute	USA
-	(Ludwig) Mises Institute	USA
-	Accuracy in Academia	USA
-	Ayn Rand Institute	USA
-	Independence Institute	USA
-	Illinois Policy Institute	USA
MSLF	Mountain States Legal Foundation	USA
-	Foundation for Individual Rights in Education	USA
-	Illinois Coal Association	USA
-	Illinois Mining Institute	USA
-	Lexington Institute	USA
-	Manhattan Libertarian Party	USA
-	Property Rights Foundation of America	USA
-	Reason Foundation	USA
-	Surface Stations.org	USA
-	The Acton Institute for the Study of Religion and Liberty	USA
-	Alabama Policy Institute	USA
-	Beacon Centre of Tennessee	USA
-	Centre for Individual Freedom	USA
-	The Claremont Institute	USA
CSCA	Climate Science Coalition of America	USA
ICSC	International Climate Science Coalition	USA
-	Far West Agribusiness Association	USA
-	The James Madison Institute	USA
MRC	Media Research Centre	USA
OCPA	Oklahoma Council of Public Affairs	USA
PLF	Pacific Legal Foundation	USA
-	Plants need CO ₂	USA
-	Rocky Mountain Coal Mining Institute	USA
TPPF	Texas Public Policy Foundation	USA
TFP	The American Society for the Defence of Tradition, Family and Prosperity	USA
-	Ashbrook Centre	USA

YAF	Young America's Foundation	USA
-	World Climate Report/ /Institute for Biospheric Research	USA
FREE-ECO	Foundation for Research on Economics and the Environment	USA
-	International Society for Individual Liberty	USA
-	Bluegrass Institute	USA
EFN	Economic Freedom Network	USA
ICECAP	International Climate and Environmental Change Assessment	USA
-	Manhattan Institute for Policy Research	USA
-	Sovereignty International Inc	USA
VLRC	Virginia Land Rights Coalition	USA
WLF	Washington legal Foundation	USA
AIM	Accuracy in Media	USA
-	Centre for American Experiment	USA
-	Christian Coalition of America	USA
FFF	Future of Freedom Foundation	USA
NPRI	Nevada Policy Research Institute	USA
-	American Civil Rights Union	USA
WPC	Washington Policy Centre	USA
WFA	Western Fuels Association	USA
ICE	Information Council on the Environment	USA
-	George Bush Institute	USA
AFP	Americans for Prosperity	USA
-	US Chamber of Commerce, Business Civic Leadership Centre	USA
-	60 Plus Association	USA
SBEC	Small Business and Entrepreneurship Council	USA
-	Western Energy Alliance	USA
-	Cornwall Alliance	USA
-	Hoover Institution	USA
-	Education Action Group Foundation	USA
-	Franklin Centre for Government Policy and Public Integrity	USA
-	Centre for Energy and Economic Development	USA
-	Arizona State University, Office of Climatology	USA
-	Alexis de Tocqueville institution	USA
-	The Justice Foundation	USA
IHS	Institute for Humane Studies	USA
-	Charles Koch Foundation	USA
-	Lincoln Legal Assistance Foundation Incorporation	USA
-	George Mason University Law and Economics Centre	USA
-	AEI-Brookings Joint Centre	USA
-	Arizona Cattleman's Association	USA
-	Centre for American and International Law	USA
-	National Association of Neighbourhoods	USA
-	New England Legal Foundation	USA
-	Coalition for American Jobs	USA
-	Public Interest Watch	USA
-	US Russia Business Council	USA
-	Wyoming Business Alliance	USA
SIPES	Society of Independent Earth Scientists	USA
MPS	Mont Pelerin Society	USA
ASCC	American Association of State climatologists	USA
-	Northern Montana Oil and Gas Association	USA
CEER	Centre for Environmental Education Research	USA
-	Freedom Action Network	USA
-	Hispanic Leadership Fund	USA
-	Students for Academic Freedom	USA
-	Cascade Policy Institute	USA
-	Gun Owners of America	USA
-	The American Spectator Foundation	USA
-	American Fuel and Petrochemical Association	USA
-	Atlas Economic Research Foundation	USA
CIBO	Council of Industrial Boiler Owners	USA
-	Freedom Foundation	USA
-	Liberty Counsel	USA
NAS	National Association of Scholars	USA

-	Sovereign Society	USA
-	American Coal Foundation	USA
WTA	World Taxpayers Association	USA
AFIA	American Feed Industry Association	USA
ACCCE	American Coalition for Clean Coal Electricity	USA
-	Chemical Education Foundation	USA
-	Copenhagen Consensus Centre	USA
-	The Edmund Burke Institute	USA
-	Friends of Coal	USA
-	David Horowitz Freedom Centre	USA
INOGA	Indiana Oil and Gas Association	USA
-	Illinois Oil and Gas Association	USA
-	International Republican Institute	USA
-	Landmark Legal Foundation	USA
-	Californians Against Higher Taxes	USA
-	Institute for Regulatory Science	USA
OIPA	Oklahoma Independent Petroleum Association	USA
OOGA	Ohio Oil and Gas Association	USA
-	American Sheep Industry Association	USA
-	Tech Central Station	USA
-	Centre for Industrial Progress	USA
-	TS August	USA
-	Power for the USA	USA
SPN	State Policy Network	USA
-	National Wilderness Institute	USA
-	National Policy Forum	USA
-	National Environmental Policy Institute	USA
-	Knowledge and Progress Fund	USA
-	Liberty Foundation for America	USA
ICEE	Independent Commission on Environmental Education	USA
-	Coalition for Vehicle Choice	USA
-	Association of Global Automobile Manufacturers	USA
-	Defenders of Property Rights	USA
-	National Council for Environmental Balance	USA
-	Consumer Alliance for Global Prosperity	USA
CHC	Cooler Heads Coalition	USA
-	Consumer Alert Inc.	USA
-	Free Enterprise Action Fund	USA
CEDICE	Centre for the Dissemination of Economic Information	Venezuela

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Preface

“We chose what was right, and now in this case it is clearly wrong to destroy the prospects of living prosperously and sustainably on a clean earth when we bequeath it to our children. It is wrong to use the sky as an open sewer, it is wrong to condemn future generations to a lifetime haunted by continual declines in their standard of living, and give them a world of political disruption and all the chaos that the scientists have warned us about” (Al Gore, 2016, np).

Chapter One

Introduction

1.1. Introduction

Climate change is one of the most pressing issue facing the world (American Association for the Advancement of Science, 2006; Anderson and Bows, 2012; Hansen et al., 1998; IPCC, 2014; McKibben, 1989, 2012; Rockström et al., 2009; Steffan, Crutzen, and McNeil, 2007). The International Panel on Climate Change (IPCC), the largest intergovernmental body providing scientific and socio-economic assessments on the effects of climate change, have found that the causes of climate change are largely anthropogenic and linked to the long-term impacts of the industrial revolution including excessive increases in the concentration of Greenhouse Gases (GHG) (IPCC, 2014) (see also Rockström et al., 2009).¹

Governments, non-governmental organisations (NGOs) and transnational corporations (TNCs) have reacted to the threats associated with anthropogenic climate change, developing technologies and policies to reduce, mitigate, and adapt to existing and future climate changes (Andonova, Betsill, and Bulkeley, 2009; Gupta, 2016).^{2,3} Some of this action is aligned with the requirements of the United Nations Framework Convention on Climate Change (UNFCCC). The UNFCCC is the dominant international treaty facilitating international action to limit average global temperatures, developing coping and preventative mechanisms to deal with climate change (Betsill et al., 2015). One such mechanism is the Kyoto Protocol introduced to establish binding emission reduction targets during the 1997 UNFCCC in Kyoto, Japan. Subsequent UNFCCC conferences have reaffirmed commitment to these targets and 2015 saw a landmark

¹ Rockström et al. (2009) called this period of human accelerated climate changes the *Anthropocene*. The Anthropocene is the comparable scientific reference point to the Holocene which refers to Earth system changes and climate variability not driven by human activity. In the Anthropocene, there are nine biophysical planetary boundaries that if crossed cannot be reversed. According to Rockström and colleagues, we have already surpassed the boundary of climate change.

² The UN defines TNCs as “incorporated or unincorporated enterprises comprising of parent enterprises and their foreign affiliates. A parent enterprise is defined as an enterprise that controls assets of other entities in countries other than its home country, usually by owning a certain equity capital stake” (nd, np). Put simply, a TNC is a large company that conducts business in several countries. It incorporates production processes across national boundaries, often with production processes in less developed nations, and much of the consumption in developed nations (Jorgenson, 2003).

³ The label NGOs is contested. This thesis refers to any non-state actors that participate in global environmental policy-making (Nasiritousi, Hjerpe, and Linnér, 2016). See Stretesky, Long, and Lynch, 2017 for a review of NGOs and International NGOs (INGO).

agreement where over 188 countries agreed to a new action plan to dramatically slow rising GHG emissions (UNFCCC, 2016). Nevertheless, many scientists, environmental activists, and policy-makers recommend quicker and drastic action needs to be taken to address climate change (e.g. Angus, 2011; Dorsey, 2007; McKibben, 2015).

Despite widespread concerns about climate change, calls to confront this pressing issue have and continue to be resisted (Banerjee, 2010; Ross et al., 2016). A growing body of literature suggests that opposition organisations directly and indirectly oppose mitigation efforts. These opposition organisations are an important component of the *Climate Change Counter Movement (CCCM)* (Bonds, 2016; Boussalis and Coan, 2016; Brick, 1995; Bricker, 2014; Brulle, 2014a, 2014b; Centre for Environmental Law (CEL), 2016; Corporate European Observatory, 2010; Dunlap and McCright, 2015; Farrell, 2016a, 2016b; Greenpeace, 2011, 2016; Hamilton, 2007, 2010a, 2010b; Jacques, Dunlap, and Freeman, 2008; Kolmes, 2011; Neubauer, 2011; Newell, 2006; Oreskes and Conway, 2011; Pearce, 2007) and are the topic of this thesis.

As will be demonstrated, these CCCM oppositional organisations started to emerge in the 1950s (CEL, 2016). Today, CCCM organisations exist across the globe and they provide support for a hegemonic, fossil fuel based global capitalism (Neubauer, 2011). These oppositional organisations use their influence and power to gain access to the political process spreading doubt among the public and policy-makers about climate science and mitigation plans (Oreskes and Conway, 2010). This network of organisations present oppositional messages to convince the public and policy-makers to reject or minimise climate action. I contend these messages are diverse and deserve further study.

1.2. Research Question & Justification

This thesis examines the location of and the messages CCCM organisations produce by drawing upon the sociology of crime and deviance and political economy theory. Specifically, it examines if the messages adopted by CCCM organisation can be rebranded as CCCM neutralisation techniques, derived from Sykes and Matza's (1957) techniques of neutralisation. I hypothesise that these techniques of neutralisation are employed by organisations in the CCCM to oppose climate change mitigation efforts that

may threaten fossil fuel based global capitalism. I also hypothesise that political, economic, and ecological factors help predict the number of organisations that operate in different countries. Finally, I hypothesise that there is variation in neutralisation techniques used by CCCM organisations across countries and political, economic, and ecological factors may also help explain these differences.

This overarching aim of the thesis is divided into the following four research questions:

(1) *Do CCCM organisations adopt oppositional arguments that can be rebranded as CCCM neutralisation techniques?* In other words, do organisations use these messages to oppose climate action and can these be understood by the crime and deviance theoretical framework of *Neutralisation Theory* (Sykes and Matza, 1957). This potential application of techniques of neutralisation is discussed in Chapter Four and serves to help organise the diversity of scepticism and denial used by CCCM organisations.

(2) *If these techniques can be rebranded, are they useful for monitoring change in CCCM organisation messages?* This question is an extension of question one and specifically examines whether techniques of neutralisation could be used to monitor changes in time in organisational messaging. Doing so sets the foundation for not only how we could look to see the evolution of denial tactics used by CCCM organisations (Dunlap and McCright, 2015), but also how these tactics may be different across countries.

(3) *Do political, economic, and ecological factors predict the count of organisations across countries?* As will be demonstrated I identified 465 CCCM organisations in 53 countries. While CCCM organisation do not exist in many countries, there is considerable variation in those countries where CCCM organisations do exist. For instance, these organisations emerge in both the developed and less developed nations. I draw upon the theoretical construct of hegemony (e.g. Gramsci, 1971; Cox, 1987; Robinson, 1998) to examine whether political, economic, and ecological conditions predict the number of organisation across countries.

(4) *Do political, economic, and ecological factors influence what neutralisation techniques are adopted by CCCM organisations in different countries?* This question leads on from the previous research questions. As will be investigated, CCCM organisations in different countries may adopt different neutralisation techniques. Because of this potential geographic variation, I ask can the political, economic, and ecological conditions in a country explain the adoption of different techniques of neutralisation. Again, like question three, these political, economic, and ecological factors will be used to test if the concept of hegemony can help us explain the differences in sceptical messages adopted by CCCM organisations across countries.

Understanding the different messages CCCM organisations use as well as where and why these different organisations exist is important for six reasons. First, as Dunlap and McCright (2015) stated, “we need more studies in other nations, and especially cross-national comparisons, as undoubtedly the sources and nature of denial vary across national contexts” (p.319). Moreover, they added, “more attention needs to be paid to the international coordination of denial activities, beyond the roles of key actors from the US, UK, and Canada in stimulating denial organisations abroad” (p.319). Thus, by examining the international network of CCCM organisations identified in this thesis, I may be able to determine the potential driving forces in the manifestation of CCCM organisations across countries, why they have proliferated in certain countries, and if there are different denial ‘tactics’ or messages used by these organisations in different countries. Doing so may help us understand where and why these organisations may manifest and how they mature across countries.

Second, it is useful to adopt a more extensive exploration of CCCM neutralisation techniques used as justifications to resist climate action. This is because neutralisation techniques are one way to show the diversity of arguments employed by CCCM organisations that cannot be regarded as “denial” under its traditional definition. For instance, the argument that *human actions do not cause climate change* differs to the argument *climate change is real, but actions to address it will be detrimental to economic and social development*. The former statement takes a position of denial in so far as

denying the impact of human actions on climate change. The latter statement acknowledges the validity of scientific evidence on climate change and is therefore not sceptical of the causes of climate change, but rather opposes climate change policies based on economic grounds.

Third, the notion of diversity within CCCM organisational messaging and why they adopt different messages has recently been the focus of scholarly attention (e.g. Farrell, 2016a, 2016b; Boussalis and Coan, 2016). I hope to contribute to that area by demonstrating how different types of CCCM organisations can be identified using a formula from the sociology of crime and deviance. Thus, employing neutralisation theory to CCCM organisations is useful because it allows for these organisations to be classified according to their differences. That is, CCCM organisations are not homogenous and employing neutralisation theory to CCCM organisations is useful because it allows for these organisations to be classified according to their potential differences. Therefore, to better understand CCCM organisations and the messages they use we must find reasons for these differences. I propose this can be done by analysing cross-national political, economic, and ecological factors to discover if they help explain why CCCM organisations operate, and why some neutralisation techniques are favoured over others by these organisations in different countries.

Fourth, understanding why CCCM organisations emerge and why they may employ different messages is critical for establishing a more effective response to the CCCM. A better understanding of how these messages differ and where different messages are most likely to emerge is imperative as I examine CCCM organisations across countries where climate change policy-making may differ because of these different political, economic, and ecological conditions. Discovering the reason for these differences may help the development of specific opposing messaging to counter CCCM arguments based on these CCCM neutralisation techniques. This is a useful, pro-active tool that could be adopted by the public, NGOs and government policy-makers to help reduce the potential impacts of CCCM organisations on attitudes towards climate change.

Fifth, examining the movement using a sociology of crime and deviance framework may help establish how and why these organisations contribute to social and environment harmful behaviours. I propose that CCCM neutralisation techniques help facilitate significant harm to the environment and humans by opposing and resisting climate action. Moreover, the same messages adopted by CCCM organisations can be adopted by the public, politicians, and corporations so they reject or minimise support for actions taken to remedy climate change. This proposition adds a new contour to research on CCCM organisations proposing we can understand the CCCM through a deviance lens.

Sixth, understanding if techniques of neutralisation can be used to monitor changes in organisational messaging provides a tool to track these messages. Being able to track these messages over time is important if we are to answer the calls of Dunlap and McCright for further investigation into “the evolution of the structure, dynamics, and tactics of the denial countermovement” (2015, p.321). Moreover, by recognising that these organisations are international in scope and that they may operate and use different tactics of denial across countries, serves as a good foundation for further longitudinal cross-national investigation. The remainder of this chapter addresses the organisation of the thesis.

1.3. Thesis Chapter Structure

Chapter Two provides a detailed description of the CCCM and its’ organisations. The chapter describes some of the crucial characteristics of the movement including the social and political roots and the impacts of political polarisation on attitudes towards climate change. It describes types of organisations, the role of climate contrarian scientists in legitimising the arguments presented by CCCM organisations, and events held by CCCM organisations. Finally, the chapter identifies how previous researchers have examined the opposition arguments made by CCCM organisations and why this study opens a new avenue of investigation.

Chapter Three outlines what can be gained by adopting a Gramscian perspective to examine CCCM organisations. First, the key theoretical components of Gramsci’s (1971) theory of hegemony that are relevant to the CCCM are examined. I synthesise the

Gramscian and neo-Gramscian approaches of researchers including Robert Cox (1987), William Robinson's (1998) and Leslie Sklair (1996) to justify how they may help explain the differences in CCCM organisations across countries. This work is not the first to draw upon a Gramscian and neo-Gramscian approach to provide a conceptual framework for the CCCM overall (e.g. Neubauer, 2011), but extends prior Gramscian analysis by integrating neutralisation theory to help categorise organisations according to the neutralisation techniques they use.

I propose that the messages adopted by CCCM organisations can be rebranded as CCCM neutralisation techniques. The rebranding of neutralisation techniques is the focus of Chapter Four. Chapter Four examines neutralisation theory (Sykes and Matza, 1957) and its modern adaptations to show how it is one theoretical perspective that can be used to examine and distinguish the arguments made by CCCM organisations. The application of neutralisation theory to CCCM organisations is based on the premise that a CCCM organisation adopts one or more neutralisation techniques to justify opposition to climate change mitigation policy. It is also to convince both the public and politicians to do the same, protecting the interests of industry actors wishing to maintain carbon intensive production processes which would be compromised by action to mitigate climate change (McCright and Dunlap, 2011). In that chapter I then formulate a set of techniques of neutralisation unique to the topic of CCCM organisations originating from Sykes and Matza's original techniques: (1) *Denial of Responsibility*, (2) *Denial of Injury*, (3) *Denial of Victim*, (4) *Condemnation of the Condemners*, and (5) *Appeal to Higher Loyalties*.

Chapter Four concludes by outlining the proposed links between neutralisation theory and the theory of hegemony to show how this can help understand the messages adopted by CCCM organisations. I outline three overarching hypotheses and five related hypotheses used to test if the theory of hegemony can be used to explain cross-national differences in the number of CCCM organisation and messages adopted by these organisations.

Chapter Five outlines the data, methods, and analytical strategy used to examine CCCM organisations. It begins by describing the data and data collection process. It

addresses the complex method used to define and locate the CCCM universe where 465 CCCM organisations have formed in 53 countries between the years 1950 and 2015.

Then, I focus on the analytical strategy to address the four research questions of this thesis. The first part reviews how I conducted a content analysis of organisational messaging to answer research questions one and two. It outlines the results of primary data collection that revealed support for the CCCM neutralisation technique typology proposed in Chapter Four. Next, I document the analytical strategy used to answer research questions three and four. I outline how I first conducted a series of negative binomial regression (NBR) equations using the count of CCCM organisations in a country as dependent variables to see if political, economic, and ecological conditions as explanatory variables can predict the number of CCCM organisations in a country. Second, I explain why and how I used a set of Ordinary Least Squares (OLS) equations to examine whether these political, economic, and ecological variables can predict the differences in the messages adopted by CCCM organisations in different countries. These political, economic, and ecological variables serve as country level proxies for concepts of hegemony. Finally, the chapter outlines additional limitations of the research method.

Chapter Six presents the results of the analysis used to answer the first research question: - *do CCCM organisations adopt oppositional arguments that can be rebranded as CCCM neutralisation techniques?* The results of the content analysis reveal CCCM organisations use a range of seven CCCM neutralisation techniques. Some techniques are used more than others. Moreover, the evidence suggests that techniques are not mutually exclusive, though initial mapping of the techniques shows there are some geographic differences in where they are employed. This section also answers the second research question: - *If these techniques can be rebranded, are these useful for monitoring changes in CCCM organisation messages?* It shows that while there are some changes in the neutralisation techniques used by CCCM organisations at two points in time, they do generally use the same techniques.

Given the observations that neutralisation techniques are used by CCCM across the world, Chapter Seven presents the second portion of the analysis to answer the third

and fourth research questions: - (3) *do political, economic, and ecological factors predict the count of organisations across countries;* and (4) *do political, economic, and ecological factors influence what techniques of neutralisation are adopted by CCCM organisations in different countries?* The results of a series of NBR and OLS equations reveal that in several instances political, economic, and ecological factors influence (1) the count of organisations in a country, and (2) can explain variation in the neutralisation techniques adopted by CCCM organisations across countries.

Finally, Chapter Eight summarises the previous chapters outlining how the thesis has contributed to the wider literature on the CCCM, notably how the sociology of crime deviance provides new insights to understanding the CCCM. I then propose a list of specific responses to each CCCM neutralisation technique and justify why these arguments may be effective in countering the rise of CCCM organisations in different parts of the world. To conclude, I offer some personal observations about why further examination of the CCCM is required.

In sum, this thesis provides a new examination of the CCCM. I contend that (1) rebranded neutralisation techniques provide a new way to understand the different types of scepticism and denial used by CCCM organisations; (2) A Gramscian framework helps explain the influence of political, economic, and ecological factors on the number of CCCM organisations that will operate and why these organisations may adopt different neutralisation techniques in different countries. Therefore, CCCM organisations are not homogenous and can be partly organised along the neutralisation techniques that they employ; (3) The application of both neutralisation theory and political economic theory is a new interpretation of the way the CCCM use justifications from the sociology of crime and deviance literature to protect the vested interests of those protecting hegemony; (4) By conducting a cross-national analysis provides vital insight into the international network of CCCM organisation. This is noteworthy because there may be different reasons for their opposition and the impact they have on climate change policy-making may vary in different countries; (5) It is the actions of CCCM organisation that contribute to environmentally harmful behaviours which must be addressed if we are to protect present

and future human and non-human populations. It is to the history and development of the
CCCM that I now turn.

Chapter Two

The Climate Change Counter Movement

2.1. Introduction

The CCCM is made up of the fossil fuel industry, TNC's and multinational corporations (MNC),⁴ conservative foundations, conservative think tanks (CTT), advocacy or front groups and the media that aim to discredit climate science and challenge proposed mitigation (Boussalis and Coan, 2016; Brick, 1995; Bricker, 2014; Brulle, 2014a, 2014b; Centre for Environmental Law, 2016; Corporate European Observatory, 2010; Farrell, 2016a, 2016b; Greenpeace, 2011; McCright and Dunlap, 2015; Oreskes and Conway, 2010; Union of Concerned Scientists, 2007). This chapter traces the history of and current activities of CCCM organisations we see today.

I first examine the social and political context in which CCCM organisations have emerged, exploring their emergence and proliferation across the globe. Second, I describe the anatomy of the different organisations that make up the CCCM. That is, CCCM organisations take on different forms and each play a different role in the political process and disseminating information to the public. Third, I show how these organisations have found ways to legitimise their opposition using a group of climate change contrarian scientists and host several climate sceptic events. Fourth, I review previous assessments of these oppositional arguments before examining the media's involvement in the dissemination of these oppositional arguments to the public and politicians. Finally, I conclude the chapter by proposing that a two-part theoretical framework incorporating political economic theory and the sociology of crime and deviance provides an innovative framework to examine CCCM organisations.

2.2. The Imbalance between Scientific Consensus & Public Opinion on Climate Change

Climate and earth scientists have documented human caused changes in the Earth's atmospheric temperature since the early 18th century (e.g. Arrhenius, 1896; Callender, 1938). Reports from the IPCC and other scientific bodies examining climate

⁴ A multinational corporation (MNC) has its base in an individual country, however it operates across several countries (OECD, 1976). It differs to TNC because it does not have one secure base or home country, while TNCs have core branches across several countries (European Foundation, 2009).

change now confirm with 95 percent certainty that “human influence on the climate system is clear and growing, with impacts observed across all continents and oceans. Many of the observed changes since the 1950s are unprecedented over decades to millennia” (IPCC, 2014, p.V).

Significant action to address climate change began in 1988 when the World Meteorological Organisation and the United Nations Environment Programme established the IPCC. The IPCC is an international research and governance team dedicated to examining the scientific and social impacts of climate change that underpin domestic and international climate policy (IPCC, 2013). Shortly following the establishment of the IPCC, in 1992 the first international climate change conference took place in Rio de Janeiro at the United Nations Conference on Environment and Development (UN, 1992). This led to the first international treaty addressing climate change, the adoption of Agenda 21, and the formation of the UNFCCC to create an international governance strategy designed exclusively to address the challenges faced by climate change.⁵

Despite the overwhelming supporting evidence on human caused climate change (Schellnhuber, Rahmstorf, and Winkelmann, 2016), public opinion polls paint a picture of scepticism and mixed levels of concern (Shwom et al., 2015). For instance, a 2015 Pew Research Centre (PEW) poll examining global concern about climate change revealed that, on average, only 54% of respondents across 40 nations believed climate change was a serious concern. In the same year, GlobalScan (2015) recorded a six-year decline in global public concern about climate change. In contrast, a 2017 report from the European Perceptions of Climate Change Project revealed that across three European countries (1) climate change scepticism was “not very widespread” (p.36); (2) renewable energy resources were viewed positively compared to oil and coal; and (3) there was strong support for domestic and international strategies to address climate change (see also McCright et al., 2016). These mixed findings on public perceptions of climate change are not unusual and I contend one reason for the disparity between scientific support and political action to address climate change is the influence of the CCCM.

⁵Agenda 21 is run by the International Council for Local Environmental Initiatives. It addresses the developments of societies and economies, and their relationship to conservation, sustainability, and natural resources (UN, 1992).

2.3. Emergence of the Climate Change Counter Movement

In 2016, an investigation by the Centre for Environmental Law (CEL) uncovered that as early as 1956, several multinational and transnational corporations including ExxonMobil and Marathon Oil Corporation, NGO's including The Charles Koch Foundation and The American Petroleum Institute (API), and research institutions such as Brown University and Stanford Research Institute began to conduct and accumulate research that undermined climate science.

Overall, the CEL report showed that the beginnings of the movement to deny climate science and resist climate change policy appeared well before the emergence of what we now understand is a large network of organisations attempting to undermine the scientific consensus and policy actions to mitigate climate change. That is, early efforts of key fossil fuel actors set the stage for the emergence of modern day CCCM organisations. These CCCM organisations have reshaped the public and political debate over climate change and oppose related policies.

In 1972, the National Petroleum Council (NPC) - representing most segments of the United States of America's (US) oil and gas industry - prepared a document for regulators at the Department of Interior⁶ creating doubt and controversy about climate change. In the report, they stated:

“Carbon Dioxide concentrations do appear to be increasing for reasons not well understood...As far as global implications are concerned; it seems a justifiable conclusion that there will be no possibility of establishing whether or not a serious problem exists until at least the turn of the century” (National Petroleum Council, 1972, p.7).

Here the NPC admitted that climate change exists, however they sow the seeds of doubt by arguing climate science is still 'not well understood' minimising the severity of rising carbon dioxide (CO₂) emissions. Similarly, in 1980 Imperial Oil -- a Canadian-based subsidiary of ExxonMobil with ties to the NPC (Greenpeace, 2016) -- released an internal document *Review of Environmental Protection Activities for 1978-1979*.⁷ Imperial Oil reported “there is no doubt that increases in fossil fuel usage and decreases in forest

⁶ The Department of Interior is a cabinet-level agency under the US government that manages natural and cultural resources (see <https://www.doi.gov/whoweare/history/>).

⁷ One of these ties includes ExxonMobil's former chairman and chief executive officer Rex Tillerson a member of the NPC.

cover are aggravating the potential problem of increased CO₂ in the atmosphere” (Imperial Oil, 1980, p.2). As the statement suggests, while Imperial Oil acknowledged the links between fossil fuel use and increased concentrations of CO₂, they simultaneously have and continue to engage in lobbying efforts to dismantle and head off climate action (Office of the Commissioner of Lobbying of Canada, 2017).

In this thesis, I attempted to capture an overall world picture of the CCCM organisational network and its emergence. I identified 465 CCCM organisations across 53 countries that had varying levels of interest in climate change (see Appendix A). The methods for identifying these organisations is detailed in Chapter Five. Some organisations have emerged precisely to challenge the climate change consensus such as the CO₂ Coalition and Cooler Heads Coalition (CHC). Others maintain specific sections of policy and research dedicated to energy and environmental policy such as the Institute for Public Affairs (IPA) and the Heartland Institute. And there are some that do not focus on climate change science but do discuss the issue in relation to other policy issues such as the Taxpayer’s Alliance UK.

Figure 2.1 charts overtime when CCCM organisations first drew attention to the issue of climate change, openly releasing documents to the public, politicians, and/or stakeholders in the fossil fuel industry. The first organisations emerged in 1957 (CEL, 2016), however it was not until around 1988-1989 when the movement began to proliferate (see also Brulle, 2014a).

Figure 2.1. Date CCCM Organisations First Discussed Climate Change, 1950-2015



With these results, it is possible to suggest some links with political-economic conditions that may have influenced the emergence of CCCM organisations at certain points in time. First, Figure 2.1 shows that the number of CCCM organisations began to significantly increase from 1988. 1988 was the year climate scientist James Hansen made a US congressional testimony urging immediate action to tackle climate change (Dunlap and McCright, 2015). What follows are three peaks showing a sharp increase in the number of CCCM organisations emerging, with an initial peak between 1997/8. During this time, the UNFCCC established the Kyoto Protocol, cementing a global initiative to address climate change. The second sharp increase occurs in 2006. 2006 is the year after the Kyoto Protocol and emissions trading system began (UNFCCC, nd).

The final rise is between 2009 and 2010. In this year, the outcomes of the fifteenth Copenhagen Conference of the Parties (COP15) led to continuing support for emissions reductions and further development of adaptation and mitigation strategies. However,

negotiations were characterised by a breakdown of internationally co-ordinated efforts to address climate change (Goodwin, 2016). Furthermore, 2009 was also the year thousands of emails and other documents were illegally released from The Climate Research Unit at the University of East Anglia, one of the main research institutes contributing to the IPCC (Grundmann, 2013). Now widely labelled *Climategate*, the documents were posted online and distributed by many news outlets and social media sites (Leiserowitz et al., 2013). Accusations of corruption were made against scientists, alleging they had purposefully ignored a medieval period of warming that would reportedly contradict some of the evidence supporting human caused climate change (Stoutenborough, Liu, and Vedlitz, 2014).

Even when the evidence was debunked, Climategate continued to be incorporated into oppositional positions by CCCM organisations (Dunlap and McCright, 2015). Unsurprisingly, public opinion surveys conducted after Climategate revealed a decline in concern and belief about the risks of climate change and its causes (Capstick et al., 2015; Leiserowitz et al., 2013). For instance, Capstick et al.'s (2015) review of secondary literature reporting on trends in international perceptions of climate change, revealed Climategate had a negative effect on public attitudes towards climate change (see also Stoutenborough et al., 2014; Whitmarsh, 2011).

This brief history of CCCM organisations provides a starting point for examining the social, political, and economic context in which these organisations have manifested. Arron McCright and Riley Dunlap are two of the most influential scholars conducting research on the CCCM and have produced a portfolio of research documenting the historical roots of both US and non-US CCCM organisations (Dunlap and McCright, 2008, 2010, 2015; McCright and Dunlap, 2000, 2003, 2010, 2011a, 2011b, 2014).

Summarising their work, since the 1970s and particularly in the west, the rise of environmentalism has transformed human attitudes towards the environment. The work of climate scientists such as Michael Mann and James Hansen have increased our knowledge about climate change exposing the environmentally harmful impacts of everyday production and consumption practices. The response across society to address

environmental challenges such as the introduction of environmental policies and the rise of environmental movements became embedded in a new ecological world view more commonly referred to as the 'new environmental paradigm' (NEP) (Dunlap and Van Liere, 1978).

The work of scientists, policy-makers, and rise of environmental groups unwittingly destabilised the political and social order that treated nature as simply a tool for human development, and accepted environmentally destructive production and consumption practices (Hamilton, 2010a). That is, advancements within the social and natural science, incorporating 'reflexive' attitudes towards the realities and contradictions of industrial development and modernisation (Beck, Giddens, and Lash, 1994; Bulkeley, 2001), challenged the 'dominant social paradigm' (DSP). In other words, society began to confront ecological problems that challenged dominant attitudes about the Earth's resources, recognising there is no longer material abundance for advancements in technology and social development, and the value of nature cannot simply be subdued to only a tool of economic growth and technological advancement (Dunlap, 2008). A reaction to this challenge to the DSP is the manifestation of the CCCM, emerging to reject the climate scientific consensus and respond to the reflexive modernisation of the west that recognised the implications of industrial capitalism and environmental exploitation (see also Antonio and Brulle, 2011). As evidenced in previous work and this thesis, the CCCM continue to operate today.

2.4. Internationalising the Climate Change Counter Movement

Much evidence has documented the growth of the CCCM and its organisations in the US (e.g. Brulle, 2014a, 2014b, Jasney, Waggle, and Fisher, 2015; McCright and Dunlap, 2000, 2003). Researchers have also identified CCCM organisations in other parts of the world (e.g. Farrell, 2016a, 2016b; McKewon, 2012; Plehwe, 2014). For example, Plehwe (2014) identified 18 European think tanks that published sceptical positions on climate change. More recently, Fischer and Plehwe (2017) have identified several CCCM organisations in Latin America that have promoted oppositional positions on climate change. Harkinson (2009) studied 40 CCCM organisations making up the Civil Society

Coalition on Climate Change (CSCCC), 30 of which are located outside of the US. Harkinson found that coalition members maintained non-US dominance even as it expanded considerably over time (see Table B.2 Appendix B for a list of CSCCC members between the years 2007-2014). Hence, the work of Harkinson and others demonstrates that CCCM organisations are not simply a US phenomenon. This international variation in the CCCM has yet to be seriously considered in much of the CCCM research. Thus, it is important to understand why the movement may cut across geographic boundaries answering the call of Dunlap and McCright (2015) to study closer these organisations in other countries and conduct cross-national analyses. As previously noted, this thesis investigates this cross-national variation in CCCM organisations to help address this gap in the literature.

Based on the results of this study (see Chapter Five), Table 2.1 shows the frequency and percentage of organisations in each country where at least one CCCM organisation existed. A total of 465 organisations were located across 53 countries between the years 1950-2016. Some of these organisations no longer exist and the number of defunct organisations in each country are reported in brackets (N=21).

Most CCCM organisations have or continue to operate in the US (N= 319, 69.5%). This is unsurprising as researchers have documented the CCCM's long history in US environmental politics. In a distant second is the United Kingdom (UK) (N=17, 3.5%) followed by Canada (N=16, 3.0%) and Australia (N=12, 2.0%). Some organisations have emerged in less developed and developing nations. For instance, some have emerged in parts of South America including Peru (N=5, 1%), Brazil (N=5, 1%), and Chile (N=2, 0.4%). A small number of organisations operate in parts of Africa (e.g. Nigeria, N=3, 0.6%), South Africa (N=2, 0.4 %) and India (N=2, 0.4%). CCCM organisations in these lower income countries tend to be underrepresented in the CCCM literature (for exceptions see Fischer and Plehwe, 2017; Harkinson, 2009)

Table 2.1. Frequency Of Organisations by Country Between The Years 1950-2015⁸

Country	Frequency (Defunct)	Percentage
Albania	(1)	0.2
Argentina	5	1.0
Australia	12	2.0
Austria	2	0.4
Bahamas	1	0.2
Belgium	5(1)	1.2
Belarus	1	0.2
Brazil	5	1.0
Bulgaria	2	0.4
Burkino Faso	1	0.2
Canada	15 (1)	3.0
Chile	1(1)	0.4
China	5	1.0
Costa Rica	2	0.4
Czech Republic	4	0.8
Denmark	2(1)	0.6
Ecuador	1	0.2
France	9	2.0
Georgia	1	0.2
Germany	5	1.0
Ghana	1	0.2
Guatemala	3	0.6
Hong Kong	1	0.2
India	2	0.4
Israel	1	0.2
Italy	3	0.6
Lithuania	(1)	0.2
Malaysia	2	0.4
Mexico	2	0.4
Netherlands	1	0.2
New Zealand	3	0.6
Nigeria	3	0.6
Norway	1	0.2
Pakistan	1	0.2
Paraguay	1	0.2
Peru	5	1.0
Philippines	1	0.2
Paraguay	1	0.2
Poland	1	0.2
Romania	1	0.2
Russia	1	0.2
Slovakia	2	0.4
South Africa	2	0.4
South Korea	1	0.2
Spain	2	0.4
Sweden	1	0.2
Switzerland	2	0.4
Thailand	1	0.2
Turkey	1	0.2
UK	17	3.5
Uruguay	1	0.2
USA	315 (15)	69.5
Venezuela	1	0.2
Total	444 (21)	100

⁸ Names of defunct organisations can be found in Chapter Five, Footnote 37. For a review of these organisations see Appendix A. Some organisations have been inactive since 2016. These have not been removed from the analysis as the data was collected in 2015.

In all, the evidence presented thus far indicates that between the years 1950-2016 the international network of CCCM organisations has expanded to potentially minimise the attention devoted to climate change and possibly forestall domestic and international environmental policy across different parts of the world. These trends are likely driven by the large number of organisations in the US, but it is also important to recognise that these organisations are not simply a US phenomenon. As will be discussed below and in the following chapters, the growth of CCCM organisations in the US is aligned with the rise of a political polarising approach with respect to climate change and other environmental problems. Nonetheless, while there are far fewer organisations in other parts of the world, the ideological messages used by these organisations and the reasons why these organisations may have emerged to disrupt climate action need additional theoretical and empirical investigation.

2.5. The Anatomy of Climate Change Counter Movement Organisations

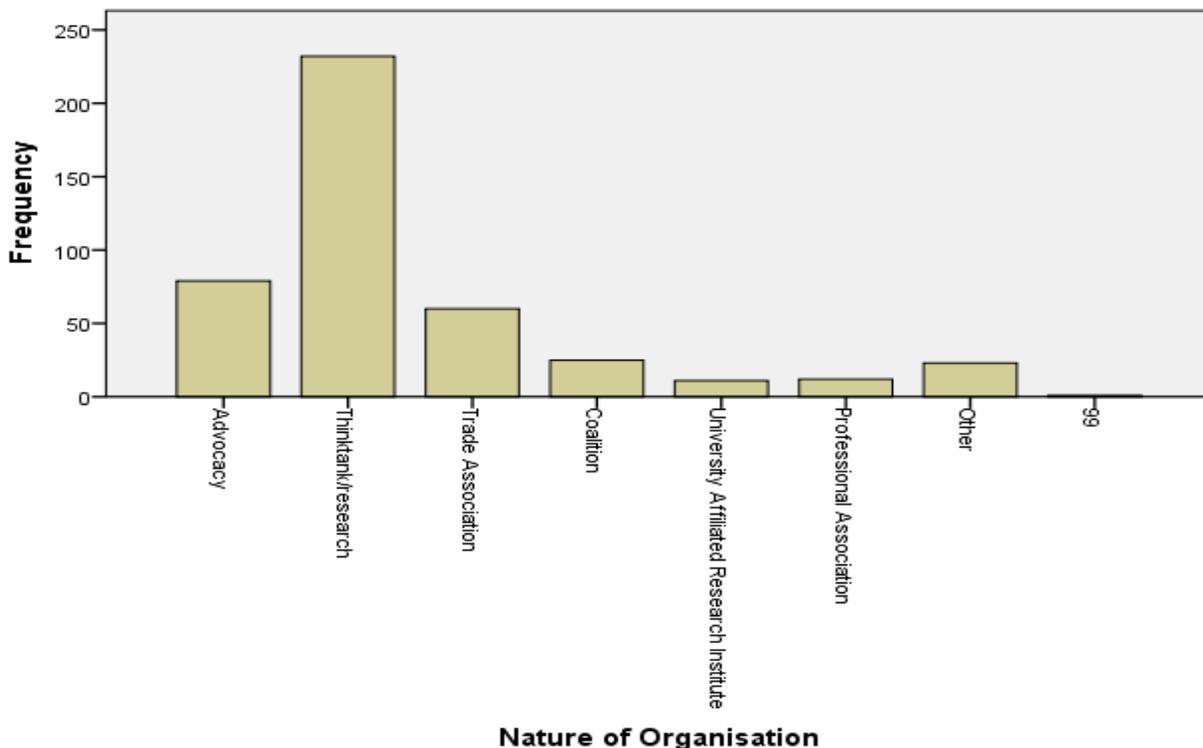
2.5.1 Overview

The organisations making up the CCCM take different shapes; CTTs or research institutes, advocacy or front groups, trade and professional association, and philanthropic foundations (Dunlap and McCright, 2010). Figure 2.2 charts the frequency distribution of these different types of CCCM organisations located in this research. Over half of the organisations in this research were categorised as think tanks (50.7%, N= 231). Advocacy organisations made up 17% (N=77) of the organisational universe, and 6% (N=29) of organisations were categorised as foundations. Trade associations made up 11.1% (N=51) and professional associations 1.1% (N=5) of organisations in the CCCM universe. There were 7 university based research institutes making up 1.5% of the organisational universe, and 27 coalition organisations making up 5.6% of the organisational universe. Finally, 7% (N=31) of the organisations are listed as 'other.' The 'other' represents any organisation that does not fit the definition of one of the seven above.⁹ Dividing these organisations in this fashion is good for discussion, but, in reality, there are several

⁹ The category 99 represents the one organisation with missing data that could not be determined from its website or tax reports.

significant overlapping features (Pizzigati, 2007). I discuss this categorisation further below and in Chapter Five.

Figure 2.2. Frequency Distribution Of Different Types Of CCCM Organisations Across The Globe¹⁰



2.5.2. Conservative Think Tanks

The larger number of CCCM organisations can be classified as CTTs (N=231). Most research emphasises the role of CTTs in the CCCM. A think tank is a political organisation that advises and develops broad policy documents for governments across the world (Fraussen and Halpin, 2017). Weidenbaum (2011) suggested that CTTs, like the ones studied here, are more likely than liberal think tanks to take an advocacy-oriented role in immediate policy debates. Thus, CTTs not only conduct research but also pursue messaging strategies with a strong ideological basis (Abelson, 2009). Moreover, many experts have suggested that it is CTTs that have stronger financial support to promote their ideological interests over liberal and progressive think tanks (McGann, 2007). Consequently, CTTs are often conceived as interest groups that address policy issues

¹⁰ The block '99' represents 'unclassified organisations where the nature of the organisation could not be determined.

only when they come to the forefront of political debates. This means, rather than have a policy agenda that strategically formulates approaches to address current issues overtime, they produce reactionary reports to issues such as climate change.

Some of the large and well established CTTs have taken a historic role in disseminating opposing information on climate change. The Heartland Institute is possibly the most well documented CCCM organisation that can be classified as a CTT. The organisation is a vocal opponent of climate regulation, denigrating climate science and environmentalists, and promoting oppositional science (Dunlap and McCright, 2010).

In 1993, Heartland set up a specific unit within its organisation to address climate change and environmental policy. The unit has published articles, policy reports, and books including *'Eco-Sanity: A Common-Sense Guide to Environmentalism'* to discredit climate science authored by several climate contrarians that conduct oppositional research on climate change. The organisation's position on climate change is:

" The evidence is overwhelming that rising atmospheric CO₂ levels will continue to help plants thrive, leading to greater biodiversity, shrinking deserts, expanded habitat for wildlife, and more food for a growing human population...The claim of scientific consensus on the causes and consequences of climate change is without merit...Economics can show committed environmentalists how they can better achieve their goals by recognising fundamental economic principles such as the need to make trade-offs, to measure costs and benefits, and to take into account such economic concepts and marginal costs..." (Heartland Institute, 2016, np).

As this quote suggests, the Heartland Institute rejects several points on the consensus on climate change. (1) It rejects the notion that a scientific consensus exists; (2) It purports the positive impacts of rising CO₂ and climate change; (3) it emphasises what it claims are greater social and economic costs of implementing strategies that will remedy climate change.

The Hoover Institution is another well-established CTT that has a dedicated Energy Policy Task Force. In 1995, the organisation along with the Cato Institute released the report, *'Climate of Fear: Why We Shouldn't Worry About Global Warming'* by climate sceptic Thomas Gale Moore (Greenpeace, nd). It documented proposed scientific uncertainties of the human impacts on climate change and the economic risks of mitigating climate change. Similarly, the Beacon Hill Institute, published one of its first

policy studies on climate change in 2008 together with the CTT the Independence Institute, criticising what the organisations contended were a lack of cost-benefit analyses on the impacts of Colorado's GHG reduction plan. The Beacon Hill Institute had previously reported on climate change in collaboration with the CTT the John Locke Foundation. The John Locke Foundation covers several policy issues, has a department dedicated to energy and the environment, and ran a separate department called *Climate Strategies Watch*. The now defunct Climate Strategies Watch was committed to - what they argued was - exposing stealth environmental advocacy by the Centre for Climate Strategies and scrutinising climate change policy in the US (Climate Strategies Watch, nd).

As the examples above show, some CTTs distribute reports and educational materials on climate change to schools and similar institutions to spread oppositional messages to the public (Dunlap and Jacques, 2013). Dunlap and Jacques' (2013) dedicated an important study to the examination of 103 books denying anthropogenic climate change produced by climate contrarians and CTTs. The researchers illustrate how these materials are often written and produced by contrarian scientists, a wide range of whom do not have scientific backgrounds.

Another CTT that disseminates these educational materials is the Foundation for Teaching Economics (FTE). In 1999, the organisation claimed it is important to distribute educational materials that take an oppositional position on climate change. They added that such information should be distributed in the same way as information regarding the 97.5% scientific consensus on climate change. They argued:

"Production occurs in response to human wants and needs...All choices involve trade-offs...Choices to preserve the environment impose costs as well as conferring benefits...Clearly defined property rights and market transactions can provide environmental quality" (1999, np).

The implication of this statement by FTE is that climate change mitigation policy is misguided because it interferes with humans' wants and needs. Moreover, if humans are patient enough the market will reduce the costs of production and end climate change without harmful mitigation policy. These types of ideas are reproduced by think tanks and are often used to generate opposition to climate change mitigation policies. As Dunlap and Jacques suggested, "powerful actors, first by the fossil fuels industries, and then by

the conservative movement, primarily via the latter's influential "*think tanks*" have "*germinated*" the debate on climate change" (p.217, emphasis added). Furthermore, as will be discussed, these materials are used to amplify the values of the conservative movement and political elites that wish to sustain fossil fuel based production practices.

2.5.3 Conservative Think Tanks & Neoliberalism

To further understand the important role of CTTs in the CCCM it is useful to illustrate the history and rise of the US Conservative Movement. Since the 1970s, the growth and influence of CTTs in the US was part of a larger shift in US politics to incorporate neo-liberal ideology into mainstream politics (Mudge, 2008; Smith, 1991). Neoliberal ideology refers to a political ideology associated with an economic system that is market led and global in nature (Harvey, 2005b). Those employing neo-liberal ideology advocate financialisation, deregulation, and privatisation to spur on unparalleled growth of stock markets, boost corporate profits, and enrich large investors (Harvey, 2005b). It promotes scepticism towards government's ability to allocate resources and stimulate markets (Oatley, 2006) by equating an economic system that pursues the endless accumulation of capital with the notions of individual property rights and democracy (Antonio and Brulle, 2011).

To sustain an economic market that pursues maximum accumulation of capital, often enriching those with greater power over the wider population, neoliberal ideology has become synonymous with conservatism (Smith and Marden, 2008) and therefore with US Republican politics.¹¹ To emphasise and protect neoliberal ideology, many US CTT equate the language of conservatism, including evangelical Christian values and patriotism (Norton, 2005) with neoliberalism to help diminish support for environmentally regulatory strategies (Boykoff and Olsen, 2013). This is despite neoliberalism and [neo] conservatism having very few overlapping features, but have otherwise formed a partnership connecting traditional conservative values with neo-liberal ideology (Brown, 2006).

¹¹ Although, it is important to note that support for neoliberal economics are no longer tied to a single political party (Klein, 2017).

The relationship between conservatism, neoliberal ideology, CTTs, and the Republican Party has increased the political polarisation of climate change in the US. For instance, in 2008, Dunlap and McCright highlighted the growing divide between political parties and support for environmental protection. They found, that since the late 1990s the political partisan divide in beliefs of climate change had widened amongst members of congress and the public. Importantly, the mobilisation of the conservative movement adopting oppositional messaging led to the proliferation in partisan divides on climate change. In 2011, the researchers analysed ten nationally representative Gallup polls between Republican (conservative) and Democrat (liberal) supporters on attitudes towards climate change. Again, they reported that between 2001 and 2010 the partisan divide on the issue of climate change has continued to grow and climate change opposition in the US is largely associated with the Republican Party (Dunlap and McCright, 2010) (see also Longo and Baker, 2014).

CTTs, then, can be thought of as politically polarising actors that incorporate neo-liberal values such as economic freedom, property rights, and individualism, with support for an oppositional position on climate change science and policy. As discussed in more detail in Chapter Three, these values support a neoliberal economic system that requires the accumulation of capital and is ecological destructive (Altvater, 2007; Magdoff and Foster, 2011). To be clear, this neoliberal ideology has become synonymous with conservative politics within the American political system and is therefore an extension of the commitment to a fossil fuel based capitalism.

To better demonstrate the connection between CTTs as CCCM organisations and politics consider the American Conservatives Union. The American Conservatives Union is a CTT that works closely with the US Republican Party (Grossmann and Dominguez, 2009) combining climate change scepticism, conservatism, and neo-liberal ideological messages. The organisation released one of its first public documents on climate change in 1997 stating, “empirical data available doesn't support their fears [referring to climate scientists], or that computer model after computer model has been proven wrong by data...” (np).

Likewise, the Family Research Council which lobbies for neo-liberal based policies on behalf of the US Republican senate (Martin, 1999) questioned climate science in 1998:

“Though the existence of global warming is still not conclusively proven, the Kyoto treaty would force participating nations to reduce their output of CO₂ and other GHGs. The treaty would require developed nations like the US to cut back, but would place no requirements on “developing” (i.e., poorer) nations” (1998, np).

Another example is the Conservative Caucus Inc. which has played an integral role in shaping US Republican politics since 1974 (Lienesch, 1982). In 2007, the organisation questioned climate data and environment policies proposed by the Liberal Democratic Party arguing:

“...Any suppression of freedom and democracy should be avoided... Let us resist the politicisation of science and oppose the term “scientific consensus”, which is always achieved only by a loud minority, never by a silent majority” (2007, np).

The American Conservatives Union, Family Research Council and Conservative Caucus, along with several other CTTs, continue to play an active role in politics that help shape US domestic and foreign policy. The values embedded within neo-liberalism that have become increasingly associated with the Republican Party have aligned with oppositional positions on climate change to protect fossil fuel based capitalism (Kramer, 2013). This is because domestic and international climate action in most cases compromises neo-liberal ideology and the economic system it protects (Andrew, Kaidonis, and Andrew, 2010).

The political polarisation of the climate change debate is not unique to the US. These contrarian perspectives are also distributed by Australian CTTs and have been picked up by Conservative Australian politicians such as Former Prime Minister Tony Abbott (Readfearn, 2014). Moreover, they have impacted public opinion on climate change that exhibit conservative beliefs (Mitchell, 2015; Tranter and Booth, 2015). For example, Young and Coutinho (2013) noted that there is less political legitimacy given to climate scepticism in Australia, but the increasing number of CCCM organisations including CTTs suggest scepticism is becoming increasingly accepted among conservative political party members and supporters. This they contended, was and is partly attributed to the conservative shift under the Howard government to incorporate

more aggressive neo-liberal based policies. Data in this thesis shows some support for this point. Between the years 1996-2007 when the Howard government had political power, over half (N=7) of the CCCM organisations currently operating in Australia emerged to challenge the climate consensus.

One of these organisations is the Centre for Independent Studies (CIS) which has made several statements opposing climate change policies. In 1998, on behalf of the CIS organisation conservative economist Geoff Hogbin stated:

“...Based on the evidence available to us, we cannot subscribe to the so-called ‘scientific consensus’ that envisages climate catastrophes and advocates hasty action. As the debate unfolds, it has become increasingly clear that – contrary to conventional wisdom – there does not exist today a general scientific consensus about the importance of greenhouse warming from rising levels of CO₂” (1998, np).

Here, the CIS promoted the idea that there is doubt amongst the scientific community about the causes and impacts of climate change, and questions hasty action is required. Similarly, the Australian based Bert Kelly Research Centre is heavily influenced by neo-liberal values and has hosted several events on climate change with speakers including well-known climate sceptics such as Mark Steyn, and the now deceased Robert ‘Bob’ Carter (see Bert Kelly Research Centre website, 2016). Both the CIS and Bert Kelly Research Centre have collaborated with the Australian CTT the Institute of Public Affairs (IPA). In 1997, the IPA’s environment unit report on climate change criticised the presentation of climate science data by the IPCC. They have continued this critical trend when in 2015 the organisations published the edited book ‘*Climate Change: The Facts*’ comprised of chapters written by several climate contrarian scientists.

Over half of the organisations in the UK identified in this research can be categorised as CTTs (N=9). Like CTTs in the US and Australia, these UK CTTs challenge and oppose climate change policies and question climate science. For instance, in 1997, the conservative oriented Centre for Policy Studies (CPS) produced the document *Climate Change: A Guide to the Scientific Uncertainties*. This document was produced to create doubt and controversy on climate science and policy advice.

Similarly, the Adam Smith Institute has commented on the issue of climate change since 2002. Like the CPS, this UK based organisation has produced policy reports

designed to impact government policy and undermine government action to address climate change underpinned by neo-liberal principles. For instance, in 2002 the institute criticised the government's environmental and energy policy stating, "public perception and government policy are today defined more by environmental spin rather than science" (2002). In this case, they criticise environmentalism and later go on to criticise energy policies that increase taxation and binding emissions targets. This is because, such policies compromise conservative and neoliberal ideological political-economic view similar to those organisations in the US and Australia.

This connection between ideology and the anti-regulatory agenda of CCCM organisations suggests it has been a driving force why CTTs would adopt oppositional positions on climate change across countries. Moreover, neo-liberal ideology and the political polarisation of climate change has infiltrated CTTs and other CCCM organisations in other parts of the world.

2.5.4 Advocacy Organisations & Front Groups

Another common type of organisation in the CCCM are advocacy organisations or front groups that are set up in the specific interests of industry groups. Like CTTs they "undertake extensive lobbying activities, shielded from the public gaze" (Gray, Bebbington, and Collison, 2006, p, 329) to protect the interests of transnational and multinational corporations such as fossil fuel corporations (Dorsey, 2007; Levy, 1995). These organisations are meant to appear as legitimate grassroots organisations or think tanks; however, they are often funded by industry groups wishing to hinder actions that compromise the ability of corporate actors to accumulate capital (Cho et al., 2011; McNutt, 2010). Therefore, unlike traditional grassroots organisations that often emerge to challenge social and environmental challenges (McNutt and Boland, 2007), they have emerged specifically to counter support for climate change science and policy.

While distinctions are often made between advocacy organisations and CTTs they are sometimes used interchangeably (Weidenbaum, 2011). For instance, the front group Citizens for a Sound Economy, changing its name to Americans for Prosperity in 2004, declares themselves a think tank. However, their organisational history illustrates that the

organisation was aligned with the interests of big businesses and has received funding from industry actors such as the Koch Foundations (Brulle, 2014b; Greenpeace, 2007). The advocacy group has campaigned and lobbied politicians to promote the interests of big business and the oil industry (Levy and Kolk, 2002). In a 2016 campaign advertisement the organisations asked the public to “fight against the radical climate change agenda” including proposals made by US Senate Democrats that would hold the CCCM accountable for their attempts to deceive the public and prevent strategies that address climate change (Climate Home, 2016).

The defunct Greening Earth Society (GES) (1992–2013), was an advocacy organisation set up by the trade association Western Fuels Association (WFA). It was specifically formed to oppose climate change and other environmental regulations on behalf of industry actors that wished to maintain heavily polluting industries (see www.greeningearth.org). Similarly, The Science and Environmental Policy Project (SEPP) was originally set up to challenge the scientific evidence on the harmful impacts of tobacco on behalf of large tobacco corporations. In fact, several contrarian scientists such as Fred Singer, took an active role in the Tobacco industry lobby before shifting attention to the issue of climate change (see also Oreskes and Conway, 2010).

The actions taken by advocacy and other CCCM organisations are similar to those used by the tobacco lobby. This has led some to conclude that the CCCM have adopted the *Tobacco Strategy* (Oreskes and Conway, 2010). The Tobacco Strategy refers to the disinformation campaign led by US tobacco firms from the mid-1950s after strong scientific evidence emerged linking smoking and cancer (Oreskes and Conway 2010). The disinformation campaign was created by a group of industry leaders and a network of think tanks and front groups that disseminated information denying the severity of the health risks to forestall US governmental regulation and controls on tobacco sale and use (Oreskes and Conway, 2010).¹² In the same way, CCCM organisations such as GES and SEPP disseminate information disputing the severity and existence of climate change and criticising proposed policy in the hope of averting government regulation and action.

¹² Some organisations such as the Heartland Institute (US) and the Institute for Economic Affairs (UK) continue to promote and conduct research that opposes scientific findings on tobacco.

Table 2.2 compares three pairs of quotes taken from reports made by CCCM organisations on both climate change and tobacco. There are clear similarities between the statements. For instance, the criticisms given of government agencies such as the EPA are similar between the two topics focusing on the methodology and science behind both tobacco and human caused climate change. While these are only a few examples, they do suggest that CCCM organisations use similar arguments on behalf of fossil fuel interests as the tobacco lobby does for the tobacco industry.

Table 2.2. Sample Of Tobacco Industry And Climate Change Counter Movement Arguments.

<i>Tobacco Industry Quote</i>	<i>Climate Change Quote</i>
In fact, most US studies conducted on ETS and lung cancer have found no statistically significant indications of carcinogenicity. (Alexis de Tocqueville, 1994, p.7)	The IPCC presents no evidence to support a substantial warming such as calculated from theoretical climate models (Singer, 2000, p.V).
The EPA is attempting to prove that serious medical risks are created by even casual exposure to second hand smoke. In its effort to do so, the EPA has manipulated selected portions of the existing literature until it produced the desired result (1994, p.17)	Only a thorough scientific investigation will be able to document that there was no strong warming after 1979, that the instrumented warming record is based on data manipulation, involving the selection of certain weather stations, [and the de-selection of others that showed no warming], plus applying insufficient corrections for local heating (Singer, 2000, p. V &2).
In short, the EPA study relied on methodologies different from those which have historically used in such analyses. Scientific standards were seriously violated in order to produce a report to justify a political agenda, namely to ban smoking (Singer and Jeffreys, Alexis de Tocqueville Institution, nd, p.1).	The scientific evidence for a presumed “human influence” is spurious and based mostly on the selective use of data and choice of particular time periods... A further misrepresentation occurred in July 1996 when politicians, intent on establishing a Kyoto-like regime of mandatory emission controls, took the deceptively worded phrase about “discernible human influence” and linked it to a catastrophic future warming— something the IPCC report itself specifically denies... (Singer, 2000, p. V & 2).

Thus, it appears that the same and similar organisations have used knowledge and resources generated from previous counter movements to promote a form of ‘science denial’ (see Liu, 2012; Oreskes, 2004; Richey, 2008) specific to the issue of climate change. Importantly, like former counter movements, some of these CCCM organisations

have ties with corporate actors that want to prevent regulations and policies that restrict everyday business practices and the accumulation of capital.

2.5.5. Trade & Professional Associations

Trade associations are another type of CCCM organisation made up of members working in industries such as fossil fuel production. These CCCM organisations are different from advocacy organisations in that they explicitly represent industry. Trade association members donate or pay a subscription fee to the organisation on the premise that the association will aim to influence regulation and government policy on behalf of their interests (Rajwani, Lawton, and Phillips, 2015). One such trade association is the WFA, which advocates against climate regulation. With the support of advocacy organisations including the defunct GES and Information Council of the Environment (ICE), the WFA has played an active role in disseminating information to industry members to discredit and minimise the risks associated with climate change. For instance, the WFA supported the release of a videotape titled "*The Greening of Planet Earth*," which contains interviews with several climate contrarians diagnosing the benefits of increased concentrations of CO₂ on plant life.

In 1997, the National Mining Association (NMA), which is dedicated to those individuals and organisations working in the mining sector, questioned proposed US engagement with the Kyoto protocol and the authority of the EPA. They claimed that, "The economic consequences are enormous for those countries who truly pursue the commitments established in Kyoto," and "the evidence does not show that the increase in CO₂ levels attributed to human activity is responsible for a measured rise in global temperature."

Professional associations are like trade associations in that they are member based organisations that attempt to influence public policy based on the interests of their members (Balla, 2001). Professional associations represent specific industry community actors which subscribe to a consensus on one or more policy issues (Greenwood, Suddaby, and Hinings, 2002). For example, in 2007, the professional association Sense

about Science UK which also has a US branch, released the report *Making Sense of the Weather and Climate*. In the report, they stated:

“In a few cases, man-made climate change appears to be causing more extremes – heat waves, for example. But it is too simple to blame every weather disaster on man-made change; there have been catastrophic floods and storms recorded throughout history. Some events, such as certain tornadoes, cannot be said to be increasing and indeed aren’t predicted to change in a warmer world. And even when we think increasing events may well be due to climate change, we cannot blame each single event on human activity” (2007, p.11).

Trade and professional associations do make up only a small portion of CCCM organisations in this study, however they still play a critical role in the CCCM. Importantly, the close ties between industries such as mining and other fossil fuels does indicate why trade and professional associations would and do actively promote and disseminate information that creates doubt about climate science in hopes of forestalling climate policy.

2.5.6. Philanthropic Foundations

Philanthropic foundations act as third party CCCM organisations distributing research grants or financial support to CTTs – the recipients of the largest donations - and university based research institutes. This has helped mobilise CCCM campaigns by acquiring enough funding from charitable partners and donors (Brulle, 2014b).¹³ In other words, to protect the interests of industry, industry actors directly donate to philanthropic foundations that then help mobilise other CCCM organisations allowing them to produce research, lobby in the political sphere, and disseminate these oppositional arguments to the public to influence inaction on climate change. It is not surprising then, that there has been significant attention from media outlets, environmental organisations, and scholars who have traced funding streams between fossil fuel industry actors, philanthropic foundations and other CCCM organisations (e.g. Brulle, 2014b; Greenpeace, 2011).

For example, Brulle (2014b) reported how Koch Affiliated and the ExxonMobil Foundation have donated to CTTs and university-based research institutes such as the Harvard Smithsonian Centre via the philanthropic foundations Donors Trust and Donors Capital Trust (see also Greenpeace 2011). Financial reports showed that between the

¹³ Mobilise refers to the ability of social movements to fund their campaigns and how they disseminate their information to the wider public (McCarthy and Zald, 1977).

years 2003 to 2010, CCCM organisations received over \$7 billion from these foundations. Using some of Brulle's (2014b) data on financial networks between CCCM organisations, Farrell (2016a) found that CCCM organisations with recorded donations from fossil fuel industries are more vocal in opposition to climate science and policy than CCCM organisation that had not received funding. Moreover, funded organisations were more likely to shape what positions are adopted by other CCCM organisations.

Donors Trust and Donors Capital Trust are US organisations, yet donor funding from TNCs, MNCs, and organisations with a vested interest in opposing climate change policy exist in other countries. The Corporate Europe Observatory's (CEO) (2010) snapshot of European CCCM organisations reported funding affiliations with Koch Foundations, ExxonMobil, US CCCM organisations, and individuals that conduct research on behalf of CCCM organisations. This includes the European branch of the Committee for a Constructive Tomorrow (CFACTEurope) based in Germany, and the UK think tank the Institute of Economic Affairs (IEA). In 1996, the IEA published *The Political Economy of Climate Change Science: A Discernible Human Influence on Climate Documents*, which consists of criticisms of climate science, politicians and environmentalists. For example:

"This analysis of the incentives faced by climate scientists and international bureaucrats is not meant to imply that the IPCC lead authors do not believe what they write or that officials at World Meteorological Organisation and United Nations Environmental Programme are not genuinely concerned that a climate apocalypse is upon us. Rather, it is simply intended to highlight that the way in which information is presented and the research which receives governmental funding is likely to be influenced by these incentives" (1996, p.6).

Identifying financial ties between US based CCCM organisations and fossil fuel industry actors is made easier by the nature of non-profit organisation tax data. For tax purposes, every non-profit organisation must register as a 501 C3, C4, C5 and C6 organisation and submit yearly income reports.¹⁴ Access to this information is restricted or harder to gather in other countries. For instance, funding data from CCCM organisations in the UK, unless offered openly can only be accessed via freedom of information requests (FOI). It is not uncommon for these FOI requests to be denied either. For instance, the UK based CCCM organisation Global Warming Policy Foundation (GWPF)

¹⁴ For further information on the differentiation between organisations see Brulle (2014b).

has rejected several FOI requests (Desmogblog, nd). However, a 2011 Guardian report by Bob Ward revealed a key contributor to the think tank was a businessman with close ties to the UK Conservative party - a political party with a history of dismantling “green policies” such as removing subsidies for solar panel development, reducing tax incentives for purchasing “green vehicles” and the push for hydraulic fracturing development over renewable energy resources (Vaughan and Macalister, 2015).

Despite documented funding from fossil fuel industry actors to CCCM organisations, some organisations have repeatedly rebutted criticisms. For example, the Heartland Institute previously stated:

“The Koch Brothers generously support many non-profit organisations that promote free markets and individual liberty. The Heartland Institute is not among them. Our policy positions, at any rate, are based on principle. We are not a “pay to play” organisation” (nd, np).

Yet, in the same section on their website, the Heartland Institute acknowledges that Koch foundations has contributed to a separate part of their organisation focused on healthcare (Heartland Institute, nd). Similarly, the Heartland Institute and the Canadian based CCCM organisation Friends of Science published a statement on “Fakegate” a scandal that argued climate alarmists had published false financial documents about the Heartland Institute (see Heartland Institute, 2012). They filed a criminal case against Peter Gleick, the president of the Pacific Institute for Studies in Development, Environment and Security, one of the first to report on the case (Friends of Science, nd).

One important caveat on funding streams to CCCM organisations, is that they often deal with multiple policy issues and donor funding may be distributed to parts of the organisation not concerned with climate and energy policy. Nonetheless, there are financial ties between CCCM organisations and philanthropic foundations operating on behalf of actors seeking to benefit from lapse environmental regulations and the rejection of climate science.

2.5.7. Coalitions

Several CCCM organisations have formed coalitions (N=27, 5.6%). In its simplest form, a coalition is when multiple individuals or organisations tend to have the same set of

goals, research agenda, and political ideology (Axelrod, 1970). These coalition organisations are more likely to form when there is an opportunity to do so (Staggenborg 1986). This means they are more likely to form under conditions of exceptional opportunity or threat such as the rise of environmentalism and climate action. Like other CCCM organisations, these coalition organisations lobby and campaign against climate policies and climate science. For instance, the defunct Civil Society Coalition on Climate Change (CSCCC), operated over a seven-year period (2007-2014) and recruited organisations from different parts of the world (see Table B.2, Appendix B for a full list of CSCCC members).

The defunct Global Climate Coalition (GCC) (1989-2002) operated out of the trade association National Association of Manufacturers (NAM) and delivered an animated public relations campaign to engage in and manipulate the political process to prevent climate mitigation policies in the US (Hoggan and Littlemore, 2009). Member organisations included the American Petroleum Institute, American Forest and Paper Association, ExxonMobil, and the Institute for 21st Century Energy and other organisations continue to present arguments that oppose climate action. For instance, in 2015, one of the GCC member organisations the *Institute for 21st Century Energy*, provided a cheat sheet, '*Climate Change 101*,' to help the public understand climate change. While the organisation appears to accept human causes of rising GHG emissions, they are also concerned with the impacts of CO₂ emissions caps:

"The price of energy and nearly all consumer goods would skyrocket. Companies could decide to move to a different country that does not regulate CO₂ emissions. For instance, if the US were to regulate CO₂ emissions, an American company may decide to shut down its domestic operations and instead relocate to a country like China or India that does not regulate emissions. So-called "carbon leakage" could undermine the effectiveness of cap and trade because it would harm the US economy by sending jobs overseas and would fail to reduce global emissions, thereby mitigating any environmental benefits to the program" (p.2).

The Cooler Heads Coalition (CHC) is a collaborative project created by the now defunct CCCM organisations the *National Consumer Coalition* (1997-2004) and *Consumer Alert Inc* (1977-2005). In 1996, it was formed to dispel "the myths of global warming by exposing flawed economic, scientific, and risk analysis...and follow the

progress of the international Global Climate Change Treaty negotiations.” The CHC is made up of 22 CCCM organisations (see Table B.3, Appendix B for full list of members).

The CHC website – globalwarming.org – is the main source of information to the public and is edited by individuals associated with the CCCM including, William Yeatman, Myron Ebell, Marlo Lewis, Chris Horner, and Brian McGraw. All individuals mentioned in this list have or still conduct research on the environment and energy policy on behalf of several other CCCM organisations. One such CCCM organisation is the US CTT Competitive Enterprise Institute (CEI). The CEI has reportedly received \$2,005,000 from ExxonMobil between the years 1998-2014 (Greenpeace, 2014) and has supported several Heartland Institute International Conferences on Climate Change (<http://climateconference.heartland.org/sponsors-2/>). In 1991, the CEI published a policy report on climate change with the US CTT National Centre for Policy Analysis. In this they argued:

“...In the scientific community, the debate over climate change is between those who argue there will be a large catastrophic increase in global temperatures and those who believe that any climate change will be quite small, generally beneficial and possibly indistinguishable from normal climate variability. Increasingly, scientists are moving toward the latter position” (p.3).

Some members of the CHC have contributed to the *Non-Governmental Panel on Climate Change* (NIPCC), which claims to be:

“An international panel of nongovernment scientists and scholars who have come together to present a comprehensive, authoritative, and realistic assessment of the science and economics of global warming” (2015, np).

The NIPCC produces panel reports in direct response to IPCC actions. These reports are used amongst coalition members as primers for their own positions and research which is oppositional to climate science and/or are critical of those contributing to IPCC research (see Table B.4 Appendix B for a list of NIPCC members). Coalition organisations such as CSCCC, GCC, and CHC therefore, are a vital part of the CCCM disseminating a unified opposition to climate action.

2.6. Pseudo-science & Scientific Credibility

In an effort to lend credibility to their oppositional positions on climate change, some CCCM organisations, employ and disseminate research by contrarian climate change scientists and policy experts (Boykoff and Olsen, 2013; Dunlap and Jacques, 2013). These contrarians write op-eds, articles, special reports, make television appearances, and deliver presentations on behalf of CCCM organisations. Oreskes and Conway (2010) suggested these “protagonists” [climate denial scientists] have “merchandised doubt because they realised – with or without the help of academic decision theory – that doubt works. And it works in part because they have an erroneous view of science” (p.267). Because the idea of scepticism within science is good practice (Ziman, 2002) the notion of adopting scientific scepticism is used by these CCCM organisations as a tool to undermine climate science legitimised by a group of, in many cases, ‘non-scientists’ at the behest of specific industry actors (see also Brisman, 2012).

However, some of these oppositional positions should also be considered a form of pseudo-science. Here, pseudo-science refers to positions on climate change that are presented as or considered scientific, but may lack scientific legitimacy (Rosenau, 2012). This may give rise to conspiracy theorists which completely rejects the science behind climate change (Lewandowsky, Gignac, Oberauer, 2013). Oppositional positions on climate change then claim ‘Climate Change is a Hoax’ or ‘it’s all about scientists trying to protect their jobs’ (see also Leiserowitz, 2006). It is important to note however, that while they may present pseudo-scientific data, some of these scientists do have PhD’s and hold prestigious positions at reputable universities (Lahsen, 2005).

The lack of scientific legitimacy, whether that be the result of none or poor scientific methods or the vested interest funding behind the work of contrarian scientists such as Fred Singer, Richard Lindzen, and Willie Soon, undermines this opposition illustrating the actions of such contrarians are more likely aligned with an ideological belief system rather than true scientific integrity. Furthermore, it is not to say the research findings from these contrarian scientists is credible (Lewandowsky, Oberauer, and Gignac, 2013). Lewandowsky et al.’s (2013) study on climate scepticism found these

climate sceptics were most often producing research that was “misleading, inaccurate, and unsuitable for policy advice” (p.95).

Nonetheless, by utilising the principles of scepticism within science to justify oppositional positions and using pseudo-scientific research from a group of contrarian scientists, CCCM organisations have been able to manipulate the narrative around climate change to undermine the scientific consensus (see also Sarewitz, 2004).

This group of contrarian scientists make up what some researchers have defined as the ‘Wise Use Movement’ (White, Rudy, and Wilbert, 2006). The Wise Use Movement rose during the 1980s in the US and is a collection of individuals, NGO’s, and corporations that “fought for private property rights, decreased environmental regulation and unrestricted access to public land for mining, logging, grazing, drilling and motorised recreation” (Boykoff and Olsen, 2013, p.279). Many of these same individuals are part of a list of Global Warming Policy Experts compiled by the Heartland Institute (see Table D.1 Appendix D for a full list of these experts). This includes the scientist Fred Singer PhD, who reportedly received subsidies of up to \$5000 a month from the Heartland Institute to conduct research on climate change (Greenpeace, 2015). The list also includes Willie Soon, PhD. He is employed by the Harvard-Smithsonian Centre for Physics and was at the centre of a scandal in which the organisation and the scientist reportedly received up to \$1,322,980 to conduct research disputing climate change (Greenpeace, 2015).

There are also several politicians and political advisors included in this list. Republican Senator James Inhofe, a leading figure in US congress disseminating the oppositional positions on climate change. Lord Christopher Monckton (UK) and Lord Nigel Lawson (UK) both UK based contrarians who lead CCCM organisations including the GWPF and Clexit. Founder of Greenpeace Patrick Moore, who now condemns the non-profit organisation is also on the list, along with media personality Marc Morano who regularly appears on Fox News, runs the Climate Depot project developed by CFACT to

spread doubt and minimise the scientific consensus on climate change. Morano also directed and was the main contributor to the 2016 sceptic documentary *Climate Hustle*.¹⁵

Some of the individuals on this list have been the focus of the *#ClimateCriminal* campaign set up by the International NGO Avaaz. The NGO highlighted a small number of “Climate Criminals” that attended the COP21 Paris climate summit to foster support for fossil fuel industry interests. Those on the list included some of the contrarian scientists mentioned above including Myron Ebell, Marc Morano, and Christopher Horner. Others included climate sceptics James Taylor and Bjorn Lomborg, Fiona Wild, a public affairs manager for BHP Billiton the world’s top mining company predominantly operating in Australia and the UK (Statista, 2016), and Benjamin Sporton, coal lobbyist and appointed chief executive of the World Coal Association.

A trend amongst contrarian scientists and policy experts is that they have worked for or gained some of their credentials from George Mason University (GMU). GMU and affiliated research centres the Institute for Humane Studies and the Mercatus Centre have reportedly received \$46,527,725 from Koch foundations between the years 2005-2014 (Desmogblog, nd). In fact, Charles Koch is the chairman of the IHS and co-director of the Mercatus Centre. Some faculty members and students condemn the behaviour and influence of money on academic freedom at GMU, but the President of GMU Angel Cabrera has previously praised the voluntary contributions by the Koch family (UnKoch my Campus, 2015).

A strategy adopted by contrarian scientists and CCCM organisations has been to publish petitions which disagree with the overwhelming scientific consensus on climate change. For instance, in 1995 the CCCM organisation SEPP created the *Leipzig Declaration*. It was signed by independent scientists researching atmospheric and climate problems and general citizens who criticised the potential impacts of Agenda 21 and future international climate agreements. In 1997, the Oregon Institute on Science and Medicine created the signed the Global Warming Petition Project, signed by 31,487 “American scientists” to counter the proposals of the IPCC.

¹⁵ Climate Hustle claims to “reveal the history of climate scares including global cooling, debunks outrageous claims about temperatures, extreme weather, and the so-called consensus, and exposes the increasingly shrill calls to act immediately before it’s too late” (<http://www.climatehustle.org/>).

In 2007, 143 contrarian scientists signed the Climate Scientists Register, otherwise known as the Manhattan Declaration designed by the International Climate Science Coalition (ICSC). The head of ICSC, Tom Harris, also founded the CCCM organisation The Advancement of Sound Science Coalition which had previously worked to advance the interests of the tobacco industry (Desmogblog, 2016). The ICSC claims to promote a better understanding of climate science and policy creating an environment for which “a more rational, open discussion about climate issues emerges, thereby moving the debate away from implementation of costly and ineffectual climate control measures” (ICSC, 2016, np) (see Appendix D for a screenshot of each of these declarations).

There are two additional registers produced by the ICSC signed by a further 1,497 scientists from climatology, other related science fields, and non-scientists including policy-makers, economists, business leaders, and NGO employees. Some signatories are tied with other CCCM organisations. For example, Gustabo Lazzari director of public policy at the Argentinian think tank Fundacion Atlas1853 endorses the list. Fundacion Atlas1853 supported and first promoted its opposition position via the CSCCC. Khalil Ahmad PhD, is the Executive Director of the Alternate Solutions Institute in Pakistan. The Alternate Solutions Institute was founded in 2003 and released one of its first public statements on climate change in 2008. Citing the work of Tibor Machan, a research fellow at the Hoover Institution and Pacific Research Institute, they argued:

“Global warming is in dispute...one puts together the lack of solid science and technology behind the claim that global warming is imminent, and that human conduct significantly contributes to the problem, the attitude of scepticism is most reasonable. Or, to put it differently, how reasonable is it to trust politicians about their need for increased powers over the rest of us?” (2008, np).

Those endorsing this alternative position on climate change is minimal compared to the 97.7% supporting the consensus on climate change (Cook et al., 2016). Nevertheless, creating petitions that can be used in the lobbying process is a potentially useful when attempting to legitimise CCCM opposition.

2.7. Spreading Doubt: Climate Change Counter Movement Events

To distribute the oppositional positions to a wider audience, CCCM organisations host regular events. In 1998, the Pacific Research Institute hosted a conference titled

Junk Science: A Hazard to Your Health (Pacific Research Institute, 1998) that covered diverse scientific issues including climate change. A key speaker at the event was climate contrarian scientist Dr Robert Balling who has a history of citing oppositional messaging on climate change science and policy and has worked for several CCCM organisations (see Table D.1 Appendix D). Similarly, the Heartland Institute hosts a yearly International Conference on Climate Change bringing together oppositional climate change experts, interested and co-sponsor organisations, and lay persons to a set of panel discussions on climate change.

This and similar events have sometimes been held concurrent with and/or geographically close to large environmental conferences such as UNFCCC summits and the Vatican's climate change Summit. For instance, a 2015 conference jointly held by the Heartland Institute and the Committee for a Consecutive Tomorrow (CFACT) was held in the same town and time as COP21 in Paris (Heartland Institute, 2015). CCCM organisations then use these external events to distribute their opposition messages to the public and directly to politicians via lobbying efforts (see Table D.3. Appendix D for a sample of previously held CCCM events).

2.8. Spreading Doubt: Climate Change Counter Movement Messages

Before applying a new theoretical framework to help understand the messages adopted by CCCM organisations, it is useful to identify the types of arguments adopted by CCCM organisations already identified and explored by other researchers. This helps to better understand how CCCM organisations distort the scientific consensus and criticise the importance of climate mitigation policy, but also how adopting a new perspective provides a new approach to examine the CCCM.

Collectively, researchers have identified several themes that CCCM organisations use to oppose climate change mitigation policy. They have employed various methodologies looking at small samples of CCCM messaging (e.g. McCright and Dunlap, 2000). Other researchers have applied big data approaches to text mining of arguments used by CCCM organisations to identify emerging and consistent themes in organisational messaging (e.g. Boussalis and Coan, 2016). While there are several interpretations of

messages adopted by CCCM organisations, it is useful to divide these messages into two general categories.

The first category includes science based arguments which focus on questioning the scientific evidence on climate change whether that be denying climate change exists or proposing there are benefits to rising CO₂ emissions. The second over-arching category is strategic or policy based arguments that look at the creation of and implications of climate change policy (e.g. Dunlap and Brulle, 2015; Dunlap and Jacques, 2013; Jacquet, Dietrich, and Jost, 2014; Jylha et al., 2016; Lewandowsky et al., 2013; Lewandowsky et al., 2015; Norgaard, 2011; Stoll-Kleemann, O’Riordan, and Jaeger, 2001).

Turning first to scientific arguments, CCCM organisations produce messages that question the science of climate change and/or present oppositional data to deny climate change exists, that humans are not the cause, and/or warming temperatures provide benefits (Lewandowsky et al., 2015; Rougier and Crucifix, 2014). For instance, the UK based professional association the Scientific Alliance, which has previously held conferences led by well know climate sceptics including David Bellamy, Fred Singer and Richard Lindzen, contended “a changing climate is the norm and meteorologists accept that we will never fully understand the complex interactions and feedback mechanisms which determine these changes” (2001, np). These alternative scientific arguments are used to directly oppose the findings from the IPCC and similar scientific reports. This form of argument mirrors oppositional arguments supporting the tobacco lobby (Oreskes and Conway, 2010) and even holocaust denial (Diethelm and McKee, 2009). In the traditional sense, this type of messaging is a form of denial as it denies scientific facts on climate change drawing on pseudo-science to support this opposition.

Unlike oppositional science based arguments, CCCM organisations have attempted to discredit climate change policy and those making it (Mooney, 2005). This type of argument falls into the category of strategic or policy oriented technique used to discredit the legitimacy of climate science and climate change policy. For example, the Australian organisation Lavoisier Group Inc used arguments that challenge Australian

participation in Kyoto and other domestic and international climate change and energy policy. Set up by the deceased contrarian scientist Bob Carter, in 2000 the organisation contended:

“Our economy is now at risk from the imposition of a carbon tax (a tax on burning fossil fuels) which will turn our cheap energy into expensive energy, with serious consequences for every Australian” (Lavoisier Group, 2000, np).

In 1995, the US based Georgia Policy Institute criticised the environmental movement, “With today’s near religious devotion by some people to the extreme beliefs of the environmental movement, it is imperative that our leaders focus on the science.” Knight and Greenberg’s (2011) observations of the campaign by denial scientist Timothy Ball against former vice president Al Gore, former US President Barack Obama, and climate scientist Michael Mann, found the sceptic regularly claimed these actors had corrupted the climate science in the pursuit of dictatorship (see also Elsasser and Dunlap, 2013; Morrison, 2011).

Most research has shown CCCM organisations often combine scientific and policy-based arguments (e.g. Knight and Greenberg, 2011; Elsasser and Dunlap, 2013). Mann (2013) for example, presented six stages of denial that included predominantly, science oriented, but also these strategic and policy oriented arguments. He proposed:

- *“CO₂ is not actually increasing;*
- *Even if it is, the increase has no impact on the climate since there is no convincing evidence of warming;*
- *Even if there is warming, it is due to natural causes;*
- *Even if the warming cannot be explained by natural casus, the human impact is small, and the impact of continued GHG emissions will be minor;*
- *Even if the current and projected future human effect on Earth’s climate are not negligible, the changes are generally going to be good for us;*
- *Whether or not the changes are going to be good for us, humans are very adept at adapting changes besides, it’s too late to anything about it, and/or a technological fix is bound to come along when we really need it” (p.23).*

Boussalis and Coan (2016) identified five clusters of CCCM opposition arguments that showed CCCM organisations adopt a mix of policy and science oriented arguments. The researchers examined the messages from 19 well-known climate sceptic organisations during the period 1996 - 2013. Their results reflected early analysis of the movement by McCright and Dunlap (2000) where CCCM organisations adopted arguments such as the evidentiary basis of global warming is weak or wrong, global warming would be beneficial if it was to occur, and global warming policies would do more harm than good. Since 1997, both Boussalis and Coan and McCright and Dunlap found that arguments still consist of scientific questions but there had been a significant rise of policy themed or critical arguments against the scientific consensus posed by CCCM organisations. Boussalis and Coan (2016) make an interesting point when they argued the era of science denial is not over because CCCM organisations still adopt contrarian scientific data despite the growing scientific consensus. Their findings suggested that science and policy arguments continue to be adopted by CCCM organisations and it is important to address both types of arguments to challenge the CCCM.

To understand why CCCM organisations adopt different messaging strategies, researchers have tested the influence of organisational characteristics. For instance, Farrell (2016a) identified 30 topics used by 164 CCCM organisations over a twenty-year period. These arguments ranged from criticisms of proposed taxation measures, Climategate, to potential benefits of rising temperatures. He grouped these arguments into four and then two clusters of science or policy-oriented arguments. One important conclusion drawn by Farrell was that organisational power within the contrarian network and certain oppositional arguments were strongly predicted by corporate benefactors (i.e. funding donations). That is, overtime, Farrell identified CCCM funding impacted the type of messaging adopted by CCCM organisations compared to non-funded organisations.

Sandvik's (2008) application of a psycho-sociological approach to understanding public perceptions of climate policies offers additional support for this point. On one hand, the researcher noted psychological characteristics such as beliefs, attitudes, experiences and understandings of responsibility demonstrate that personal judgements influence

support or rejection of climate science and policy (see also Norgaard, 2006). On the other, social factors such as limiting personal freedoms or maintaining a strong economic system, increased the likelihood that a person rejects climate change science and policy (see also O’Conner et al., 2002).

These individual perceptions then, may be influenced by the information learnt from CCCM organisations which are tied to a neo-liberal ideological world view. This idea of a neoliberal ideological world view or political and economic objectives driving beliefs on climate change runs through the comments of Lewandowsky, Ecker, and Cook (2017). The researchers proposed the nature of those operating in the CCCM is best understood not as an alternative knowledge claim but as a “political operation aimed at generating uncertainty in the public’s mind in order to preserve the status quo and to delay climate mitigation” (p.26). Thus, the dissent against climate science and the messages they use has become a form of ‘post-truth’ that does “not seek to establish a coherent model of reality. Rather, they erode trust in facts and reality...for political reasons and in pursuit of political and economic objectives” (Lewandowsky, Ecker and Cook, 2017, p.26). The researchers added that the operation of these organisations and other actors within the CCCM is a rational strategy based on these political and economic objectives to divert attention away from challenges to the current political-economic system (see also Brulle et al., 2012).

This conclusion links with the work of Stern et al. (2016). Coining the term “neo-scepticism,” the researchers contended that adopting diverse CCCM messaging is “driven more by ideology or economic interests than by science, but they cannot be dismissed confidently as pure denial or scepticism” (p.653). Scientific questions are transformed into debates around policy by focusing on the strategies to address climate change and how action may affect everyday lives. This observation is important because it suggests there are external political, social, and economic factors that impact organisational messaging. This idea of external political, social and economic factors influencing the operation of CCCM organisations means further investigation is warranted. Moreover, considering the geographic distribution of these organisations as discussed above, these different

political, social, and economic factors across countries may well impact the operation of and statements used by CCCM organisations.

2.9. Spreading Doubt: The Echo Chamber

In addition to applying a new framework to examine CCCM organisations, it is also vital to see how they transfer these messages to the public and politicians. CCCM organisation actively lobby in governments. To engage the public, CCCM organisations also spread their messages via the media. The following section examines the role the media plays in disseminating these oppositional messages to the public.

It is well documented that the media plays a significant role in establishing and changing public opinion on key political issues such as climate change (Billet, 2010; Boykoff, 2014; Brulle, Carmichael, and Jenkins, 2012; Carvalho, 2007; Carvalho and Burgess, 2005; Dunlap and McCright, 2015; Elsasser and Dunlap, 2013; Hulme, 2009; Jasny et al., 2015; Jaspal, Nerlich, and Cinnirella, 2014; Jaspal, Nerlich, and Koteyko, 2012; McKewon 2012; O'Neill and Boykoff, 2011; Oreskes and Conway, 2010; Painter and Gavin, 2015). Different media outlets including television, radio, and social media such as blogs, Twitter, and Facebook have become a vital component of message distribution for CCCM organisations (Olausson, 2011; Nisbet and Fahy, 2015).¹⁶

From the beginning of the movement, documents released by the CEL (2016) revealed CCCM organisations including the American Petroleum Institute, Heartland Institute, and Cato Institute had developed a specific media strategy to shape public and political attitudes to stall or block the adoption of climate change mitigation policies. In 1998, a memo sent from the Global Climate Science Communication's Team (GCSCCT), a coalition organisation made up of several members of CCCM organisations distributed a document to fossil fuel industry executives about the proposed media strategy used by the CCCM (See Table D.4 Appendix D for a list of GCSCCT members). Figure 2.3 is an excerpt taken from this document concerning the proposed media strategy to distort the scientific information on climate change. In it they state how they will recruit a set of contrarian

¹⁶ Some examples include; IPCC12- Constitution Ballroom C-E Thursday. Available at: <https://www.youtube.com/watch?v=P0i3HnA0T14>; CFACT YouTube Channel. Available at <https://www.youtube.com/user/cfact>; Cornwall Alliance YouTube Channel. Available at: <https://www.youtube.com/user/epalliancevideo>

scientists to participate in media outreach helping to legitimise the oppositional arguments, promote fact sheets and help kits that can be distributed to the public, and present oppositional messaging on both climate science and science related policy.

Figure 2.3. Excerpt Taken From The GCST Document Disseminated To Fossil Fuel Companies And Other CCCM Organisations (GCST, 1998)

- Identify, recruit and train a team of five independent scientists to participate in media outreach. These will be individuals who do not have a long history of visibility and/or participation in the climate change debate. Rather, this team will consist of new faces who will add their voices to those recognized scientists who already are vocal.
- Develop a global climate science information kit for media including peer-reviewed papers that undercut the "conventional wisdom" on climate science. This kit also will include understandable communications, including simple fact sheets that present scientific uncertainties in language that the media and public can understand.
- Conduct briefings by media-trained scientists for science writers in the top 20 media markets, using the information kits. Distribute the information kits to daily newspapers nationwide with offer of scientists to brief reporters at each paper. Develop, disseminate radio news releases featuring scientists nationwide, and offer scientists to appear on radio talk shows across the country.
- Produce, distribute a steady stream of climate science information via facsimile and e-mail to science writers around the country.
- Produce, distribute via syndicate and directly to newspapers nationwide a steady stream of op-ed columns and letters to the editor authored by scientists.
- Convince one of the major news national TV journalists (e.g., John Stossel) to produce a report examining the scientific underpinnings of the Kyoto treaty.

The media strategy adopted by CCCM is often referred to as the *echo chamber* which is the media environment that transmits partisan beliefs tied to a certain group such as political parties (Jasny et al., 2015). The CCCM echo chamber includes the influence of partisan media in shaping attitudes towards climate science or policy based on support for a political party (Jamieson and Cappella, 2008). In the US, conservative television, newspaper, and online networks have normalised politically polarisation of various policy issues including climate change (Boykoff and Boykoff, 2007, Nisbet and Fahy, 2013).

Fox News, Townhall.com, and the Wall Street Journal regularly distribute oppositional and pseudo-scientific positions on climate change (Boykoff and Boykoff,

2007). Previous headlines have included “*Climate Change*” and *Fake Science*” (Kerwick, 2017, Townhall.com), “*Protect the Poor- From Climate Change Policies*” (Driessen, 2014, Townhall.com). In the UK, the popular right-leaning tabloid newspapers the Telegraph and the Daily Mail have a history of presenting oppositional arguments (Lorenzoni, Nicholson-Cole, Whitmarsh, 2007). For example, “*Is climate change really that dangerous? Predictions are 'very greatly exaggerated', claims study*” (Woollaston, 2015, MailOnline). Similarly, The Australian has included media coverage of speculation rather than conform to the consensus on the issue of climate change over a 20-year period (Manne, 2011; McKewon, 2012).

To legitimise the inclusion of oppositional positions in the media, the CCCM have taken advantage of a journalistic norm of editorial balance where “balance is bias” (Boykoff and Boykoff, 2004, p.126). A trend in media production recommends equal time is given to arguments supporting or opposing information on policy issues such as climate change, despite the overwhelming supporting scientific evidence (Antilla, 2005). This is evidenced in the case of climate change. For example, on regular prime time news shows in the US, Bill “the Science Guy” Nye a vocal advocate for mainstreaming scientific education, is regularly made to debate climate sceptic Marc Morano, who criticises climate activism and questions the scientific evidence on climate change.¹⁷ Thus, offering equal time to both those in support of and oppositional to the consensus then undermines the severity of the climate problem (Freudenberg and Muselli, 2010).

A result of this equal time offered to the consensus and oppositional view on climate change has presented the idea that climate change science is up for debate. Furthermore, those presenting oppositional messaging have been able to spread the view “that the science of climate change is no more dependable or trustworthy than that of climate denial” (Schneider, 2009). This then has negative consequences by distorting the overwhelming consensus and minimise public support for climate action.

Some researchers have suggested that the media operates to transmit the messages adopted by elite groups (Schnell, 2001). The elite-mass paradigm or the elite

¹⁷ For examples see *Climate Realist Marc Morano Debates Bill Nye the Science Guy on Global Warming*. Available at: <https://www.youtube.com/watch?v=qWT-EWKIR3M>. Or *Climate Change Debate: Last Week Tonight with John Oliver* (HBO). Available at: <https://www.youtube.com/watch?v=cjuGCJJUGsg>

diffusion model refers to the diffusion of elite beliefs and ideologies onto the public via the media (Yin, 1999). Yin (1999) for instance, argued if the elite group have pro-environmental attitudes, this can have positive effects on public attitudes when diffused via the media. The ability of this elite paradigm to influence positive attitudes towards climate change has also been used by the CCCM organisations to spread the opposite. More specifically, the CCCM organisations use media outlets to drop ideological cues to tract support for climate change opposition. It is often the case that these media outlets hold partisan political views which impacts their position on climate change (Brulle et al., 2012; Ehret, Sparks, and Sherman, 2017). Thus, the media has been a vital tool by which CCCM organisations to communicate messages that as the elite-mass paradigm suggests, can diffuse the ideological agenda of certain more powerful groups over others. In this case, disseminating neoliberal ideology to protect the fossil fuel based production practices.

However, Davis (2003) suggested that this neo-Marxist approach to understanding mass communication is partly outdated because of the rise in new and independent media. Social media has become a democratising innovation (Von Hippel, 2005), where this media platform has given rise to the masses actively being able to disseminate their attitudes and opinions on topics such as climate change that does not follow the influences of traditional elite media sources (Meraz, 2009) (see also Carmichael and Brulle, 2017). Nonetheless, modern social media such as the blogosphere, Twitter and Facebook have fast become one of the most popular mechanisms used by the 'elite' group of CCCM organisations to distribute their messages to the public (Nerlich, 2010).

The blogosphere is a term used to describe personal weblogs and forums permitting individuals to post comments about specific issues like climate change. Citizens, news professionals, scientists and traditional journalists can use this media platform to highlight current affairs and create political debate reaching millions of people across geographic locations instantaneously (Pearce et al., 2014; Reese et al., 2007). However, this platform has given rise to conspiracy theorists and those promoting oppositional messages on climate change (Lewandowsky et al., 2015). The blogs and twitter accounts

of Real Climate.com, Climate Audit.com, and Tom Nelson have perpetuated the conspiracy theories surrounding the Climategate Scandal (Holliman, 2011; Nerlich, 2010). Some of these blogs are directly connected to CCCM organisations such as Climate Depot, the online blog supporting the CCCM organisation CFACT, and the blog wattsupwiththat.com run by climate sceptic Anthony Watts along with co-editors included on the Heartland Institute's Global Warming Experts (see Table D.5, Appendix D for a list of popular climate sceptic blogs).

The blogosphere, along with other media outlets such as the availability of online streaming of the Heartland Institute's International Climate Change Conference (see https://www.youtube.com/watch?v=i_3S1JcFWUA) have, for this reason, provided the opportunity for CCCM organisations to present their oppositional positions to the public. This is despite new forms of media providing a new way to transfer information to the public without the agenda setting of the powerful (Meraz, 2009). The aim is to generate support for these oppositional positions on climate change. Moreover, this transfer of information is particularly targeted at conservative politicians and members of the public that support conservative values (Carvalho, 2007), that engage with this online community and subsequently generate support for reducing action on climate change.

2.10. Conclusion

This chapter has described the historical roots and types of organisations that are part of the CCCM. It began by presenting the location of CCCM organisations across the globe and examined the types of organisations making up the movement. Next, it explained how CCCM organisations legitimise their opposition using contrarian scientists, hosting events and distribute these messages to the public and politicians. The chapter also examined previous assessments of the arguments used by CCCM organisations and how these interpretations have provided vital insight into the CCCM. Nonetheless, I contend new research adopting a two-part theoretical perspective can expand the understanding of the movement, specifically the cross-national variation in arguments adopted by CCCM organisations. To do this, the following two chapters outline the theoretical frameworks of Gramsci's (1971) theory of hegemony and Sykes and Matza

(1957) techniques of neutralisation that, I propose, can be used to examine CCCM organisations in a different way.

Chapter Three

Hegemony and the Climate Change Counter Movement

3.1. Introduction

In Chapter Two I described the CCCM and its organisations by drawing upon previous literature in the area. Part of that discussion focused on the oppositional arguments adopted by CCCM organisations. In this chapter, I contribute to the CCCM literature by proposing the first part of a two-part theoretical framework that combines Gramsci's (1971) theory of hegemony and Sykes and Matza's (1957) techniques of neutralisation. This two-part approach provides a new way to examine CCCM organisations and the messages they adopt.

I begin this discussion by providing some background on Gramsci and explore the political-economic environment at the time of his writing. Next, I describe the components of Gramsci's theory of hegemony in order to apply them to CCCM organisations. Specifically, I argue that CCCM organisations are agents of hegemony operating to maintain fossil fuel based hegemonic neo-liberal global capitalism. Finally, I conclude by laying the groundwork for Chapter Four and propose that Gramsci's theoretical perspective of hegemony can be integrated with the sociological perspective techniques of neutralisation.

3. 2. Gramsci

3.2.1. Gramsci's Background

Gramsci developed his critical political economic theory between 1929 and his death in 1937. Gramsci's theory of hegemony was developed when he was imprisoned for being a member of the Italian Socialist Movement (Pozzolini, 1970). His thoughts about hegemony are now compiled in a set of texts known as *The Prison Notebooks*. Today, the concept of hegemony is influential and sets the foundation for several critical political economic perspectives adopted in the social and political sciences (Buttigieg, 1986) and is an important concept in my examination of CCCM organisations.

3.2.2. The Origins of Hegemony: Capitalism & Historical Materialism

Gramsci combined philosophy, politics, and economics to analyse the political-economic structure occupying western society since the 20th century (Salamini, 1981). Drawing on the works of Karl Marx and his concept of historical materialism, Gramsci sought to determine the social and cultural conditions that legitimised social inequalities between the elites and the masses (Jakubowski, 1936). His Marxist background led him to look at the specific social structural characteristics that appear at a point in history (Gill, 1993).

Gramsci described his works as a *Philosophy of Praxis* (Haug, 2000) that served as a revolutionary portfolio proposing to reorganise the social order (Sassoon, 1980). On the philosophy of the praxis Gramsci stated:

“The philosophy of the praxis does not tend to leave the “simple” in their primitive philosophy of common sense, but rather to lead them to a higher conception life. If it affirms the need for contact between intellectuals and simple it is not in order to restrict scientific activity and preserve unity at the low level of the masses, but precisely in order to construct an intellectual moral bloc which can make politically possible the intellectual progress of the mass and not only of small intellectual groups” (1973, p.333).

Thus, Gramsci contended that through a critical analysis of the social world, individuals and then the masses could formulate alternative ways of thinking about societal structures that could be used to politically mobilise the masses and challenge the social order.

Gramsci observed the problems with an economic system termed Fordism. Fordism represented the production and consumption habits of western society based on intensified labour processes, increased productivity and consumption of goods, and increased physical and psychological demands on the workforce (Foster, 1988). Fordism can be understood as a historically specific "articulation between process of production and mode of consumption (Aglietta, 2000, p.117) introduced by “automobile magnate Henry Ford” (Antonio and Bonanno, 2000, p.33). The labour process is structured around a semi-automatic assembly line, standardised mass-production operation, and huge productivity gains with the accumulation of capital (Lipietz, 1985). It led to a condition that put greater strain on the working classes, leading to a bargaining process between the

amount of labour by workers and the aims of capital accumulation. This led to wage increases and social welfare support (Schoenberger, 1987).

Gramsci understood Fordism in two parts. On the one hand, it was the latest phase in the reorganisation of capitalism, an economic production system facilitated by technological change and what epitomised the Americanisation of production that had begun to manifest in Italy and across Europe (Morton, 2010). On the other, Fordism was understood as the social organisation of production with which the technological changes were inextricably associated (Clarke, 1990). Thus, Gramsci questioned what social forces had permitted this economic system to manifest and to which workers under the constraints arising from such an economic system came to accept this phase of capitalism.

3.3. Hegemony

3.3.1. Defining Hegemony

Gramsci's observations of the two elements of Fordism laid the foundations for his concept of hegemony that I draw on to examine CCCM organisations in this thesis. Gramsci recognised that this era of Fordist capitalism was the dominant economic system driven by the interests of an elite group over the masses. But he questioned why this unequal system of production is accepted by the population despite the significant inequalities it generates. Gramsci believed the answer to this question was found in his concept of hegemony. While somewhat vague, Gramsci defined hegemony as:

"the 'spontaneous' consent given by the great masses of the population to the general direction imposed on social life by the dominant fundamental group; this consent is 'historically' caused by the prestige (and consequent confidence) which the dominant group enjoys because of its position and function in the world of production" (Gramsci, 1971, p.12).

Gramsci's observations suggest that hegemony helps support the constant accumulation of capital because capitalism is based on social inequalities between a small elite group (or bourgeois) taking leading roles in social institutions, and the masses (or proletariat) (Overbeek and Van der Pijl, 1993; Thomas, 2009). According to Gramsci, the world of capitalist production relies on divides between social groups where the

dominant group or class normalise a means of production where poorer groups become the subordinate (Hornborg, 2001). This is achieved because of hegemony which involves a process of disseminating an ideology that favours the existing political-economic system and demands consent by the masses. In short, this process supports the natural social order. In doing so, this political economic system then becomes hegemonic. Thus, Gramsci proposed that disseminating hegemonic ideology plays an important role in social class formation, exacerbating the unequal distribution of power between powerful and less powerful social groups.

This hegemonic capitalistic economic system came to be what Gramsci termed a historical bloc (Salamini, 1981). A historical bloc is where a social group – this could be within a single nation state, across multiple states, or in a complete world system - are persuaded by the dominating capitalist class to accept moral and political leadership, and through which the subordinate classes begin to formulate their own agenda embedded in that of the elite (Sassoon, 1980). He proposed that the capitalist historical bloc is validated by a group of actors that favour the social and economic wellbeing of some over others (Sassoon, 1980). Gramsci more commonly referred to the elite group benefiting from this historical bloc as the *state*.

3.3.2 The State & Civil Society

The state refers to the elite group or capitalist class that holds power over governments and can enact and enforce laws that are “accustomed to direct command over nuclei of men” (Gramsci, 1996, p.213). These laws maintain inequality. Importantly, the state may use these laws and power to maintain an economic system that represents their interests and draw upon coercive military power, if necessary, to manage the social order (Morton, 2010). Furthermore, the state commands political control and helps set the stage for the development of this hegemonic historical bloc (Gramsci, 1971). As will be demonstrated, this state support for a fossil fuel based capitalism helps contextualise the existence of CCCM organisations.

Gramsci argued that the state captures social institutions such as education and religion, in part, to disseminate an ideology aligned with their (i.e. elite) wellbeing, while

simultaneously appearing aligned with the wellbeing of the masses. This is primarily a historical process where the state and/or elite support the system of production by putting pressure on social institutions to disseminate ideology (Morton, 2010). This is a technique of state craft because elite values are reproduced in the masses and used to promote norms that support an elite-favoured economic system and its unequal distribution of power (Sassoon, 2001). This process is otherwise known as a *passive revolution* (Gramsci, 1971).¹⁸

The dissemination of ideology is integral for a passive revolution where support for the political economic system becomes embedded in attitudes, morals, and cultural practices to validate this economic system that favours the social economic wellbeing of the capitalist class (Sassoon, 1980). It is essential that this process continues to reinforce this capitalist historical bloc made up of social, political, and economic forces which allows this economic system to dominate over others.

Knowing that this hegemonic political-economic system relies on the masses conforming to the unequal distribution of power and wealth, it is vital to understand how the values of the elite group must be internalised by the wider population to maintain political power because “there always remains competition between different hegemonic principles” (Gramsci, 1975, p.1084). That is, hegemony is under pressure from new ways of thinking which constantly challenges the state and dominant concepts of power. As a result, leaders of the hegemon must find ways to mitigate and reduce the impacts of such challenges to hegemony.

Civil society is an important actor that supports the state in constructing and maintaining hegemony. Civil society are those social institutions that do not exert military or economic control, but are used as an apparatus of dissemination that reinforces the ideology of those with greater power. He refers to civil society as:

¹⁸ This idea of the masses accepting a common-sense reality is derived from the Marxian theory of false consciousness outlining how civil society and the state operate to formulate a consciousness that supports hegemony (Eyerman, 1981). Gramsci’s expansion of this Marxian concept is a useful apparatus to understand why society conforms to hegemonic ideology.

‘The political space and collective institutions in which and through which individuals form political identities . . . and of the collective identities they form, the realm where “I” becomes “we”’ (Murphy, 2005, p.161).

Gramsci believed that civil society helps elites manage challenges to hegemony. In other words, civil society institutions including the media, religion, and education are not ideologically free, but are a tool of indirect power for the state or elite group to achieve dominance and popularise their ideological view (Neito-Galan, 2011). As noted, the state has unequal access to these civil society institutions (Bates, 1975; Buttigieg, 1995; Fisher, 1983) spreading their interests across these institutions to shape a set of values that can be assumed by all. In fact, the state and civil society can be viewed as a unifying and integrated form of control as well as separate actors used to protect hegemony (Burawoy, 2003). As will be demonstrated, this idea of civil society and hegemony is central to my interpretation of CCCM organisations and their role in protecting fossil fuel capitalism.

Thus, overall to sustain the hegemonic historical bloc, the elite group use “cultural as well as economic and political power to help define the boundaries of common-sense reality...” (Lears, 1985, p.572), where civil society institutions support the economic system by disseminating cultural values that align with those of hegemonic leaders making them appear as common sense (Whyte, 2016).

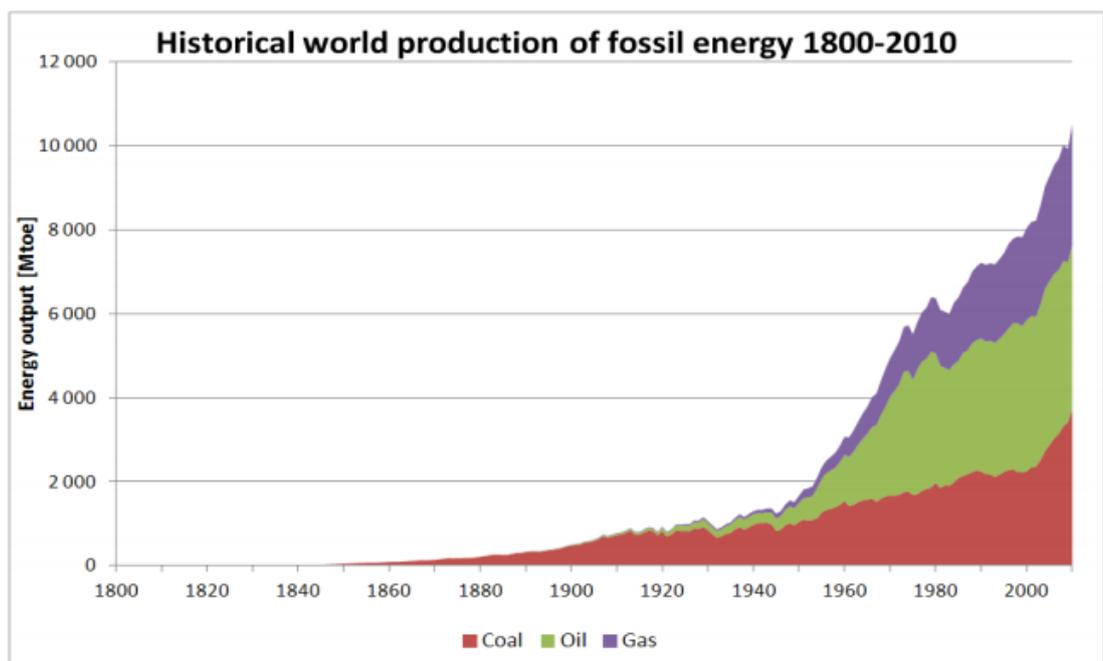
3.3.3. Fossil Fuel Hegemony

The hegemonic political-economic system described by Gramsci has been directly linked with environmental degradation (Foster, Clark and York, 2010). This is because western [hegemonic] capitalism has relied on fossil fuel intensive production which has historic negative ecological impacts (Altvatar, 2007). Therefore, the interplay between social relations and production in a capitalist economic system is vital if we are to understand how capitalistic world forces shape environmental policy decisions. More specifically, how CCCM organisations play a role in the development of these policies.

Figure 3.1 shows historical data on world production of fossil fuel energy between the years 1800-2010. There has been a consistent trend to rely on fossil fuel use for capitalistic production and economic growth. This means industrialisation and the constant

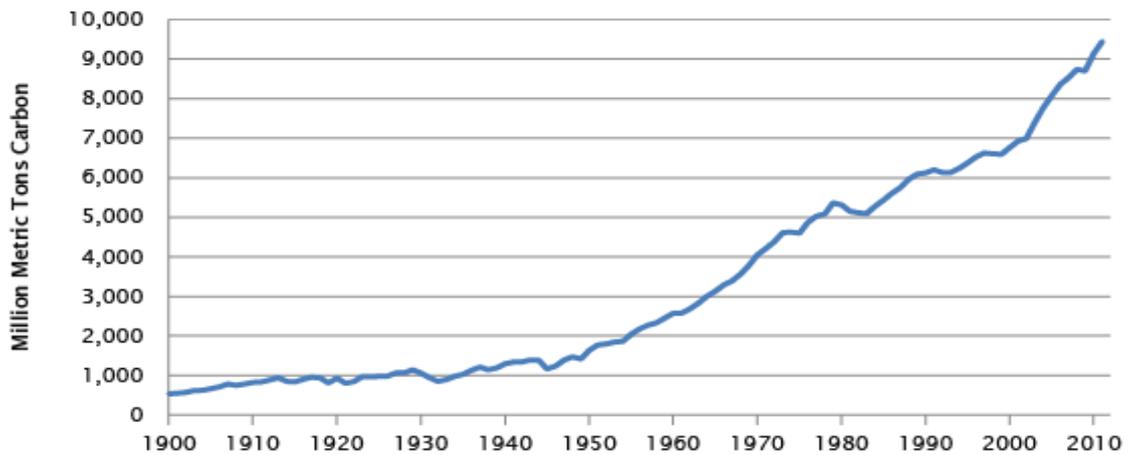
pursuit of capital accumulation under this capitalistic hegemonic bloc has been dependent on ecological withdrawals and additions that have negative environmental consequences (Schnaiberg, 1980; Schnaiberg and Gould, 1994). Significantly, from the 1950s onwards, there has been a sharp rise in production from coal, oil, and gas sources. This rise is often attributed to the industrialisation of non-western nations such as India and China that have greatly expanded their countries production and consumption, increasing economic growth and capital accumulation (Galli et al., 2012).

Figure 3.1. Historical World Production From Fossil fuel Energy, 1800-2010
(Höök et al, 2012)



Similarly, Figure 3.2 illustrates the decade increase in global CO₂ emissions from fossil fuels between the years 1900-2010. Since 1970, CO₂ emissions have increased by around 90%. Around 78% of this increase in CO₂ emissions is from industrialisation processes (Höök et al., 2012). Some researchers have contended that the increases in emissions have been directly correlated with GDP growth across most regions of the world (Saidi and Hammami, 2015). Ecological degradation then, is partly a systematic function of economic growth and industrial development under a capitalistic hegemonic historical bloc.

Figure 3.2. Global CO₂ Emissions From Fossil fuels, 1900-2011 (Department of Energy, 2015)



Foster et al. (2010) noted that Gramsci did not focus on the intersection between nature, modes of production, and hegemony. Thus, the application of Gramsci to CCCM organisations that protect fossil fuel interests may not be readily apparent. However, Foster et al. observed:

“Capitalism – since the late fifteenth century- has been the global hegemonic economic system, influencing human interactions with nature, shaping the particular organisation of material exchange. Thus, it is important to grapple directly with how global climate change is related to the historical era of capitalism, which serves as the background condition influencing social development. Through understanding the logic of capitalism, it is possible to assess how such as socio-economic system confronts natural systems and affects their ability to sustain human life” (p.121-122).

In other words, to understand the crisis of climate change (and other environmental problems) it is important to see how natural systems have been incorporated into a hegemonic political-economic structures that have maintained capital accumulation and expanded production. Taking a Gramscian perspective, the hegemonic ideology used to protect capitalism is disseminated across civil society to support the notion that fossil fuels are vital for the accumulation of capital, industrialisation, and technological developments (Rice, 2009; Smith, 2010) despite evidence of the negative ecological implications (Foster et al., 2010).

Drawing on this perspective, the natural world is given value based on the way humans interact with nature at one point in time. As Hornborg (2009) emphasised:

“The age of fossil fuels has not just been a period in time, but a condition situated in socio-political space. It has provided a minority of the world’s population with an unprecedented source of power- in both thermodynamic and political sense” (p.243).

Thus, the historical social processes that have enabled this hegemonic capitalist economic system have also imposed degradations on nature (Fontana, 2006). Moreover, the environment has turned into a contested object of greed where the unequal divide between social groups under this capitalistic political-economic system is also reflected in the use of natural resources (Altvater, 2007). Hence, fossil fuel based production and accumulation of capital are supported by an ideology that reinforces the capitalist hegemonic economic order which privileges the economic interests of the capitalist class (i.e. the elite), over the masses (Wright and Nyberg, 2015).

Furthermore, the environment has become a centre piece within the ideological struggles between hegemonic and counter hegemonic forces. Counter hegemonic forces here refers to social forces including social movement groups who contest and challenge the legitimacy of the hegemonic order (Worth and Kuhling, 2004). For instance, environmental groups have challenged hegemony, questioning the fossil fuel based global capitalist economy (Carroll, 2010).

These counter-hegemonic forces have emerged to challenge the hegemony of fossil fuel based capitalism, and as a result, hegemonic forces operate to mitigate these challenges. However, despite technological developments and increasing use of alternative energy sources including renewables and nuclear resources (IEA, nd), World Atlas (2016) indicated that 29 countries still rely on fossil fuels for more than 90% of their energy resources and the world average of fossil fuel as a total percentage of consumption in 2015 was 80.8% (World Bank, 2017). Consequently, global energy production continues to increasingly rely largely on non-renewable, heavily polluting energy resources. An important question is, why then does the capitalist hegemonic bloc remain despite clear evidence of its negative ecological implications?

The answer to this question may lie in an understanding of the CCCM. More specifically, because fossil fuel hegemony is constantly challenged, to reinforce the dominant political-economic system that has deep ecological implications such as climate change (Foster, 2002; Foster and Clark, 2009; Klein, 2015, 2017; Storm, 2009), the capitalist class disseminate ideological cues via civil society that helps rationalise environmental problems to maintain the core imperative of economic growth (White, 2003). One such way to maintain fossil fuel hegemony is as I propose the actions of the CCCM.

3.4. Climate Change Counter Movement Organisations: Civil Society Agents of Hegemonic Ideology?

As previously noted, I contend that Gramsci's concept of civil society helps explain how CCCM organisations disseminate an ideology that reaffirms fossil fuel hegemonic order. I propose CCCM organisations are agents of capitalist hegemony that distribute the ideology of capitalism and normalise fossil fuel based production across the world. Moreover, it has allowed a small group of elite actors profiting from the accumulation of capital via carbon intensive industries to maintain their positions of power.

This proposal aligns with the work of Sapinski (2015) who has previously summarised the role of state and civil society actors in the CCCM wishing to maintain fossil fuel hegemony:

“Corporate-funded think tanks and policy groups play a crucial role in such struggles as they engage in knowledge production and mobilisation on behalf of the classes or factions they are embedded in... By providing a venue for the corporate elite to debate different views about how best to overcome capitalism's contradictions and supporting the production of reports, books or media releases, and these organisations create and disseminate knowledge that informs and legitimates certain types of economic governance while delegitimising others.”
(2015, p.3-4)

Hence, CCCM organisations promote hegemony and help deny any challenges to the current system of capitalist production (see also Levy and Spicer, 2013 and MacKay and Munro, 2012).

Bates (1975) suggested that challenges to hegemony are more likely to occur during points in history where there is an *organic crisis*. An organic crisis is a point in time where the masses begin to challenge hegemony. During this period of crisis, new political philosophies and ideological discourses are formed, pressuring a transformation to a new historical bloc (Carroll, 2009a). Climate change is one of these organic crisis' creating social uncertainty and instability leading to a potential decline in the hegemony of fossil fuel capitalism (Amin, 2006; Smith, 2014).

Since the 1960s the response to environmental crisis has increased environmentalism, transforming individual attitudes and policy approaches to protect and sustainably use the natural environment (Stern et al., 1999; Van der Heijden, Armiero, and Sedrez, 2014). In fact, it is widely documented that across the world, steps are and should be taken to address environmental impacts both at individual (Lucas et al., 2008) and organisational level (Chrun, Dolšak, and Prakash, 2016). A historical interpretation on the emergence of CCCM organisations, suggests the movement has emerged under the conditions where the ecological crisis is compromising fossil fuel based hegemonic capitalism (see also McCright and Dunlap, 2011). Thus, the CCCM and its organisations operate in the interests of the hegemonic elite class, disseminating information to legitimise support for continued fossil fuel based production particularly when under pressure from counter-hegemonic forces. It is important to note however, that some civil society institution are counter-hegemonic actors with different ideologies that compete against the elite (Landy, 1986).

3.5. Intellectuals & The Climate Change Counter Movement

Individuals and/or groups of individuals play important roles in disseminating hegemonic and counter hegemonic ideologies. Gramsci referred to these individuals as *intellectuals*, describing:

“Every social group, coming into existence on the original terrain of an essential function in the world of economic production, creates together with itself, organically, one or more strata of intellectuals, which give it homogeneity and an awareness of its function, not only in the economic but also in the social and political fields” (Gramsci, 1971, p.301).

On the one hand, these individuals play a vital role in protecting hegemony and are an important part of Gramsci's concept of hegemony that can be used to examine CCCM organisations. On the other, these intellectuals can help form an alternative hegemony (Neito-Galen, 2011). Using the same civil society institutions as those wishing to maintain the dominant hegemonic order, an actor or group of actors, can create allegiances between social groups helping to politically mobilise the masses and challenge hegemony (Nickel, 2015).

Operating to maintain hegemony, the intellectuals described as part of the CCCM, reproduce and diffuse fossil fuel hegemony (Bates, 1975). As discussed in Chapter Two, a group of contrarian scientists produce pseudo-scientific research that supports climate opposition. Rice, Burke, and Heynen (2015) contended that this climate change research has become part of the hegemonic political process. In particular, pseudo-science has become used as a tool by hegemonic actors, such as CCCM organisations, to undermine research on climate change that could challenge the hegemonic order (Morrison, 2011). This means CCCM organisations have been able to employ hegemonic ideas through the guise of scientific inquiry.

For instance, there are several contrarian scientists that work for CCCM organisations disseminating research that challenges the climate change consensus (see Table D.1, Appendix D). Not only do this group receive large amounts of media attention (Anderegg et al., 2010), these contrarians produce books (Jacques and Dunlap, 2013) and alternative scientific and policy reports, manufacturing opposition that directly contradicts the sometime restrained scenarios projected by climate scientists (Brysse et al., 2013). Thus, these contrarians wield significant influence in the societal debate about climate change impacts and policy, and are symbolic of the intellectuals described by Gramsci.

Importantly, researchers have stated that these contrarians operate in direct opposition to climate scientists even making targeted attacks on individuals such as Michael Mann (Stocker, 2013). Mann (2017) reported on the familiar script used by these contrarians and other actors in the CCCM movement where they critically assess political

(or Congressional) votes, hearings, or climate policy summit's, often leading to late-breaking scandals. Individual scientists are typically charged with claims of misconduct and alarmism, and contrarians are given credibility. Mann contends that this is based on "the vested interests seeking to maintain our current addiction to fossil fuels" (np). Thus, in the same way individual contrarians are reactive to the works of climate scientists and the impact on policy reports, this may also be true and reflect the operation of CCCM organisations as they respond to those intellectuals [climate scientists] challenging hegemony (see also Levy and Egan, 2000).

3.6. Transformed Hegemony: Neo-liberal Capitalism and Globalisation

Another issue relevant to the development of CCCM organisations is the transformation of capitalism into a post-Fordist era (Wade, 2002).¹⁹ Since the 1970s, there has been a historic global shift in economic markets to expand markets, private property rights, and economic liberty in an endless pursuit of capital accumulation across the globe (Kotz and McDonough, 2010). This economic system incorporates laissez faire economics, a reduced state and limited (if any) government intervention to create a globalised economic market where, with few exceptions, no place can claim total immunity from it (Harvey, 2007).

This global capitalist economic system is supported by an ideology commonly referred to as neo-liberalism. Touched upon in Chapter Two, neoliberalism is the ideology behind contemporary capitalism (Amin, 2014). The distribution of a neoliberal ideology allows the economic system to be sustained, perpetuating inequality between the elite that own the means of production and labourers across countries (Harvey, 2005b). The neoliberal capitalist economic system has continued to rely on carbon intensive production and consumption practices that contribute to climate change (Magdoff and Foster, 2011). Thus, dependency on fossil fuels and environmental depletion is inherent under neoliberal capitalism that has emerged across the world (Altvater, 2007). For this reason, we should expect to see the distribution of CCCM organisations across the globe (as demonstrated

¹⁹ According to Clarke (1990) this post-Fordist era is as a period when the interests of capitalists and the working classes are reconciled through rising levels of income, greater consumer power and increased workers' rights. However, several studies indicate this is not the case (e.g. Glassman, 2004; Holloway, 1988).

in Chapter Two), and especially among those nations that are making significant contributions to global capitalism.

This neoliberal economic system has a hierarchal structure of production processes where TNCs, NGOs, and international governmental organisations adopt neoliberal orthodoxy to shape an interconnected transnational capitalism of *global production networks* (GPN) (Katz, 2006). GPN's operate by expanding the production process from individual states to globalised level. This has been achieved by the expansion of and facilitation of interconnected markets or the *globalisation* of trade flows.

There are various debates on the definition and the emergence of globalisation (Guillen, 2001). I adopt a perspective on globalisation starting with the definition that there is now an “increasing interdependence of national economies in trade, finance, and macroeconomic policy” (Gilpin, 1987, p.389) across all parts of the world (Gereffi, Humphry, and Kaplinsky, 2001). This is because, “at a minimum, globalisation implies that countries are becoming more integrated into the world economy” (Li and Reuveny, 2003, p.29).

This new global form of fossil fuel neoliberal capitalism is hegemonic in a sense that it “imposes its direction on the global economy and it shapes the character of production and social life everywhere” (Robinson, 2011, p.354). This is because, with greater economic integration, trade, and financial systems, there is a greater ability for cultural and political convergences across countries (Li and Reuveny, 2003). This means as economic markets become integrated, so too does the likelihood of cultures and political ideologies integrating across countries. Importantly, these cultural and political convergences are considered an expansion of a neoliberal ideology that is central for the configuration of the hegemonic global capitalist market and the flow of transnational capital (Bohle, 2006). Thus, this perspective suggests that to support this economic integration, civil society organisations have been co-opted by hegemonic elites (Katz, 2006) and their presence in other countries serves to expand and preserve the cultural and political interests emerging from a hegemonic global capitalist economy.

Thus, like civil society institutions in a nation state, these same civil society agents operate across countries to distribute neoliberal ideology central to sustaining and increasing the accumulation of capital across international markets (Cox, 1987; Robinson and Harris, 2000). I contend CCCM organisations are civil society actors and agents of hegemonic ideology that act to maintain hegemony for those more powerful actors across a world stage. CCCM organisations act in different parts of the world, disseminating ideology to exert pressure on governments to prevent or minimise action on climate change on a global scale and aim to convince the public in different parts of the world to do the same.

3.7. Understanding Climate Change Counter Movement Organisations through a neo-Gramscian Lens

Thus far, I have documented how a Gramscian interpretation of hegemony can be used to help understand the CCCM. I noted that Gramsci's original exploration of the hegemonic capitalist political-economic system was predominantly centred on the nature of Italian capitalism, although he did explore other nations including the US and Russia. That is, while Gramsci reflected upon the nature and inequalities within Italy, he did recognise that capitalism and hegemonic ideology "traversed national boundaries" (Levy and Newell, 2002, p.90). He observed some of the economic, ideological, and political forces that shaped hegemony in other countries. This indicates a Gramscian perspective can be used to explore hegemony across countries, and thus, suitable for analysing CCCM organisations across the world.

Noting this cross-national analysis that emerged from Gramsci's theory of hegemony, here I suggest that CCCM organisations may find ways to neutralise action on climate change based on the specific political, economic, and ecological conditions of individual countries. To explore this theoretically, it is useful to synthesise the traditional Gramscian approach with its neo-Gramscian counterparts that may provide more insight into how hegemony is shaped across countries. Specifically, using neo-Gramscian approaches that have emerged within the international relations and political theory literatures (Worth, 2009) help examine the influence of global capital investment and

economic growth that may explain this variation in CCCM organisations and the messages they adopt across countries. Thus, I turn to neo-Gramscian perspectives to understand the hegemonic world order, how this may affect the operation of CCCM organisation, and how it may affect the messages adopted by these organisations in different countries.

Shifting Gramsci's framework of analysis to global level, Cox (1987) contended, "Hegemony at the international level is an order within a world economy with a dominant mode of production which penetrates all countries" (Cox, 1987, p.32). The state has been transformed to support neoliberal capitalism, incorporating a multitude of elite actors from government officials or parties to large corporations across the globe. Cox (1997) argued that hegemony emerges within a nation state (e.g. the US) or group of nation states (e.g. the European Union) before extending to other parts of the world. Cox contended:

"Hegemony is a structure of values and understandings about the nature of order that permeates a whole system of states and non-state entities. In a hegemonic order these values and understandings are relatively stable and unquestioned. They appear to most actors as the natural order. Such a structure of meanings is underpinned by a structure of power, in which most probably one state is dominant but that state's dominance is not sufficient to create hegemony" (Cox, 1993, p.42).

Cox interprets Gramsci's idea of hegemony in the context of a global capitalist market. For Cox, those who seek to benefit from hegemony or the elite group emerge in a dominant country or group of countries (e.g. the EU) and then find allies in classes within other countries. This interconnected system of elites is closely tied with the production requirements exerted by a dominant country that attempt to inform policy and align their interests with those elite groups in other countries. Furthermore, for Cox, production should be understood not only as the production and consumption of physical goods, but also the production, reproduction, and exchange of hegemonic knowledge that becomes the mutual interests of elite social classes in different countries. Cox calls the hegemonic elite the 'Transnational Managerialist class' (TMC).

The interests of the TMC that shape hegemony however, cannot be constructed alone (Katz, 2006). As Katz (2006) emphasised, it is necessary for dominant nations or

elite groups in those nations to rely on civil society institutions to present an ideology that becomes accepted across national boundaries. CCCM organisations can be thought of as such civil society institutions operating across countries to create support for this form of economic system in the interests of a TMC.

Some researchers take the Coxian view that the dissemination of ideology supporting a global capitalist economy, is dominated by the interests of a US elite (Cox, 1999). Even Gramsci acknowledged the potential of an American global hegemony describing the US as the “arbiter of world finance” (Gramsci 1992, p.261) that was trying to “impose a network of organisations and movements under its leadership” (Gramsci 1996, p.11). Thus, US hegemonic leadership is tied with its economic power (Duménil and Levy, 2009) and as a result, could diffuse its policy interests across countries (Shipan and Volden, 2012). Policy diffusion refers here to “one government's policy choices being influenced by the choices of other governments” (Shipan and Volden, 2012, p.788). That is, a nation-state’s domestic and international policies are partly shaped by that of another’s.

More specifically, is the potential US hegemonic influence on sustaining a fossil fuel based economy (Levy and Egan, 2003) allowing its interests to diffuse into environmental policy to the rest of the world (Ovodenko and Keohane, 2012). Civil society institutions, such as CCCM organisations, may be a driving force impacting global environmental policies based on the interests of US hegemonic ideology (Falkner, 2005). Falkner (2005) for instance, suggested the collapse of US environmental leadership at a domestic level may have had ramifications for international action. US domestic energy policy based on less stringent environmental protection (McCright and Dunlap, 2011) has impacted the shape of international environmental policy (see also Bäckstrand and Elgström, 2013). In other words, this perspective suggests that because of the economic power of the US and its position as a hegemonic leader, US hegemonic interests have diffused to other countries, shaping international negotiations and positions on climate change (Levy and Egan, 1998) (For an oppositional view see Roberts, 2011). This

perspective may explain why, as evidenced in Chapter Two and throughout the thesis, that the number of US CCCM organisations is far greater than in other countries.

Robinson (1996) has a slightly different approach to hegemony than Cox yet it is still relevant to understanding the CCCM. Like Cox, he purports that there exists a world capitalism greatly integrated across national, regional and world production, consumption and financial systems. Robinson drew on the early work of Hymer (1978) who observed changes in the hegemonic elites within an international and globalising capitalist market. Unlike the state centred approach of the global elite, this new hegemonic elite reflected the qualities of international flows of capital where:

“...competition between national capitalists is becoming less and less a source of rivalry between nations. Using the instrument of direct investment, large corporations are able to penetrate foreign markets and detach their interests from their home markets. Given these tendencies an international capitalist class is emerging whose interests lie in the world economy as a whole...” (Hymer, 1978, p.18).

In other words, unlike the national capitalists or the TMC observed by Cox, corporate actors such as TNCs are becoming a stronger, penetrative force establishing hegemonic leadership. Importantly, it is within the globalised economy, that this group have emerged and are independent of a geographic base.

For Robinson, the role of non-state actors such as TNCs is elevated and these are the hegemonic elites with greater power over nation states (see also Robinson, 1998, 2003, 2004, 2005; Sklair, 1997, 2002). This group of actors are otherwise known as the new transnational capitalist class (TCC) (see also Cox, 1987; Gill, 1993; Hymer, 1974; Van der Pijl, 1998) incorporating an internationalised business community of industrial TNCs, big banks, financial conglomerates and other investment - related firms (Bierling, 2005). Like a nation state based capitalist class, the TCC want to create and maintain the historical bloc by disseminating an ideology that creates consent and support for current production practices (Robinson, 2005).

Sklair (1997) used the term TCC more explicitly than Robinson, arguing that Cox's expansion of hegemony, did not make the leap beyond a state-centred approach to hegemony. According to Sklair (2001), the TCC are not necessarily the ruling class in the

traditional sense of a single nation state, rather a global ruling class or hegemonic leaders cutting across international boundaries (see also Sklair and Robbins, 2002). The TCC are a manifestation from globalisation with an interlocking network of TNCs, globalising merchants, globalising bureaucrats and politicians, and the mass media working as part of a hegemonic elite group that has the greatest control of creating, maintaining and shifting the hegemonic bloc in favour of their interests (see also Carroll, 2009b; Carroll and Fennema, 2002; Dicken, 2003).

This idea of a ruling group that have greater power over the state than in Gramsci's definition, may well reflect the interlocking networks between corporate actors such as fossil fuel corporations and their influence on environmental policy-making. This is because, several components of the global capitalist economy such as the influence of the fossil fuel industry sector "face existential challenges from climate change, and elites within these fields are organising to protect their dominance" (Jacques and Knox, 2016, p.847). For instance, Roberts (2001) stated that "polluting elites (including MNCs) who direct leading sectors of their economies [especially exports] can exercise disproportionate control over national and foreign policy of nations on the environment" (p.502). Therefore, the TCC are both the main source of environmental problems and one of the leaders in managing international environmental policy (Newell, 2008) (see also Bridge, 2008; Szarka, 2000).

Importantly, accompanying the TCC's pursuit to establish or maintain their elevated position under this global hegemony, they may also use global civil society networks (Mayes, Richards, and Woods, 2017). This network of global civil society is significant in maintaining hegemony by influencing environmental policy that spreads not only through the political sphere but also to the public. In the same way, there is reason to believe that CCCM organisations operate as part of global civil society network that are key in disseminating hegemonic ideology that would protect the TCC across the globe (see also Peetz et al., 2017). Thus, this perspective may illuminate why a global network of CCCM organisations operate and are a tool to sustain this hegemonic bloc and the

elevation of the TCC in the social order which may impact environmental policy-making across countries.

A neo-Gramscian analysis may also further enlighten our understanding of the CCCM by examining the specific nature of a global fossil fuel hegemony that has implications for creating a “world order” (Di Muzio, 2016). According to Foster and Clark (2009), the “curse of capitalism” or the petroleum based social structure has incurred a shift in operations from the nation state to global level. More specifically, the rich natural resource base of poorer countries, leaves these less powerful countries as an attractive target – both politically and militarily – for wealthy nations (Perelman, 2003). This form of global hegemony reduces the potential independency of less powerful nations, meaning these less powerful nations become partially dependent on the support from powerful nations if they are to increase economic growth and integrate into the global capitalist economy (Jenkins, 2013).

Expanding on this, researchers have identified links between the economic order (in a global economy), natural resources, and political activities (Le Billon, 2001) where more powerful nations and their governments, TNCs, MNCs, and other members of the elite class pursue economic investment and policies in politically and economically weaker nations (e.g. Altvatar, 2009; Harvey, 2005a). In this sense, a neoliberal fossil fuel based global capitalist economy has created a social order between more powerful and less powerful nation states. Nations that rely heavily on fossil fuel capitalism, particularly those that rely on an energy and fossil fuel imports must maintain their interests across the globe and the dissemination of ideological messaging is integral to protect their interests (Levy and Egan, 2000). Hence, CCCM organisations may lobby domestic and inter-governmental organisations on international environmental policies (Ford, 2003), convince the public to protect the interests of the fossil fuel capitalist class, and help craft environmental policy through the world that is in the interests of sustaining a hegemonic world order.

While there are differences within the neo-Gramscian approaches to hegemony, they do overlap. These neo-Gramscian notions outline the hegemonic elite should be

taken outside the realms of an individual nation state. This is because, an analysis of hegemony must consider the impacts of a global capitalist market. The global capitalist economic system has manifested and is accompanied by a neoliberal ideology to help formulate the consensus and support for an economic system of capital accumulation despite the subsequent social [and environmental] inequalities (Chomsky, 1999) emerging across all parts of the world. Hence, a neo-Gramscian approach incorporating the importance of a global capitalist market may help inform us about how CCCM organisations as civil society agents of hegemony support and help sustain global capitalist hegemony across countries.

3.8. Protecting Hegemony: War of Position and Climate Change Counter Movement Organisations

As discussed, the global capitalist economy has impacted nations differently, providing some with large amounts of economic growth, while leaving others impoverished. Therefore, reactions to climate change, including how actors in different countries chose to protect this hegemonic economic system may be different across countries. Furthermore, the effects of climate change do and will differ across countries and different messaging strategies may be used by CCCM organisations depending on the countries in which they operate.

To better understand why CCCM organisations operate and employ messaging that protect global capitalism and which may vary across countries, I draw upon Gramsci's original concept of *war of position*. Gramsci describes the conflicts between hegemonic and counter-hegemonic forces as a war of position. This military metaphor signifies "the inevitable clash between hegemonic and counter hegemonic actors and the need for a long-term strategy to develop an alternative ideology that opposes hegemony" (Levy and Newell, 2002, p.88). In the context of climate change, the fossil fuel based political-economic system is threatened because its methods of production are challenged. For example, there is growing public support for environmentalism, greater adoption of new and less polluting and renewable energy resources, and a greater call for domestic and

international policies addressing climate change that have become widely supported (see Green and Staffell, 2016 on exiting fossil fuels).

Researchers have examined the concept of war of position and the CCCM. For instance, Levy and Egan (1998, 2003) examined how a war of position had unfolded during Kyoto Protocol negotiations. They described the actions of the Global Climate Coalition (GCC) (a now defunct CCCM organisation) that attempted to protect global capitalism. The GCC did this to (1) reduce proposed action and targets to mitigate climate change, and (2) promote neoliberal based environmental solutions over greater regulation and stronger decarbonisation targets (see also Levy, 2005).

Similarly, MacKay and Munro (2012) applied a neo-Gramscian perspective to describe and analyse the “information warfare” (p.1508) between ExxonMobil and Greenpeace on climate change. They documented how each organisation ‘weaponised’ information to alter the public perceptions of climate change in a war of position. The researchers found ExxonMobil applied arguments disputing climate science and the impacts of the Kyoto Protocol. They also criticised Greenpeace for making accusations of corruption and fraud. In response, Greenpeace detailed ExxonMobil’s donor funding from fossil fuel and corporate actors, and the employment of contrarian scientists.

As discussed above, the rise of ENGO’s across the world as counter-hegemonic actors operating in a war of position may help explain the growing resistance against fossil fuel hegemony and the proliferation of CCCM organisations. This is because, during a period when hegemony is challenged, hegemonic forces use civil society to protect against the impacts of counter-hegemonic forces such as environmental organisations. Sustained and significant mobilisation of environmentalism across borders has transformed humans’ attitude towards the environment (Ogrodnik and Staggenborg, 2016), and CCCM organisations will need to operate across borders to respond to these challenges and protect hegemonic global capitalism in a war of position.

While this counter-hegemonic operation has continued to grow, fossil fuel hegemony persists (Kinder, 2016; Ladd, 2016). Economic growth remains dependent on carbon intensive production practices (Unruh, 2000), the world still relies on fossil fuels for

over 80% of its energy production (World Energy Council, 2016), and many researchers contend more drastic action is required to address climate change (McKibben, 2012). So, why does fossil fuel hegemony remain? One answer may lie in the operation of CCCM organisations during the war of position which occurs in different parts of the world. However, within this war of position, CCCM organisations across the world may employ different tactics. In all, an understanding of war of position and the operation of hegemonic forces may explain the operation of CCCM organisations, and importantly may also explain differences in the messages adopted by these organisations across countries.

3.9. Weaknesses of a Gramscian and Neo-Gramscian Approach

There are however, some weaknesses to consider with a Gramscian and neo-Gramscian approach before applying the framework to CCCM organisations. First, the concept of civil society was central to Gramsci's analysis, however, Burawoy (2003) argued that Gramsci failed to fully comprehend why support for hegemonic ideology may or may not appear in other nations (Burawoy, 2003). That is, Gramsci's concepts do not travel well from the [Italian] national context to an international context, specifically regarding the relationship between the state and civil society (Schwarzmantel, 2009). However, such advancements from a neo-Gramscian perspective have suggested how hegemony is globalised and civil society institutions operate across geographic boundaries (Worth, 2011). More importantly, a neo-Gramscian approach considers more easily this international system (Levy and Egan, 2003), and this perspective might help illuminate why CCCM organisation operate and adopt different messages in different countries.

Second, some researchers have argued that a Gramscian interpretation of hegemony, fails to capture the importance of the economic market and the apparatus of production (Burawoy, 2003). That is, Gramsci hinted "that the continuous development of the economic apparatus of production" (Burawoy, 2003, p.216) impacts how civil society operates and disseminates the ideology of an elite. However, for Gramsci, civil society is central to understand hegemony extending the traditional Marxian perspective of capitalist production lines yet in part neglecting its importance (Wainwright, 2010). This criticism is

important for understanding the role that CCCM organisations play in sustaining a global capitalist economy. Thus, I examine not only how CCCM organisations operate as civil society actors that disseminate ideological messages that protects a global economic system, but I also empirically explore how the economic context is central to understanding how these organisations craft support for hegemony and may be directly related to the political and economic conditions under a global capitalist economy.

While an understanding of hegemony using a neo-Gramscian perspective has overcome some of the criticisms of a Gramscian approach that may help understand how the CCCM may operate in different countries, there are criticisms with neo-Gramscian concepts of hegemony that need to be considered. First, neo-Gramscian approaches introduced the idea that there is a form of global elite. From this perspective, global elites whether that be in Cox's view of the TMC or, Robinson's and others view of the TCC, exert political and economic power to formulate a neoliberal historical bloc and build support for their hegemonic interests (Burbach and Robinson, 1999). However, in Embong's (2000) view, the definitions of a global capitalist class such as TCC and TMC are too broad and lumps together these different actors masking, "the heterogeneity of the groups and their differential standing in the hierarchy of power" (p.992). This is because, different actors within either the TMC (Cox, 1987) or the TCC (Robinson, 1998, Sklair, 1996) conduct different types of political activities when establishing or reinforcing a hegemonic ideology.

This criticism yields methodological complications that are not overcome in this research. That is, I do not empirically examine the interconnectivity of these actors and how each actor operates within this elite group. Rather, I focus specifically on organisations that are allied to corporate interests or political actors. Recognising this weakness however, qualitative links can be drawn whereby there is already evidence that these hegemonic elites such as politicians and corporate actors are allied with CCCM organisations (e.g. Brulle, 2014b; Peetz et al., 2017; Sapinski, 2016, 2017).

A second important concern about a neo-Gramscian approach comes from Gill (1995). Gill (1995) emphasised that the formation and operation of a historical bloc

involves the coercive capacities of a state. Evidence of a TMCs and TCC that minimises the role of state actors cannot provide a complete understanding of the construction and maintenance of a neoliberal historical bloc. This is an important criticism as this research centres on a cross-national and country level analysis.

However, as Gill (1992) noted:

“the forces of transnationalisation and globalisation (for example, transnational companies favouring and embodying international production and exchange and capital mobility) have steadily expanded, and have been engaged increasingly in a struggle vis a vis more nationalist and protectionist blocs of forces, that is those seeking to assert or maintain some form of social control over key aspects of economic and political life at the national level. The latter are associated with what might be called national capitalism” (p.161).

Thus, for Gill (1992) even in a globalised market, nation states themselves are able to control some pockets of their independency in, for example, economic and other policy decisions. Countries do act on an individual level to protect how they integrate into a global market and manage their position in a hegemonic global capitalist economy. When examining the international network of CCCM organisations they may well be interconnected across national boundaries. Nevertheless, individual organisations in countries may also maintain some autonomy in the way they operate and the messages they adopt. As I argue, these organisations may respond and operate differently depending on the political, economic, and ecological conditions in an individual country justifying a country level analysis.

A final important criticism of the neo-Gramscian approach relevant to this study comes from Germain and Kenny (1998) who contended that some of the neo-Gramscian approaches are overly economic. That is, they focus too much on the role of economics in the development of hegemony without understanding and truly crafting a theory of hegemonic ideology. I address this criticism by examining CCCM organisations not only as agents of hegemonic ideology that operate in a global capitalist economy, but also explore how they disseminate ideology and construct messaging supporting the global capitalist economy. Specifically, I examine the messages adopted by CCCM organisations. As will be discussed in the following chapter, I propose the construction of messages to support hegemonic ideology can be explored through a sociology of crime

and deviance framework. Thus, I examine how CCCM organisations operate, construct, and disseminate information to create a form of consent that favours the current hegemonic fossil fuel based global capitalist economic system.

While there are weaknesses that I have acknowledged with a Gramscian and neo-Gramscian framework, it still provides a useful framework to examine the CCCM as others have done (e.g. Levy and Egan, 1998, 2003; Neubauer, 2011). To answer my research questions, a synthesis of the Gramscian and neo-Gramscian approaches may help examine the geographic differences in the operation of CCCM organisations and the messages they adopt emerging to protect the global capitalist economy.

3.10. Conclusion

This chapter has provided a brief history of Gramsci's theory of hegemony and how I will apply this to the CCCM. As explained, hegemony has taken shape at the global level. It is a fossil fuel based, neo-liberal capitalist historical bloc reaffirmed by ideological practices disseminated by civil society. The threat of climate change and other environmental problems has created a situation that challenges this [hegemonic] economic system of fossil fuel production (see also McCright and Dunlap, 2011). Despite the organic crisis of climate change, evidence suggests climate policies still reflect the pursuit to maximise profit and economic gains rather than creating strategies to decarbonise and challenge the hegemonic political-economic structure underpinning ecological destruction (Chartier and Deléage, 1998; MacKenzie, 2009).

I propose CCCM organisations operating as agents of hegemony, are one reason why fossil fuel hegemony persists and influence domestic and international climate change policies. Mobilising hegemonic ideology, CCCM organisations operate a war of position disseminating arguments to the public and policy-makers. This is to protect the interest and hegemonic position of the elite, which have and continue to spearhead an anti-environmental regulatory agenda based on the presumption that climate change policies pose threats to neoliberal fossil fuel based hegemony. As noted, this argument is consistent with various strains of hegemony.

I also argue that by examining cross-national factors I can better understand where CCCM organisations emerge and the different messaging they send. Thus, by drawing upon a Neo-Gramscian approach, I investigate the operation of CCCM organisations and the different messages presented across countries. That is, do political, economic, and ecological conditions within nations suggest that CCCM organisations operate on behalf of a global capitalist elite, exert pressure across borders to sustain a world order, and fossil fuel based economic market? These different conceptualisations of hegemonic power may also help explain differences in messaging adopted by CCCM in different countries. I contend that the messages adopted by CCCM organisations can be rebranded as ‘CCCM neutralisation techniques.’ These techniques are the focus of the next chapter.

Chapter Four

Neutralisation Theory and Climate Change Counter Movement Messaging

4.1. Introduction

This chapter provides an overview of neutralisation theory and explains why it can be used to examine CCCM organisations and their messages across the world. The chapter begins by exploring the main concepts, strengths, weaknesses, and extensions of the original theory of neutralisation before extending it to the study of CCCM organisations. I modify the original application of neutralisation theory to derive seven CCCM neutralisation techniques that can be used to more clearly categorise the messages adopted by these contrarian organisations. The theoretical links between CCCM neutralisation techniques and hegemony are then integrated to explain why organisations may adopt different techniques in different countries. In sum, I propose that (1) CCCM neutralisation techniques are one way that hegemonic ideology of fossil fuel based capitalism is disseminated; (2) CCCM neutralisation techniques that organisations employ vary across nations; (3) and the techniques CCCM organisations use can be predicted by economic, ecological, and political characteristics of countries in which they are located.

4.2. Techniques of Neutralisation

Sykes and Matza (1957) devised five techniques of neutralisation to explain male juvenile delinquency. Subsequently, researchers have used neutralisation theory to examine a variety of crime and deviant behaviour including, white collar and corporate crime (Benson, 1985; Evans and Porche, 2005; Piquero, Tibbets, and Blankenship, 2005; Thurman, John, and Riggs, 1984; Vieraitis et al., 2012), environmental crime (Du Rees, 2001; Rodriguez, Pacheco, and Rodriguez, 2013), violent crime (Agnew, 1994; Agnew and Peters 1986), wildlife crime (Enticott, 2011; Forsyth and Evans, 1998; Nurse, 2011), political activism (Liddick, 2013; Lindblom and Jacobsson, 2014), online crime (Ulsperger, Hodges, and Paul, 2010), sex crimes and paedophilia (De Young, 1988; Durkin and Bryant, 1999; Renfrow and Rollo, 2014; Scully and Moralla, 1984) street crime (Cromwell and Thurman, 2003; Topalli, 2005), deviant medical practices (Gauthier, 2001), genocide

and other political crimes (Alvarez, 1997; Bilali, 2013), academic misconduct (Cutler, 2014), and drug use and drug cultivating (Copes et al., 2014; Monaghan, 2002; Wiecko and Thompson 2014).

In short, the theory of neutralisation proposes that neutralisation techniques allow a person to appear “committed to the deviant system” but recognise “the moral validity of the dominant normative system” (Sykes and Matza, 1957, p.665). In other words, a person committing a deviant act adheres to conventional norms, but they may use one or more neutralisation techniques to justify violations of these conventional norms. By adopting neutralisation techniques, an individual deviant may lessen negative feelings or *dissonance* and/or challenge those that would condemn their behaviour.²⁰ As Sykes and Matza suggested:

“Much delinquency is based on what is essentially an unrecognised extension of defences to crimes, in the form of justifications for deviance that are seen as valid by the delinquent but not by the legal system or society at large” (p.666).

A deviant then, accepts wider societal norms and therefore uses techniques of neutralisation to avoid moral culpability when they violate these norms.

The five techniques of neutralisation that Sykes and Matza (1957) identified are:

(1) *Denial of Responsibility*, (2) *Denial of Injury or Harm*, (3) *Denial of Victim*, (4) *Condemnation of the Condemner*, and (5) *Appeal to Higher Loyalties*. Denial of Responsibility contends that the deviant or criminal act is accidental and/or the deviant was a victim to their environment and therefore unable to control their actions.²¹ Denial of Injury or Harm asserts that (1) an act will not injure or significantly injure someone or something; and/or (2) there are likely positive impacts from this behaviour.²² Denial of Victim on the one hand claims the victim is deserving.²³ On the other, it describes a

²⁰ Dissonance is a term coined by Festinger (1962) and refers to a psychological experience when a person's behaviour is not consistent with their beliefs.

²¹ For example, Cromwell and Thurman (2003) found convicted shoplifters used an overexposure to drugs and alcohol to deny responsibility. Scully and Marolla's (1984) interview data showed a history of drug and alcohol abuse is used by a sample of rapists to deny responsibility.

²²For example, De Young (1988) and Durkin and Bryant (1999) found that members of online paedophile forums frequently use this technique to certify no severe harm or injury can be caused to a child from such communication. Additionally, some users believe their behaviour would have had positive impacts on a child's wellbeing (see also Salutin,1971; Skipper and McCaghy,1970; Thompson and Harred,1992)

²³ For example, Pogrebin et al. (2006) found violent gun offenders commonly used denial of victim implying that their victims were fully or partially responsible for their injuries. Harris and Dumas (2009) observed this

person's failure to activate their internal moral reasoning because the victim may be "physically absent, unknown, or a vague abstraction" (p.668).²⁴ Condemnation of the Condemner shifts the criticisms of a deviant act to those condemning that person's actions, thereby rejecting the higher status of the condemners.²⁵ Appeal to Higher Loyalties proposes that the deviant act was necessary and imitates a sacrifice to satisfy the requirements of an intimate social group.

Some researchers have redefined the original five techniques, while others have identified more than the five described by Sykes and Matza (see Maruna and Copes, 2005 for a review). The most common of techniques accumulated from research are listed in Table 4.1 along with their definition and authors. Moreover, it is often the case that a combination of techniques of neutralisation are used (e.g. Harris and Daunt, 2011; Weicko and Thompson, 2014), and other researchers contend that techniques of neutralisation are sometimes applied hierarchically (Enticott, 2011). For instance, denial of victim was a preferred technique used by UK farmers to justify illegal badger culling. If this technique was rejected, denial of injury is the second most likely used technique adopted by farmers (Enticott, 2011).

Matza (1964) explored neutralisation techniques differently. He suggested the employment of techniques allows deviants to drift into a position where they accept deviant behaviour before returning to conventional values after a period of time; "*Drift makes delinquency possible or permissibly by temporarily removing the restraints that ordinarily control members of society*" (Matza, 1964, p.181). However, once a person realises the problem with their deviant behaviour, they then readopt conventional norms and values.

technique employed by peer to peer file sharers who argued music companies "deserved all they get" for overcharging consumers (see also Liddick, 2013).

²⁴ This is a common technique used by white-collar offenders to argue there are no victims in the legitimate business world such as when offenders that believe an institution or organisation is not worthy of victim status (Benson, 1985; Perri and Brody, 2011).

²⁵ For example, Spraitz et al. (2014) found leaders of the Catholic Church frequently condemned the media for vilifying convicted priests and the victims of historical child sex abuse cases. Curasi (2013) and Olafson et al. (2013) found students condemned poor teaching practices and a lack of care for students when guilty of academic misconduct.

Table 4.1. List Of And Definitions The Most Common Neutralisation Techniques Found in Research Including Those Additional To Sykes And Matza (1957)

<i>Source</i>	<i>Technique</i>	<i>Definition</i>
<i>Sykes and Matza (1957)</i>	Denial of Responsibility	A person denies responsibility for the act
	Denial of Injury/harm	A person claims there is no injury or harm and disputes the amount of harm caused
	Denial of Victim	A person claims the victim is deserving or there are no victims, i.e. physically absent
	Condemnation of the Condemner	A person shifts the attention to the person condemning their behaviour
	Appeal to Higher Loyalties	A person will claim their behaviour is in some way necessary
<i>Klockers (1974)</i>	Metaphor of ledger	A person's behaviour is offset by past, present or future positive behaviour
<i>Bandura (1990)</i>	Dehumanisation of Victim	A person claims that a person or something is not worth of victim status or compassion
<i>Minor (1981)</i>	Defence of Necessity	A person claims their actions were necessary
<i>Thompson (1980)</i>	Dispersal of Blame/Transfer of Responsibility	A person claims the behaviour is dispersed amongst a group of people and responsibility is shared amongst this group

The diversity in techniques of neutralisation adopted by Sykes and Matza and others, suggests that techniques of neutralisation may be a useful way to label a diverse set of oppositional arguments adopted by CCCM organisations. While neutralisation theory has been used to examine a variety of criminal and deviant behaviours, it is not free from criticisms and these must be understood before applying them to a new area of investigation.

4.3. Weaknesses

The first criticism of neutralisation theory is regarding the casual order of neutralisation techniques and the deviant act. As Sykes and Matza contended, neutralisation techniques are employed prior to the deviant act. This question has led

some researchers to suggest neutralisation theory does not explain the crime or deviant act, but rather why it is made possible (Cromwell and Thurman, 2003). It does not explain the cognitive and social processes leading to why a person commits a deviant act, rather a social environment that allows the justifications used by a deviant to be accepted. Therefore, researchers are unable to understand the motivations for criminal behaviour rather simply understand the environment in which a deviant finds reasons to make their actions appear acceptable.

Some researchers have chosen innovative methodologies such as vignette surveys to accommodate this criticism (e.g. Blumstein et al., 1974; Haines et al., 1986; Siponen and Vance, 2010). For instance, Barlow et al. (2013) used vignette surveys to predict the behaviour of employees and future violations of IT policies based on the techniques of neutralisation they used. These researchers found vignettes useful because they allowed research participants to determine why they may or may not conduct a deviant act without committing the offence. Thus, they were able to see if neutralisation techniques were a precursor and motivation for deviance.

Others have chosen longitudinal studies to address this weakness (e.g. Ball, 1966; Minor, 1981). For instance, Minor (1981, 1984) conducted a longitudinal survey on the acceptance of neutralisation techniques for minor offences such as illegal drug use and shoplifting. The results of a two-wave panel study designed to overcome this shortcoming revealed the acceptance of neutralisation techniques for justifications for deviant behaviour did predict subsequent deviant behaviour for certain groups. Thus, he concluded there is reason to believe that neutralisation techniques do precede deviance, are motivations of deviance, and allow deviance to take place.

Other researchers have adjusted the overall theoretical framework where neutralisation techniques make up part of an account given after a deviant act (Scott and Lyman, 1968). The theory of accounts posits that justifications for an offence are an explanatory mechanism given after an offence is committed, but the individual still internalises conventional norms (Pogrebin et al., 1992).

Scott and Lyman (1968) split accounts into *excuses* (mitigating or relieving responsibility claiming the behaviour is accidental) and *justifications* (acceptance, yet denies full responsibility for the act, sometimes asserting positive implications). Neutralisation techniques generally fall into the second category. This theoretical adjustment partly resolves the methodological problem of how to identify attitudes prior to a deviant act by suggesting techniques of neutralisation are employed after an act has taken place. Nevertheless, it is reasonable to believe that if deviants employ these justifications after an offence, they would also apply them beforehand (Sykes and Matza, 1957).

The issue of 'timing' for when CCCM organisations may produce neutralisation techniques is clear in this case. Harmful production practices that began to change the climate existed well before CCCM organisations emerged. Instead, these organisations are reacting to a global redefinition of the dominant form of production as something that is harmful to humans and their environment (see also McCright and Dunlap, 2010). As argued throughout this thesis, CCCM organisations produce neutralisation techniques that allow harmful fossil fuel based production practices to continue. In the case of this research, neutralisation techniques are produced alongside harmful acts to allow those acts to continue. This issue of ongoing acts of harm is rarely considered in neutralisation theory which was focused more on the actions preceding individual deviant acts. My adaption of CCCM neutralisation techniques then, deals with the criticism of 'timing' by modifying the original neutralisation theory where CCCM organisations operate to protect ongoing production practices that are harmful. Thus, the techniques that these organisations adopt oppose the concept that production practices cause problems or harm to the environment and arise concurrently.

The second major criticism of neutralisation theory suggests that the theory lends itself more to subcultural perspectives on deviance (Austin, 1976; Cohen, 1955; Copes, 2003; Hindelang, 1969; Ohlin and Cloward, 1960). There are differing perspectives on subcultural theory, however the orthodox perspective sees a deviant subculture as:

“a set of modal beliefs, values, norms, and customs associated with a relatively distinct social subsystem (a set of interpersonal networks and institutions) existing within a larger social system and culture” (Fischer, 1975, p.1323).

In other words, a deviant subculture is a social group that acquires and adopts unconventional norms and values that contrast with wider society (see Blackman, 2014 for a review of subcultural theory).

Thus, neutralisation techniques may be better understood as the justifications used by a person to affirm their commitment to norms that differ to mainstream society (Agnew, 1994). For instance, Topalli (2005) found some street offenders employ Denial of Responsibility to align themselves with non-conventional norms when the technique becomes an Acknowledgement of Responsibility. Shields and Whitehall (1994) compared justifications for reoffending given by high school students and convicted juvenile delinquents. The researchers found juvenile delinquents were more likely to endorse neutralisation techniques in comparison to high school students who employed fewer techniques, suggesting high school students recognised the behaviour could not be justified. This they argued was a sign that those adopting neutralisation techniques do so to affirm beliefs conducive to a deviant subculture (see also Mandle and Lewis, 1979; McCarthy and Stewart, 1998; Norris and Dodder, 1978; Sheley, 1980). In contrast, Ball's (1966) comparative study of high school students and institutionalised delinquents, showed institutionalised delinquents were less likely to employ techniques of neutralisation compared to their high school counterparts.²⁶ These results challenge Sykes and Matza by introducing evidence that institutionalised delinquents did not employ techniques because they, instead, follow subcultural norms (see also Copes and Williams, 2007).

A consideration of this subcultural values criticism also suggests a needed modification to the original theory of techniques of neutralisation if they are going to be applied to CCCM organisations. That is, as noted in chapters Two and Three, these organisations are likely to be part of a 'subculture' of conservative values and often are

²⁶ Ball's (1966) neutralisation scale is a quantitative tool to test Sykes and Matza's point that a person committing a norm violation remains committed to general norms. It is now common for researchers either to use this scale or formulate a similar scale.

synonymous with the growth imperative of capitalism and the idea that economic growth is good for the environment. Thus, it is important to be clear that these neutralisation techniques are not used to allow CCCM organisations themselves to engage in behaviour that is destroying the biosphere. Instead, CCCM organisations are part of a conservative subculture of capitalist elites that may benefit from the destruction of the environment for profit. CCCM organisations are providing messages, or in this case neutralisation techniques, to others that allow this harm to continue. That is, fossil fuel hegemony provides a venue for these CCCM organisations to spread neutralisation techniques to the masses to allow environmental harm to continue on a global scale.

4.4. Predicting Offending using Techniques of Neutralisation

To extend neutralisation theory, researchers have examined whether neutralisation theory can be used to predict deviance (Agnew, 1994; Fritsche, 2005; Hollinger, 1991; Piquero, Tibbetts, and Blankenship, 2005). Since some have argued that techniques of neutralisation precede deviance, they should then correlate with subsequent deviant behaviour through an investigation into why deviance is made possible. For instance, Minor (1981) attempts to predict recidivism by adding Hirschi's (1969) *hardening process* to explain the use of neutralisation techniques. Hirschi stated that when a person comes into regular contact with deviant stimuli they will, overtime, lower their commitment towards conventional norms. This hardening process leads to the adoption of alternative norms, therefore a person will no longer need to neutralise their behaviour if they believe it is acceptable (Minor, 1981). Minor determined that recidivism will continue if neutralisation techniques are repeated.

Similarly, Ball (1966) contended that reoffending may be based on the likelihood of whether individuals have begun to internalise alternative sets of beliefs. The repetition of techniques of neutralisation may come to legitimise offending behaviour when it appears that the excuse is likely to be accepted and becomes a norm. Therefore, the employment of neutralisation techniques increases the likelihood that a person will reoffend having repeatedly justified their behaviour using techniques of neutralisation.

However, it is not simply the repeated application of justifications to neutralise deviant behaviour that may predict deviance, rather there may be related variables such as socio-demographic characteristics that increase the likelihood of offending and reoffending (Kiriakidis, 2008). A theoretical paradigm such as a one used by Agnew and Peters (1986) that observes personal and external characteristics of offenders which correlate with certain neutralisation techniques may help understand what makes deviance likely in the future.

Applying this paradigm, Agnew and Peters (1986) examined the relationship between neutralisation techniques and the acceptance of these techniques by those condemning their behaviour. They interpret the social, political, and economic [external] factors that may affect the likelihood of employing certain techniques for certain deviant acts. The researchers tested if these techniques and social, political, and economic factors were correlated. This type of investigation may reveal why certain techniques of neutralisation are used by individuals over others and whether a pattern exists between certain external factors and techniques of neutralisation.

Piquero et al. (2005), used a similar approach and found that race, age, gender, religion and political orientation were positively correlated with certain neutralisation techniques adopted by corporate criminals. Likewise, Vieraitis et al. (2012) found male and female corporate offenders adopted different neutralisation techniques helping predict reoffending patterns of behaviour. Yu (2013) found cultural milieu explains the use of different techniques by students who commit digital piracy (see also Weicko and Thompson; 2014). These researchers showed that when a certain criminal or deviant event occurs, the social environment surrounding the act will lead to the employment of one or more neutralisation techniques. This helps predict conditions which are more likely to give rise to deviance meaning this type of investigation may reveal why certain techniques of neutralisation are used by some CCCM organisations over others, and whether a pattern between certain country level factors and techniques of neutralisation exist.

While these researchers have shown that techniques of neutralisation can be used to predict deviance, Fritsche (2005) contended neutralisation theory is a weak predictor of deviance. Reviewing 17 studies that had examined the predictive power of techniques of neutralisation on deviance, he found that data used across these studies to predict offending behaviour were based on small samples and had other problems. Nevertheless, by understanding these characteristics researchers have offered predictions of future deviant behaviour by identifying mechanisms and strategies that address some of the core reasons why certain behaviours are committed and how the response to these acts are accepted or not (McDevitt, Levin, and Bennett, 2002). Therefore, a paradigm that allows researchers to use neutralisation theory to predict offending has been a useful tool to not only predict offending, but also formulate typologies of offending behaviours (e.g. Eliason, 2003; Enticott, 2011; Nurse, 2011; Von Essen et al., 2014). For instance, Von Essen et al. (2014) used techniques of neutralisation to categorise offenders by the justifications they used for certain types of hunting behaviour. They argued that this categorisation can explain both the motivation and the societal response to this criminal act.

The ability to formulate a typology by the techniques an offender uses may provide a tool to differentiate between CCCM organisations. This is because CCCM oppositional messaging is not homogenous and there are several arguments adopted. Therefore, techniques of neutralisation may be rebranded to the study of CCCM organisations and used to examine the differences in arguments adopted by organisations in different countries based on political, economic, and ecological characteristics of the location in which CCCM organisations exist. That is, cross-national differences may predict the type of technique of neutralisation a CCCM organisation may use in one country over another. Moreover, predicting this may also tell us more about the reasons for why CCCM organisations operate in certain countries.

While I suggest that neutralisation theory can be employed to this new behaviour, it is important that I outline further justifications as to why a traditional criminological theory can be applied to the actions of CCCM organisations that are not normally understood as

deviant or criminal actors. I turn to advancements made by other researchers to support the application of neutralisation theory to the study of CCCM organisations.

4.5. Techniques of Neutralisation & Social Harms

Criminologists continue to apply Sykes and Matza's neutralisation theory to a variety of crimes and deviant behaviours. Furthermore, some criminologist also employ techniques of neutralisation to examine behaviour which causes harm, but without being described as criminal or deviant in the traditional sense (Pearce and Tombs, 2007). A social harms approach posits that crime has no '*ontological reality*' (Hulsman, 1986) where only certain acts come to be defined as criminal or deviant and something or someone becomes a victim. Because of this definitional component, criminal law may fail to capture forms of harm including legal and ambiguous activities (Hall, 2013) (for a review of social harms see Hillyard and Tombs, 2007). In fact, it may be that harmful behaviours not classified as criminal may matter more than crime (Hillyard et al., 2005). Such examples include many serious harms experienced in the workplace such as safety crimes leading to millions of work-place industry victims but offenders in these corporations are not made accountable (Hillyard and Tombs, 2004), or the inadequately regulated and punished mistakes and deliberate accidents in the chemical industry (Kluin, 2013).

Neutralisation techniques therefore, may be applied to behaviours outside the bounds of traditionally defined criminal behaviour. One way to examine these social harms using neutralisation theory is by asking what external factors such as offender characteristics and/or external economic and political factors make certain behaviours more readily accepted over others. Sykes and Matza contended that "justifications for deviance will be more readily seized by segments of society for whom discrepancy between common social ideals and social practice is most apparent" (p.669). Thus, certain criminal or deviant behaviours are more likely to be forgiven because (1) the criminal or deviant act is not classified as such in a traditional sense, (2) it is not visible or less visible than for example a robbery or street crime, and (3) the offender is given greater leniency based on the social structural conditions within a society. This arguably

may help link and determine why certain harmful behaviours are not given the same attention and investigation as other traditional forms of crime.

Researchers that have examined white collar and corporate crime demonstrate how neutralisation theory can examine behaviour not classified as criminal in a traditional sense. Sutherland (1940) amongst others (i.e. Cressey, 1953; Quinney, 1960) suggested that offenders with a higher economic status are more likely to have defences for criminal behaviour accepted. These offenders have easier access to the criminal justice system based on the socio-economic power and their actions may not necessarily be classified as criminal or deviant in the same way as street or violent offending (Benson and Moore, 1992). For example, Benson (1985) investigated how neutralisation theory could explain the behaviour of white collar and corporate criminals. He revealed how techniques of neutralisation are more likely to be accepted because this group of offenders belong to a higher socio-economic group with easier access to the criminal justice system.

Similarly, Du Rées' (2001) questioned why the environmental supervisory agencies failed to effectively monitor and address environmental law violations committed by large corporations. She found agency staff mirrored corporate arguments that were used to justify environmental violations. Moreover, she argued not only are these supervisory agencies likely to have their accounts honoured, so too are those of corporate actors committing environmental violations. With both sets of actors adopting these justifications, it may lead to a lack of persecution and suitable deterrence against future environmental offending (see also Martin, Salazar Laplace, and Ruiz, 2008; Nurse 2011; Enticott, 2011; Von Essen et al., 2014). Thus, accepting these neutralisation techniques as legitimate justifications for harmful behaviours may fail to address this matter and not minimise or negate future behaviour. This is because, the social structural conditions which permit certain groups greater power over others results in a failing to reject these neutralisation techniques as justifications for deviant behaviour.

Further exploration of why techniques of neutralisation will be more readily accepted by those with higher social status also concerns the wider political-economic structural forces that operate across society. Some researchers have contended that

different definitions of what is a legal or an illegal act emerges from structural forces, particularly methods within capitalism that come to define and contribute to social harms (Lynch et al., 2013). An example is, the role that neutralisation techniques play in justifying the lucrative illegal ivory market. The illegal ivory market still exists despite the highly effective policing and prevention work of the multinational enforcement agency Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (Nurse, 2013). One potential reason for this, is that crimes committed against non-humans are looked at differently because wildlife has been commodified. Instead of this behaviour being classified as criminal, the application of techniques of neutralisation re-affirm market practices. Even though offenders may be trading in illegal goods, this market practice supports the capitalistic political-economic structure providing an opportunity for this illegal market to flourish (see also Dewey, 2016). Thereby, allowing harmful behaviour to continue because the economic market can continue.

Similarly, 'sin industries' such as alcohol, tobacco, and nuclear energy, have used neutralising arguments as part of a strategic goal to reduce the stigma attached to an industry and minimise the impacts of litigation cases (Grougiou, Dedoulis, and Leventis, 2015). For instance, Grougiou et al. (2015) examined neutralisation techniques used by firms that operate these deviant or stigmatised industries, such as legitimate gambling organisations. Using the results from a case controlled comparison of 109 US listed sin industries between the period 2003-2009, they found examples of neutralisation technique were incorporated into organisational corporate social responsibility reports helping control and lessen the negative images associated with these industries (see also Talbot and Boiral, 2015). Here neutralisation techniques were not only used to justify harmful behaviour such as gambling addictions, but also enabled such sin industries to be left outside the boundaries of traditional definitions of crime to continue market practices.

The extensions of neutralisation theory to include the examination of social harms suggests it can be readily applied to CCCM organisations for two reasons. (1) The historic actions of industrialisation and the commitment to continued use of fossil fuels have caused harmful impacts to earth systems (Rockström et al., 2009). Subsequently, both

human and non-human species are victims of environmentally harmful behaviours (Hall, 2013) and neutralisation techniques may be used to justify the continued use of resources and technologies harmful to Earth systems. (2) As noted in Chapter Three, I contend that CCCM organisations are one set of actors, amongst others, under a hegemonic historical bloc that has relied on fossil fuel based production causing significant harm to the environment to pursue the accumulation of capital. As a result, CCCM organisations may use neutralisation techniques to help maintain hegemonic fossil fuel global capitalism, maximise profits, and influence legislation to protect the capitalist economy. This is because social norms across the world are now more likely to incorporate the welfare of the environment into everyday life (Schlosberg and Coles, 2016) and techniques of neutralisation are used to reaffirm that an ecologically destructive global capitalist economic system should be left outside of the boundaries of traditional criminal and deviant behaviours and should not be prosecuted or changed.

This observation parallels McCright and Dunlap's (2003) point when they stated, "our case identifies the reactive tactics used by a countermovement to neutralise an issue that has already been placed on the national agenda" (p.349). Thus, there is reason to believe that techniques of neutralisation are employed concurrently as a reaction to the now widely accepted position that these production practices cause significant harm, and techniques are employed to protect these production practices when they are being challenged (i.e. rise of environmentalism and environmental policy). Thus, neutralisation techniques are employed by CCCM organisations to sustain environmentally harmful production and consumption practices. Moreover, these organisations operate within the larger political-economic structure allowing actions of this 'elite group' to be sustained. This differs to Sykes and Matza's approach that suggests neutralisation techniques are employed prior to deviant behaviour. In this case, CCCM organisations may be reacting to the challenges to everyday business practices that would dislodge carbon intensive production and consumption practices, concurrently producing arguments that resist barriers put in place to restrict these harmful production practices.

I should air caution when labelling the actions of CCCM organisations as socially harmful or criminal acts. However, as will be discussed, the use of neutralisation theory outside the field of criminology shows how neutralisation techniques may examine behaviour which violate a social norm, yet it is still not classed as a criminal or deviant act through a crime and deviance lens. While this may minimise the stigma associated with the examination of the CCCM through of a crime and deviance framework, it does emphasise that the movement merits examination.

4.6. Techniques of Neutralisation: Beyond Criminology

Sykes and Matza's techniques of neutralisation have been employed outside criminology to examine behaviour which violates social norms, although this behaviour is not necessarily considered deviant, criminal, or harmful through a criminological lens. One set of examples is its application to justify the individual desire for cheaper produce despite those products having negative environmental or social impacts (Antonetti and Maklan, 2014; Brunner, 2014; Chatzidakis et al., 2004; Chatzidakis, Hibbert, and Smith, 2007; Dagher and Itani, 2014; Fukukawa, Sungkanon, and Reynolds, 2013; McGregor, 2008; Mitchell and Ka Lun Chan, 2002; Strutton, Pelton, and Ferrell, 1997). For instance, Gruber and Schlegelmilch (2014) found techniques of neutralisation are incorporated into consumer ethical-decision making. They contended neutralisation techniques are cognitive devices to justify non-sustainable consumer behaviours where despite following general social norms, consumers legitimise their deviation from sustainable purchasing practices. Thus, consumers employ neutralisation techniques to justify unethical consumer behaviour balancing the cognitive tensions between the desire for cheaper produce (non-fair trade produce as cheaper) and a moral duty to society (buying fair trade and sustainable produce).

Shifting the unit of analysis from an individual to organisational level, researchers have shown how techniques of neutralisation are incorporated into marketing and branding strategies, impression management, and corporate social responsibility (CSR) reports by organisations to manage perceptions about corporate behaviour that may be deemed socially or environmentally harmful although not in a traditional criminological

sense (Fan, 2005; Fooks et al., 2013; Grougiou, et al., 2015; Guenther, Hoppe, and Poser, 2006; Talbot and Boiral, 2014; Vitell and Grove, 1987; Yoon and Lam, 2013).^{27,28}

Like the example of sin industries by Grougiou et al. (2015), Yoon and Lam (2013) observed variants of techniques of neutralisation in CSR reports by alcohol producers. Three alcohol corporations used variants of these techniques in a public relations campaign diverting the responsibility of alcohol consumption from the corporation to the individual. Placing problems such as violent behaviour and excessive drinking onto the consumer was part of a strategy to reposition these issues as the problem for individuals rather than corporations.

Similarly, Fook's et al's. (2013) iterative analysis of interviews and CSR reports from British-American Tobacco (BAT) demonstrated that the Tobacco industry uses the same practices. Their work revealed BAT used neutralisation techniques, including Denial of Injury and Appeal to Higher Loyalties, to minimise the risk of harm caused by tobacco smoke. They add that the application and acceptance of the techniques of neutralisation used by BAT are highly visible to the public and are employed to align broader social norms with corporate action compared to other forms of deviance. Thus, not unlike the actions of BAT, I contend these may mirror that of the CCCM organisations.

In some cases, the worst performing corporate actors disclose information on their environmental violations to influence regulatory strategies which legitimise some level of environmentally harmful behaviour (Cowan and Deegan, 2010; Dawkins and Fraas, 2010). Like their use by individuals to affirm commitment to alternative norms, this organisational action demonstrates techniques of neutralisation may also be affirmations used to positively framing environmentally harmful corporate behaviour (Nyberg, Spicer, and Wright, 2013; Nyilasy, Gangadharbatla, and Paladino, 2014; Prado-Lorenzo et al.,

²⁷ In organisational literature, impressions management refers to methods used by organisations to ensure legitimacy to the public which is central to their survival (Lindholm, 1994). Neu, Warsame, and Pedwell (1998) explained that it helps ensure industry productivity even when the presentation of organisational activities does represent a commitment to social values or causes social or environmental harm. For instance, a heavily polluting industry may adopt specific discourses or disclosures of performance in relation to negative environmental impacts to illustrate a form of environmentalism and overcoming the negative issues (e.g. Bansal and Clelland, 2004).

²⁸ There are several definitions given to corporate social responsibility. Here, corporate social responsibility refers to companies following the law and integrating social, environmental, ethical, consumer and human rights concerns into their business strategy and operations (European Commission, 2011).

2009). For instance, Talbot and Boiral (2015) observed techniques of neutralisation used by ten Canadian industrial corporations to mitigate the pollution concerns of company stakeholders. Stakeholder reports included techniques of neutralisation to relieve pressures from stakeholders and minimise the risks associated with certain polluting behaviours (see also Boiral, 2016; Nurse, 2016).

Similarly, Schoultz and Flyghed (2016) examined the defensive strategies of two Swedish companies, one of which Lundin Petroleum is a company at the centre of several scandals related to their extractive actions which negatively impacted the image of the organisation (The Local, 2012). The researchers found that techniques of neutralisation - predominantly Appeal to Higher Loyalties – were employed in media documents, company press release and letters to shareholders. This, they suggested was done to maintain current business practices to prevent changes in regulation or business practices that compromise business as usual.

In fact, it has now become an integral organisational practice to acknowledge some responsibility that certain business practices cause harm; although not in a traditional criminological sense. With regards to environmentally harmful industries, it has even been considered a form of corporate *greening* (Sharma, 2000). Corporate greening may in fact permit these actors to manipulate and redefine traditional notions of green business practices to justify a certain level of environmentally harmful behaviour (Lynch and Stretesky, 2007).

Cases that have applied neutralisation theory to non-traditional deviant or criminal behaviours, indicates they are adopted to help legitimise some forms of undesirable behaviours. Additionally, they show that techniques of neutralisation can be employed at organisational level, which further justifies why the framework can be used to examine CCCM organisations. Furthermore, these applications have also drawn attention to the role that the economy plays to sustain capital accumulation by organisations. In other words, there is reason to believe that these organisations employ neutralisation techniques as justifications to continue everyday (environmentally harmful) business practices that would be otherwise compromised by regulatory practices. Using these

observations, I propose a similar diagnosis may be made about the role CCCM organisations play in neutralising the impacts of fossil fuel based global capitalism.

CCCM organisations play an active role in shaping public opinion that will continue the everyday environmentally destructive behaviours of fossil fuel based global capitalism. To do this, I contend CCCM organisations adopt neutralisation techniques that positively frame fossil fuel based capitalism and thus reject or minimise the resultant environmental harm. Moreover, the application of these diverse techniques may be used to classify CCCM organisational arguments in a new way to help us understand the differences across countries

The following section identifies a typology of climate change based techniques of neutralisation that will be used to predict the messages of CCCM organisations across the world by the different arguments they adopt and political economic factors influencing the country of origin.

4.7. Constructing Climate Change Counter Movement Neutralisation Techniques

I contend that techniques of neutralisation are used by CCCM organisations to justify inaction on climate change. While I am not the first to apply neutralisation theory to the study of climate change (see White, 2015), to my knowledge, no one has yet used it to examine differences between CCCM organisations. To examine the differences amongst CCCM organisations, I modify Sykes and Matza's techniques as follows to form CCCM neutralisation techniques:²⁹

- Denial of Responsibility: Climate change is happening, but humans are not the cause.
- Denial of Injury: There is no significant harm caused by humans to the earth's climate, in fact there may even be benefits to these changes.
- Denial of Victim: There is no climate change and no climate change victims. If climate change victims do exist, they deserve to be victimised.

²⁹ I first developed this typology in 2014 and presented it at the Northumbria University post-graduate research conference at Northumbria University to a group of staff and students in March 2015. A poster of that presentation is available online at: <https://www.northumbria.ac.uk/static/5007/research/3174722/3179166/Poster4.pdf>.

- Condemnation of the Condemner: Climate change research is misrepresented by scientists, and manipulated by the media, politicians and environmentalists.
- Appeal to Higher Loyalties: Economic progress and development are more important than preventing climate change.

The technique Denial of Responsibility is used to suggest that humans are not the cause of climate change, rather other things are to blame, and often these things are beyond their control. Denial of injury acknowledges (1) that there are some human influences on climate change, however, these are small in comparison to natural variation and (2) climate change may be a good thing for the biosphere, beneficial to both human and non- humans. Like Sykes and Matza, Denial of Victim has two points. (1) Climate change is not real and there are no victims³⁰ (2) Those that are aware of climate change and have not put effective barriers and procedures in place to protect themselves and should be held responsible for their own injuries.

Condemnation of the Condemner refers to the argument that climate science is misrepresented by scientists, the media, politicians, and environmentalist. In other words, Condemnation of the Condemner takes the form of criticisms of policy-makers and environmental activists that wish to disrupt the status quo of neoliberal fossil fuel based global capitalism. Appeal to Higher Loyalties acknowledges humans have caused climate change, however mitigation strategies would compromise human development and economic progress. This will most likely hurt poor and underdeveloped populations and it is important to prioritise fossil fuel based capitalism to prevent this. Table 4.2 shows each technique of neutralisation in its original form and techniques adapted for this research.

Based on these new definitions I ask: - *do CCCM organisations adopt neutralisation techniques to oppose climate action?* (Research Question One)

Complimenting existing literature on the CCCM, this preposition adds a new analytical

³⁰ The inability to view or see a visible victim in regards to climate change is linked with the notion of *environmental myopia*. "Environmental myopia is the equivalent of a person with short-sight believing that nothing of interest or importance could possibly lie beyond the range of his or her own, limited vision. Environmental myopia is dangerous for the same reasons as its ocular namesake: the environment is neither featureless nor linear" (Silvertown et al., 2010, p.557).

approach to examine these opposing arguments for four key reasons. (1) These techniques are used to justify opposition climate change policy, deviating from general norms and consensus towards climate action but adds the underlying proposition of a deviant lens. (2) Neutralisation techniques may be used to persuade public and politicians to resist arguments for climate mitigation. Techniques of neutralisation no longer simply represent the cognitive devices used by an individual to justify deviant behaviour rather they are used by organisations to prevent policy being adopted by convincing the public and politicians to adopt the same messages.

Table 4.2. Climate Change Counter Movement Neutralisation Techniques

<i>Name</i>	<i>Original Technique</i>	<i>Climate Change Counter Movement Neutralisation Techniques</i>
<i>Denial of Responsibility</i>	<i>Denial of Responsibility</i> is used to contend that the deviant or criminal act is accidental and/or fell victim to their social environment unable to control their actions	Climate change is happening, but humans are not the cause.
<i>Denial of Injury</i>	<i>Denial of Injury or Harm</i> asserts (1) an act will not injure or significantly injure someone or something; and/or (2) there are likely positive impacts from this behaviour	(1) There is no significant harm caused by human action and (2) there may even been some benefits
<i>Denial of Victim</i>	<i>Denial of Victim</i> on the one hand juxtaposes victim and offender as the deviant becomes the condemner and law enforcer	(1) There are no climate change nor climate change victims. (2) If climate change victims do exist, they deserve to be victimised.
<i>Condemnation of the Condemner</i>	<i>Condemnation of the Condemner</i> shifts negative or criticisms of a deviant those condemning that person's actions, thereby rejecting the higher status of the condemners.	Climate change research is misrepresented by scientists, and manipulated by media, politicians and environmentalists.
<i>Appeal to Higher Loyalties</i>	<i>Appeal to Higher Loyalties</i> imitates a sacrifice to satisfy the requirements of an intimate social group	Economic progress and development are more important than preventing climate change.

(3) I modified neutralisation theory and proposed the operation of CCCM organisations operate at the same time to protect current production practices that are challenged by the rise of environmentalism and actions to address climate change. Testing variables that operationalise the concept of hegemony, may provide further information on how these techniques manifest in relation to political, economic, and

ecological conditions. This proposal mirrors others that have assessed the correlation between neutralisation techniques and social and environmental factors that may then predict deviance (e.g. Agnew, 1994; Agnew and Peters, 1986; Piquero et al., 2005).

(4) It may also show how these techniques are part of a 'war of position.' This may provide a unique understanding of techniques of neutralisation when they are adopted during a point in history when values are changing and operationalised in the context of a war between two competing sets of social values. That is, while there has been a significant rise in environmentalism since the 1970s that has created a more ecologically informed population, hegemonic actors are disseminating ideological messages to protect the fossil fuel based global capitalist economy. This means, the application of neutralisation techniques may be understood during a period of social conflict where the CCCM organisation have emerged and operate in response to rise of environmentalism that challenges fossil fuel based hegemonic practices.

To further justify why Sykes and Matza's theoretical framework can be applied to the study of CCCM organisations, I highlight approaches from the sociology of crime and deviance that have already been used to understand climate change (Agnew, 2012, Lynch and Stretesky, 2010). For instance, Agnew (2012) outlined potential criminogenic consequences of climate change including increased state conflicts, conflicts over natural resources and increased violence. He applies criminological theories including strain theory (Merton, 1938) and social disorganisation theory (Shaw and McKay, 1942) concluding climate change may create beliefs, values, and a social environment that increase opportunities for criminal behaviours.

Other researchers have turned their attention to corporate and state actors driving climate change. In doing so, suggests this behaviour be labelled as criminal and/or deviant (Kramer 2013; Lynch, Burns, and Stretesky, 2010; White, 2015). For example, Kramer (2013) adopted a state-corporate crime on perspective on climate change, arguing the lack of US legislation to address climate change is one outcome of:

"long chain of relationships and conflicts among carbon-intensifying corporations, carbon-reducing industries, political organisations of workers and communities dependent on these variation industries, environmental organisations, lobbying

firms, banks and other nodes of finance capital with a stake in environmental policy, along with a complex stew of regulatory bodies, advisory commissions, think tanks and foundations; government and NGOs” (2013, p.158).

Kramer recommended taking a critical perspective on corporate and [political] actors roles in failing to seriously address climate change, considering these practices as deviant, particularly because of the complex intersections between corporations and state legislators (see also Lynch et al., 2010). Claims of the intersection between powerful actors in the climate change debate and financial and interpersonal links is already evidenced in the CCCM literature (Brulle, 2014b) and this draws links with the comments of Kramer (2013), and Lynch et al. (2010) who view these actions through a deviant lens.

Moreover, Lynch, Stretesky, and Long (2015) argued that an understanding of how denial organisations neutralise pro-environmental behaviour is an important area of research in the sociology of crime and deviance. Thus, I propose that CCCM organisations, working on behalf of fossil fuel and corporate industry actors use neutralisation techniques to minimise the problems and challenges from climate change leading to further environmental harm. Arguably, this is in response to the rise of environmentalism since the 1960s that has influenced a marked shift in social norms to respond to environmental challenges and incorporate environmental action into everyday behaviour (Dunlap, 2008).

Moreover, the problem of climate change has created a period of social and political instability, allowing competing social norms to be operationalised (McAdam, McCarthy, and Zald, 1996) because climate action will affect the continuous accumulation of capital through production practices that have negative impacts on the environment (Magdoff and Foster, 2011). This period has, on one hand provided significant evidence as to the severity of climate change and other environmental problems. On the other, it has provided the opportunity for an organised group of actors to employ what I contend are CCCM neutralisation techniques to prevent decreases in fossil fuel based business practices (McCright and Dunlap, 2003). This forges a new interpretation of the theoretical framework of neutralisation theory by emphasising the importance of how and why

neutralisation techniques are employed during a period of social, political, and economic instability (see a general application by Smith, Plummer, and Hughes, 2016).

In short, I believe neutralisation techniques can be used to categorise the arguments used by CCCM organisations and may help us understand why arguments adopted by CCCM organisations differ across the world. By combining neutralisation theory and the theory of hegemony we may understand why CCCM organisations use these neutralisation techniques to support fossil fuel hegemony in ways that differ across countries. These variables are developed from Gramscian and neo-Gramscian concepts of hegemony. By examining the relationships between neutralisation techniques and different political, economic, and ecological factors that relate to hegemony, may explain why certain CCCM organisations emerge in one location and why they use certain neutralisation techniques over others. I now outline the hypotheses that have been derived from previous research and these two theoretical perspectives.

4.8. Proposed Hypotheses

The following section details three hypotheses along with five related hypotheses regarding the relationship between the count of CCCM organisations, the use of neutralisation techniques and political, economic, and ecological factors. These hypotheses are used to answer the third and fourth research questions.

4.8.1. Hypothesis One (H1): Ecological Destruction Hypothesis

H1: ecological destruction will be positively related to the number of CCCM organisations across countries.

In other words, the CCCM will need more organisations disputing climate change in countries where there are higher levels of ecological destruction. Thus, does higher levels of ecological destruction increase the number of CCCM organisations. These types of indicators include total GHG, ecological footprint, fossil fuel energy consumption, and population growth.

There are three additional hypotheses related to H1 that answers research question four by incorporating the techniques of neutralisation framework. To allow ecological destruction, I expect ecological indicators will be positively correlated with CCCM organisations that employ arguments that deny the severity and the responsibility of humans for climate change. Therefore, to answer research question four (do political, economic, and ecological factors influence what neutralisation techniques are adopted by CCCM organisations in different countries), the following related hypothesis to H1 are as follows:

(H1a): ecological destruction will be positively related to the number of organisations that use Denial of Responsibility (DOR).

In other words, in countries that will continue and or expand current levels of production and consumption CCCM organisations will argue that human actions have not caused climate change. Next,

(H1b): ecological destruction will be positively related to the number of organisation that use Denial of Injury One (DOI1).

In other words, in countries that will continue and or expand current levels of production and consumption CCCM organisations will argue there is no significant harm caused by human induced climate change. Finally,

(H1c): ecological destruction will be positively related to the number of organisations that use Denial of Injury Two (DOI2).

In other words, in countries that will continue and or expand current levels of production and consumption CCCM organisations will argue that human actions and subsequent climate changes produce benefits to the environment such as rising crop growth.

Ecological destruction indicators then would be positively correlated with CCCM organisations that adopt DOI2 stating there are in fact benefits to climate change and rising CO₂.

4.8.2 Hypothesis Two (H2): Global Capitalism Hypothesis

(H2): integration into the global capitalist economy will be positively related to the number of CCCM organisations across countries.

H2 argues that more CCCM organisations will emerge to protect the interests of the global capitalist economic system that relies on fossil fuel based modes of production. This is because, domestic and international policies that are proposed and have been implemented to address climate change, challenge the neoliberal fossil fuel based economic orthodoxy (Klein, 2015, 2017). As a result, specific indicators that represent country level integration into a global capitalist economic market will be positively related to the number of CCCM organisations. Importantly, indicators of the global capitalist economy are operationalised to investigate if the concept of hegemony can help explain the operation of these CCCM organisations across countries. These types of indicators include FDI stocks (annual), GDP per capita, Total Natural Resource Rents (NRR) as a percentage of GDP, Economic Freedom Index, and the Fortune 500 (Global) companies. There is a further hypothesis related to H2 that answers research question four by incorporating the techniques of neutralisation framework.

(H2a): integration into the global capitalist economy will be positively related to the number of organisations that use Appeal to Higher Loyalties (AHL).

AHL purports, “*economic progress and development are more important than preventing climate change.*” As a result, to maintain hegemonic production and consumption practices, CCCM organisations adopt AHL to resist climate action based on the notion that economic and social development are more important than remedying climate

changes. This technique then proposes acting on climate change will prevent the accumulation of capital and economic growth.

4.8.3. Hypothesis Three (H3): Environmental Protection Hypothesis

(H3): environmental protection will be positively related to the count of CCCM organisations across countries.

H3 is derived from the notion that to combat counter-hegemonic forces promoting environmentalism and support for action on climate change, the number of CCCM organisations in a country will be higher. In other words, this hypothesis investigates if Gramsci's war of position can explore the operation of CCCM organisations. The types of environmental protection indicators include, the number of climate and earth science research centres, the number of ENGOs, and the percentage of marine and protected land. There is one additional hypothesis related to H3 that answers research question four by incorporating the techniques of neutralisation framework.

(H3a): environmental protection will be positively related to the number of organisation that use Condemnation of the Condemner (COC).

Similar to the work of MacKay and Munro (2012), I expect COC to be used by CCCM organisations to directly criticise policies based on protecting the environment and rising environmentalism to support their oppositional position to undermine climate action. The technique COC mirrors the same discourse identified by Mackay and Munro, where CCCM organisations criticise climate change research, claiming it is misrepresented by scientists, and manipulated by media, politicians and environmentalists. The relationship between environmental protection indicators as proxies for counter hegemonic forces and CCCM organisations as agents of hegemony, may mean they are more likely to adopt this technique as part of a war of position.

4.9. Conclusion

This chapter has explored Sykes and Matza's neutralisation theory to justify why it may be used to examine CCCM organisations. It has shown that various components and developments in the theory can be used as a suitable framework to examine CCCM organisations. While there are weaknesses to the original theory that led me to modify the theory, an investigation into whether the proposed typology of CCCM neutralisation techniques are used by these organisations can answer the first research question: - *do CCCM organisations adopt oppositional arguments that can be rebranded as CCCM neutralisation techniques?* These can also be used to answer the second research question: - *If these techniques can be rebranded, are they useful for monitoring change in CCCM organisation messages?*

Furthermore, the hypothesised relationship between CCCM organisations and political, economic, and ecological conditions suggests that these conditions can explain the number of CCCM organisation and this can be explained through the theoretical lens of hegemony. This can answer the third question: - *do political, economic, and ecological factors predict the number of organisations across countries?* Finally, the hypothesised relationships between techniques of neutralisation and political, economic, and ecological conditions can be used to investigate if we can predict the messages adopted by CCCM organisations across countries. Again, this may also be explained through the theoretical lens of hegemony and can answer the fourth research question: - *do political, economic, and ecological factors influence what neutralisation techniques are adopted by CCCM organisations in different countries?*

I contend that, to defend fossil fuel hegemony, CCCM organisations are civil society organisations used to normalise the attitude that carbon intensive practices are the social and cultural norm despite the environmentally harmful impacts of these hegemonic practices. Thus, using neutralisation theory to categorise the arguments adopted by CCCM organisations may help us understand why CCCM organisations adopt different messages in different countries based on their position in the hegemonic political-economic order.

Transforming the unit of analysis from organisation to country level allows me to answer the third and fourth research questions. By examining cross-national differences might explain why CCCM organisation are more likely to operate in certain countries over others. Moreover, if there exists variation in the relationship between political, economic, and ecological factors and techniques of neutralisation, this may provide an understanding as to why CCCM organisations across countries adopted different messages. More importantly, why this may have led to the emergence of and predict conditions which lead to the emergence of CCCM organisations.

The use of both criminological and political economic theory emphasises the notion that CCCM opposition leads to the victimisation of the entire eco-system in pursuit of capital accumulation. I argue that this is also the case for CCCM organisations. The following chapter is an overview of the methodological processes that I use to answer these research questions and test several hypotheses identified above.

Chapter Five

Data, Methods and Measures

5.1. Introduction

This chapter describes the data, data collection procedure, and analytic strategy used in the thesis. The chapter begins by describing the methods and procedures used to identify CCCM organisations. An examination of these organisations and their messages is essential for answering the research questions posed in Chapter One. Recall, the first research question is: - *do CCCM organisations adopt oppositional arguments that can be rebranded as CCCM neutralisation techniques?* To answer this question, I employ a content analysis of CCCM organisation messages to see if they use neutralisation techniques developed in Chapter Four. The results of the content analysis are also used to answer the second research question: - *If these techniques can be rebranded, are they useful for monitoring change in CCCM organisation messages?* The third research question, which also relied on organisation data is: - *do political, economic, and ecological factors predict the number of organisations across countries?* To answer this question, I conducted a cross-national analysis to see if country level political, economic, and ecological indicators can predict the number of organisations across countries. These political, economic, and ecological factors were also used to explore how the concept of hegemony can help to explain the number of organisations across countries.

The fourth research question also relied on CCCM organisational data and asked: - *do political, economic, and ecological factors influence what neutralisation techniques are adopted by CCCM organisations in different countries?* As above, I conducted a cross-national analysis of these organisations predicting their location by the CCCM neutralisation techniques they use applying several country level variables. These variables are consistent with the hypotheses presented at the end of Chapter Four. Briefly, I summarise these hypotheses as follows:

Hypothesis One (H1): Ecological Destruction Hypothesis

(H1): ecological destruction will be positively related to the number of CCCM organisations across countries.

(H1a): ecological destruction will be positively related to the number of organisations that use Denial of Responsibility (DOR).

(H1b): ecological destruction will be positively related to the number of organisations that use Denial of Injury One (DOI1).

(H1c): ecological destruction will be positively related to the number of organisations that use Denial of Injury Two (DOI2).

Hypothesis Two (H2): Global Capitalism Hypothesis

(H2): integration into the global capitalist economy will be positively related to the number of CCCM organisations across countries.

(H2a): integration into the global capitalist economy will be positively related to the number of organisations that use Appeal to Higher Loyalties (AHL).

Hypothesis Three (H3): Environmental Protection Hypothesis

(H3): environmental protection will be positively related to the number of CCCM organisations across countries.

(H3a): environmental protection will be positively related to the number of organisations that use Condemnation of the Condemner (COC).

The next section of the chapter documents the data collection process, then reviews the analytic strategy employed to answer the research questions and test my hypotheses. The final section summarises the methodological approach before discussing limitations of the research methods.³¹

5.2. Data & Data Collection

5.2.1. Organisational Universe

To answer the research questions, I first identified the universe of CCCM organisations which required gathering the number and location of all CCCM organisations. This data collection process revealed the universe of CCCM consists of

³¹ From the start of the research process I maintained ethical approval by completing a Northumbria University ethics form approving the research.

465 of CCCM organisations that come from 53 countries. Not surprisingly, many of these organisations are from the US (see also McCright and Dunlap, 2000; Dunlap and McCright, 2015). Nonetheless, it is clear CCCM organisations operate in other areas including in Europe (see also Plehwe, 2014; Anshelm and Hultman, 2013), Latin America (see also Fischer and Plehwe, 2017), and Australasia (see also Hamilton, 2010a, 2010b; McKewon, 2012). Thus, the CCCM is not only confined to the US, but is a global phenomenon.

Because there is no authoritative source of information on the universe of CCCM organisations, I developed the following procedure to produce my dataset. I first defined a CCCM organisation as: *an organisation that disseminates research or takes a position on climate change which differs from the scientific consensus that climate change is happening and that humans are causing some of these changes*. For the purpose of this study, and drawing upon Chapter Two, organisations are advocacy organisations, conservative think tanks (CTTs), trade associations, coalition groups, university affiliated research centres, professional associations, and foundations. I applied a coding framework similar to Brulle (2014b) and summarise these seven types of organisations into Table 5.1 which lists definitions, number of observations, and percentages of organisations in each category.³²

I collected data from an organisation's websites and tax reports where available (US, UK, Germany, The Netherlands, Hungary, India) to determine which of the seven categories each organisation should be labelled.³³ If this data was unavailable, inferences were made about the type of organisation based on the "about" section of the organisation's website or the data was recorded as missing. This data collection took place between the months of January 2015 – December 2015. There is variability in the distribution of these different types of organisation across countries (see Table B.5,

³² Note, Brulle (2014) used the specifications based on funding categories as identified by the National Centre for Charitable Statistics, whereas I drew on the theoretical definitions attached to these different categories.

³³ Tax report information was taken for US and non-US based organisations. This was accessed through two potential sources. One, the National Centre for Charitable Statistics, is the authoritative source of funding information for organisations registered as charitable in the US (<http://nccs.urban.org/>). The second source was taken from the non-profit Guidestar. Guidestar is a non-profit organisation that operates across several countries. It can provide information on all registered charities (<http://www.guidestar.org.uk/default.aspx>).

Appendix B). To remind readers about the distinctions between the seven types of CCCM organisations listed in Table 5.1, I briefly describe each type below.

As advocacy organisations are organisations with principled beliefs or represent specific industry interests (Jenkins, 2006) these organisations within the CCCM are often referred to as front groups because they have been specifically set up to appear as grassroots movement organisations. However, these organisations are often funded by corporate or vested interest actors (see Cho et al., 2011).³⁴ Advocacy organisations make up 17% (N=77) of the CCCM organisational universe.

Think tanks or research institutes were the most common type of organisation and are described as those conducting policy research distributed to public, private sector, and political actors (Rich, 2005). They disseminate this research, working with media outlets and conduct political lobbying activities. This type of organisation dominates the dataset at 50.7% (N=231). Although, it is important to note that the way in which think tanks operate and are funded across countries differs. For instance, some think tanks may be solely funded by non-profit donations, while other organisations such as think tanks in India will be partly subsidised by governments (Sobhan, 2002).

It is also important to note that advocacy organisations and think tanks are often used interchangeably (Pizzigati, 2007). For this research, organisations that were previously coded as advocacy organisations in other research were put into that group. While any other organisations were treated as either advocacy or think tank depending on that organisations self-description.

Trade associations make up 11.1% (N=51) of the CCCM organisational universe. These are organisations that lobby on behalf of for-profit industries with many related to the oil, gas, and agricultural industries. They lobby on behalf of members who pay a subscription fee. Because trade associations are often a term associated with the US it is not surprising that this type of organisation is more likely to emerge in the US. However, some self-described trade associations are also located in other countries (see Table B.5, Appendix B).

³⁴ Note, this definition has had some criticisms. For a review see Andrews and Edwards (2004).

Table 5.1. Categories, Definitions & Frequencies Of Organisations³⁵

Nature of Organisation	N	%	Definition
Advocacy	77	17	Organisations with principled beliefs or represent specific interests (Jenkins, 2006).
Think Tank/Research Institute	231	50.7	Organisations that conduct policy research distributed to public, private, and political actors (Rich, 2005).
Trade Association	51	11.1	“Organisations that represent for-profit firms or industry” (Brulle, 2014b, p.257)
Coalition	27	5.6	A group of organisations that follow the same principles or hold the same values around a policy issue (Axelrod, 1970).
University Affiliated Research Institute	7	1.5	Organisations that are based at a university and conduct research on climate or related fields.
Professional Association	5	1.1	Professional associations are like trade association’s representing a professional or business industry such as doctors, engineers. Like other types of organisation, they attempt to influence regulatory behaviour (Greenwood, Suddaby, and Hinings, 2002)
Foundation	29	6.0	Organisations that issue grants to non-profit organisations. These grants are provided by anonymous donors (Brulle, 2014b).
Other	32	7.0	Any other organisation that does not identify itself as one of the above, or the type of organisation is unknown.
Total	459	100	

³⁵ 6 missing cases

Professional associations are similar to trade associations in that they represent a particular business industry such as doctors, scientists and engineers. They aim to influence regulatory behaviour by publishing research. This is a useful definition as these organisations cut across geographical boundaries representing different groups of professionals making up 1.1% (N=5) of the CCCM organisational universe.

Coalition organisations are groups of individuals and/or organisations that form an alliance based on a single or several policy issues. As discussed in Chapter Two, many of these organisations are specifically set up to support oppositional research on climate change. Coalition organisations are found across numerous countries and make up 5.6% (N=27) of the CCCM organisational universe.

University affiliated research institutes make up 1.5% (N=7) of organisations in the CCCM universe. These organisations are likely to conduct research on climate and earth sciences or policy issues related to climate change. It is important to note that several researchers contend that it is not the research centre itself that denies climate change, but often specific academics such as contrarian scientists Professor William Happer and Willie Soon that receive funding from industry actors that want to forestall climate action (see Carter and McClenaghan, 2015; Goldenberg, 2015). Nonetheless, these individuals operate out of these organisations and produce research supported by the institution.

Foundations make up 6% (N=29) of the CCCM organisational universe. As noted in Chapter Two, foundations act as donors which transfer grants to other organisations including those in the CCCM (Brulle, 2014b; Greenpeace, 2007). The 'other' category is made up of organisations that could not be identified or took very different forms. These include websites organised on behalf and independently of other CCCM organisations that allow scientists to publish research and receive charitable donations. Seven percent (N=32) of the organisations were classified as 'other.'

To first identify an initial group of CCCM organisations, I identified four pre-defined groups by triangulating data from multiple sources. Three of these predefined groups are discussed in Chapter Two and are important because they are all well-known climate sceptic groups that have been identified by previous researchers. The first pre-defined

group was made up of 83 organisations which had sponsored one or more of the ten Heartland Institute's International Conference's on Climate Change (2008-2015) (see Table B.1 Appendix B). The second pre-defined group are 63 members of the Civil Society Coalition on Climate Change (CSCCC) used to identify CCCM organisations that was operational between the years 2007-2014 (see Table B.2. Appendix B). The third pre-defined group includes 22 organisations that are members of the Cooler Heads Coalition (CHC) (see Table B.3 Appendix B). The final pre-defined group included any other organisation identified by other researchers from a sample of eleven sources (see Table 5.2). Several of the organisations identified in these predefined groups overlapped.

I next examined each organisation's website from the pre-defined groups to identify every other organisation listed on their website. These were often under the heading 'partners,' 'links of interest,' and/or 'friends.' I determined if these listed organisations could also be classified as a CCCM organisation. To determine whether these listed organisations could be classified as CCCM organisations, I included organisations that satisfied criteria from a relationally defined set of boundaries derived from the comprehensive literature review of CCCM organisations (see Butts, 2008 on relationally defined boundaries). Listed and affiliated organisations had to have some focus on the issue of climate change that is oppositional to the consensus, and adopt one or more of the following criteria incorporated into their mission statement or purpose: *principles of free market ideology; free enterprise; deregulation; property rights; economic and religious freedom; the rejection of social liberalism.*

Table 5.2. Number Of Organisations Identified By Previous Researchers

Name of Source	Source	Number of Organisations
<i>Brulle (2014)</i>	Brulle, R.J., 2014. "Institutionalising delay: foundation funding and the creation of US climate change counter-movement organisations." <i>Climatic Change</i> 122(4):681-694.	91
<i>Oreskes and Conway</i>	Oreskes, Naomi and Conway, Eric. M. 2011. <i>Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming</i> . New York, Bloomsbury Publishing USA.	10
<i>Plehwe (2014)</i>	Plehwe, Dieter. 2014. Think tank networks and the knowledge–interest nexus: The case of climate change. <i>Critical Policy Studies</i> , 8(1):101-115.	12
<i>McKewon</i>	McKewon, E. 2012 Talking Points Ammo: The Use of Neoliberal Think Tank Fantasy Themes to Delegitimise Scientific Knowledge of Climate Change in Australian Newspapers. <i>Journalism Studies</i> , 13(2):277-297.	1
<i>McCright and Dunlap (various dates)</i>	Dunlap, Riley. E and McCright, Arron. M. 2015. Organised climate change denial. In Dunlap, Riley, E and Brulle, Robert (eds) <i>The Oxford Handbook of Climate Change and Society</i> , Oxford: Oxford University Press: 144-160.	21
	McCright, Arron .M and Dunlap, Riley. E. 2000. "Challenging Global Warming as a Social Problem: An Analysis of the Conservative Movement's Counter-claims." <i>Social Problems</i> , 47(4):499-522.	10
	McCright, Arron. M and Dunlap, Riley. E. 2003 "Defeating Kyoto: The Conservative Movement's Impact on US Climate Change Policy." <i>Social Problems</i> , 50(3):348-373.	14
<i>Greenpeace</i>	www.exxonsecrets.org/	170
<i>Corporate Europe Observatory</i>	https://corporateeurope.org/news/funding-climate-change-denial	16
<i>Mother Jones (2009)</i>	http://www.motherjones.com/environment/2009/12/climate-deniers-atlas-foundation	30
<i>Campaign Against Climate Change: Union of Concerned Scientists</i>	http://www.ucsusa.org/global_warming/solutions/fight-misinformation/global-warming-skeptic.html	10

In addition, defunct CCCM organisations were included to give a more accurate history of the movement's development. When this was the case, I entered the organisations dates of operation into the dataset to show they no longer operated. In 2015, there were a total of 21 organisations that no longer operated.³⁶ The messages from these defunct CCCM organisations are included in the content analysis in Chapter Six, but are not included in the counts of organisations that make up the dependent variables in the statistical analysis in Chapter Seven. This is the case because the Chapter Seven analysis is focused on the present distribution of CCCM organisations.

I collected and recorded organisational data using a coding instrument designed specifically for this thesis, which captured the nature and type of organisation, its organisational characteristics, and whether it could be classified as a CCCM organisation (see Appendix C). This instrument was similar to Brulle's (2014b) coding survey. There were eight steps in the coding process.³⁷ The first seven coding steps are as follows:

- **Step 1:** Examine if they were taken from one of the predefined groups (see above) or the organisation they had been derived from.
- **Step 2:** Locate and record the URL of each organisations website.
- **Step 3:** Identify the type of the organisation from one of eight categories defined above: (1) *advocacy*, (2) *think tank*, (3) *trade association*, (4) *coalition*, (5) *university affiliated research institute*, (6) *professional association*, (7) *foundation*, (8) *other*.
- **Step 4:** Identify the organisation's country of origin.

³⁶ Defunct organisations were as follows: Instituti Liberal Shqiptar (Albania) Centre for New Europe (Belgium), Natural Resources Stewardship Project (USA), Environmental Assessment Institute (Denmark), Lithuanian Free Market Institute (Lithuania), The Environmental Conservation Organisation (USA), Annapolis Centre for Science (USA), Alexis de Tocqueville Institution (USA), TS August (USA), National Wilderness Institute (USA), National Environmental Policy Institute (USA), Independent Commission on Environmental Education (USA), Coalition for Vehicle Choice (USA), Defenders of Property Rights (USA), Consumer Alliance for Global Prosperity (USA), Free Enterprise Action Fund (USA), Consumer Alert Inc (USA), Centre for Environmental Education Research (USA).

³⁷ I collected several other components of organisational data that will be used in future data analysis including (1) if the organisation produce any resources for the public on climate change either published by itself, or advertised on behalf of external producers; (2) The ratio of male to female employees; (3) if funding information available via the website.

- **Step 5:** Identify if the organisation has been linked with climate sceptic activities on the following websites:
 - 5.1 Polluter watch. Available at: <https://www.polluterwatch.com>
 - 5.2 Exxon Secrets: Greenpeace. Available at: <http://www.exxonsecrets.org/maps.php>
 - 5.3 Source Watch. Available at: <http://www.sourcewatch.org/index.php/SourceWatch>
 - 5.4 Corporate Europe Observatory. Available at: http://corporateeurope.org/sites/default/files/sites/default/files/files/article/fuinding_climate_deniers.pdf
 - 5.5 The Union of Concerned Scientists. Available at: http://www.ucsusa.org/global_warming/solutions/fight-misinformation/global-warming-skeptic.html
- **Step 6:** Review the organisation's website and find the following information:
 - 6.1 Does the mission statement or "about me" section of their website mention global warming/climate change?
 - 6.2 Is global warming/climate change a specific research area?
 - 6.3 Is global warming/climate change part of a section on "energy and environment research"?
 - 6.4 Key word search for global warming/climate change to see if it is mentioned in any other area of the website.
- **Step 7:** Scan the organisations website to find the following information:
 - 7.1. Date that the organisation was founded.
 - 7.2. Trace the period of time it first focused attention on global warming and climate change as a major issue. If information unavailable, answer N/A.
 - 7.3. Does the organisation label itself as politically partisan or non-partisan in the mission statement?

- 7.4. Does the organisation promote religious principles in the mission statement?
- 7.5. Does the organisation advocate free market principles, property rights or individual liberty in the mission statement?
- 7.6. Does the organisation advocate for the protection of traditional and domestic nation sovereignty in the mission statement?
- 7.7. List partner or affiliated organisations. These would most likely be in a section headed 'links of interests,' 'friends,' or 'partners.'
- 7.8. Is the organisation a member of the Atlas Network (Atlas Economic Research Foundation). The Atlas Network is a non-profit coalition group made up of 450 free market think tanks from across the world. This information was available at <https://www.atlasnetwork.org/>. The organisation has been linked to the CCCM by Smith (2016), Lack (2013), Greenpeace (nd), Source Watch (nd) and Desmogblog (nd).
- 7.9. Was the organisation a member of the Stockholm Network (European institutions)? The Stockholm Network is a market oriented network of European think tanks. It has been linked with the CCCM organisations, the CSCCC, and identified by the Corporate Europe Observatory as related to the CCCM (<https://www.desmog.uk/2016/02/11/here-s-what-happened-exxon-funded-eu-think-tanks-after-it-pledged-not-fund-climate-denial>). This information was available at: <http://www.stockholm-network.org/>
- 7.10. Was the organisation a member of the State Policy Network (US only)? The State Policy Network is a CCCM organisation identified by Greenpeace, Source-watch, and Desmogblog. This information was available at: <http://www.spn.org/directory/>.
- 7.11. Are one or more employees on the International Climate Science Coalition Climate Scientist Register? There are three potential registers: qualified endorsers at the Manhattan Conference, qualified endorsers not at the Manhattan conference, citizen endorsers of the climate scientist

register. This information was available at:

http://www.climate-science-international.org/index.php?option=com_content&task=view&id= (See Table D.2 Appendix D for a list of these individuals).

- 7.12. Has a member of the organisation spoken at the Heartland Institute's International Conference on Climate Change 2015?
- 7.13. Has the organisation sponsored one or more of the Heartland Institute's International Conference on Climate Change? This information was available from several sources. See Table D.3. Appendix D for full details of all 11 conferences until 2015.
- 7.14. Is a member of or work created by one or more of the Heartland Institute 'Global Warming Experts' on climate change included in on their website? This information is available at: <https://www.heartland.org/about-us/who-we-are/?topic=climate-change&type=policy-experts&type=senior-fellows&q=#content>. To locate if an organisation had a member of staff that was a climate contrarian or cited some information and data from one or more sceptics, the name of each climate contrarian taken from this list was typed into every search engine on an organisations website (see Table D.1 Appendix D for a list of these names and credentials).³⁸

The eighth step was to identify an organisation's position statement, articles, reports or op-eds made about climate change to determine if they adopted CCCM neutralisation techniques. I used publically available data from two points in time. This data retrieval process was similar to Farrell's (2016a) and Boussalis and Coan's (2016) methodology. However, I only collected data from two points in time. The reason being that I wanted to examine more closely the messages and confirm they could be rebranded CCCM neutralisation techniques. Additionally, I chose to take two points in time to see if this framework could be used to monitor changes. I chose to use documents in the year that an organisation emerged or first discussed climate change and in the most recent

³⁸Regarding step 7.14, some experts were official members of the organisation while some were cited in articles, op-eds and positions related to global warming, climate change, environmentalism, and energy policy. Where search engines were unavailable I recorded this data as missing.

year (2015). Further analysis may want to look at data from more specific point in time (i.e. annually, over five years, over 20 years) and this may provide more information to these changes over time.

Where available, I entered the following search terms into each organisation's website search engine: *climate change, global warming, environmental policy, Kyoto Protocol, environmentalists* and *environmentalism*. In some cases, search engines were unavailable. As a result, I followed and recorded each link associated with the following areas of interests: *Policy Issues, About Us, Our Thoughts, Publication Archives, and Articles*.

Much historical achieved website data was available online via the non-profit organisation *WayBack Machine*. The *WayBack Machine* holds internet archival data going back to the year 1996. For those organisations that emerged before 1996, I obtained data from the following sources; *WORLDCAT* (<https://www.worldcat.org/>), *Greenpeace: Exxon Secrets* (<https://www.exxonsecrets.org/>), *Polluter-Watch* (<https://www.polluterwatch.com>) and *CEL* (<https://www.smokeandfumes.org/>). In cases where organisations were defunct (N=21), I collected data from the earliest and the latest year in which they operated.

Any documents that needed translating were given to members of the post-graduate department that were fluent in the language. There were 18 documents that needed to be translated. It is important to note that there are some biases and cultural impacts that may affect the translation process (Temple and Young, 2004). However, those translating the documents were not aware of the overarching research aims and would not therefore misinterpret the documents if they had personal biases on the subject.

In total, I collected and analysed 805 documents extracting archival data from the latest point recorded in the year that discussed climate change. Because search engines were unavailable on archived websites, I manually searched each archived page which fell under one of the areas discussed above. To allow for human error, as above, I recorded each link to show a clear chain of information gathering. Audio or video files were in the minority and I excluded these from data collection and analysis.

I saved a text file of each piece of data collected from an organisation's website before uploading this into the computer software Nvivo 10. I then identified and coded neutralisation techniques. I created a dummy variable where '1' = an organisation did adopt that CCCM neutralisation technique or '0' = they did not adopt that technique. I added these to an SPSS (Version 24.4) and STATA (Version 12) dataset for further analysis. This coding of organisations is explained in more detail in the analytic strategy section.

Appendix A lists all organisations included in the research. It reports their geographic location, a brief overview the organisation, whether they emerged from one of the pre-defined groups or an affiliated organisation, the type of organisation (e.g. advocacy organisations), and a quote on climate change.

5.2.2. Country Level Data

I used cross-national secondary data to answer the third and fourth research questions. I collected data covering 218 countries. Fifty three (22.2%) of these countries had at least one CCCM organisation (see Table 2.1, p.42). I gathered country level data from the following sources:

- (1) World Bank Database: The World Bank Database [Online] is a free and open access database with data collated from its own and other official statistical databases. These include relevant explanatory variables selected for this research.
- (2) The UN Trade Statistics database provides data on important trade information. It provides and formulates definitions for different indicators on trade data and produces yearly reports on the state of international and domestic trade and financial markets.
- (3) Global Footprint Network: I used The Global Footprint Network to locate cross-country data on total global ecological footprint. The Global Footprint Network plays an important role in collecting international data that measures societal demand for resources in comparison to their relative availability (Jorgenson, 2003, Jorgenson, Rice, and Crowe, 2005).

- (4) Times Higher Education Data: I used the Times Higher Education Database to access data for the variable location of the top 100 university based earth and climate science research centres. It is an independent list where universities are evaluated based on their records of teaching, research, international outlook and reputation.
- (5) Economic Freedom Index: I used this source to collect data on the list of countries and their level of economic freedom. It is created by the free market think tank the Fraser Institute.
- (6) Fortune Magazine: I used this source to collect data on the Top 500 global companies. The data is measured by total revenue at the end of the fiscal year. While this data is a good indicator to show the location of the top 500 global companies, it is “not a particularly good measure of the size of financial institutions, some of which have relatively small revenue streams (often equivalent to net income) compared with their asset size” (Carroll and Carson, 2003, p.38). This means, the size of the company is not only measured by its revenue generation per year, but also its monetary value in assets which may distort its impact in the global economic market.

Although important for this research, there are shortcomings to secondary data. (1) There was missing data on certain countries. Nevertheless, these missing cases did not significantly reduce the number of observations to cause concern. (2) There are some cross-national differences in data collection, where data collection procedures are not easily monitored nor co-ordinated effectively (Crawford, Miltner, and Gray, 2014). However, there are procedures in place to alleviate these inconsistencies such as worldwide definitions and co-ordinated internationally governed data collection procedure across different countries (Koch et al., 2009).

5.3. Analytic Strategy

The analytic strategy used to examine CCCM organisations and the messages they adopt is divided into two parts. Part one addresses the first and second research question, and the second part addresses research questions three and four.

The first research question asked: - *do CCCM organisations adopt oppositional arguments that can be rebranded as CCCM neutralisation techniques?* The second research question asked: - *If these techniques can be rebranded, are they useful for monitoring change in CCCM organisation messages?* To answer these two research questions, I conducted a content analysis of organisational messaging on climate change using the CCCM neutralisation technique typology proposed in Chapter Four.

A content analysis is a useful form of data analysis for two main reasons. First, a content analysis can involve both an inductive and deductive approach to analysing content (Elo and Kyngäs, 2008). I employed a deductive approach where specific codes were deployed from the comprehensive literature on the CCCM and neutralisation theory. This is because, I wanted to test the specific typology proposed in Chapter Four.

Second, a content analysis can provide both quantitative and qualitative data. For quantitative data, a content analysis can be described as a “systematic, replicable technique for compressing many words of text into fewer content categories based on explicit rules of coding” (Stemler, 2001). This is often referred to as manifest coding (Dooley, 2016), where a researcher can analyse a large volume of data by using an analytical procedure where a coder can systematically quantify aspects of the data. For qualitative data, a researcher can use a content analysis to look at text more intensely, thereby not simply recording the frequency of words (Hsieh and Shannon, 2005). This process is often referred to as latent coding (Dooley, 2016), allowing a researcher to interpret the content of the text to identify themes and patterns that in this case may help understand CCCM messaging in more depth. I used manifest coding process to interpret the data based on a prior coding scheme.

To indicate if the typology of CCCM neutralisation techniques identified in Chapter Four represented the messages adopted by CCCM organisations, I carried out structured

interviews with representatives from five different CCCM organisations.³⁹ It was important to conduct interviews for two key reasons. First, conducting and analysing interview data became part of a pilot study to check that the typology identified in Chapter Four could be used to analyse organisational messaging. Thus, this qualitative method was adopted in preliminary inquiries before undertaking the larger quantitative study. Second, this primary data collection provided a form of triangulation between data and methods increasing the validity of the research method (Erlandson, 1993).

The preferred method of contact was email, however, when not available, I contacted the organisation by phone. I chose to contact all organisations as I expected most would likely decline to participate because of the sensitive nature of the topic. This proved to be the case as most organisations either failed to respond or declined to participate.

In line with Northumbria University ethical guidelines, any contact made with organisations had to ensure openness and full awareness of the purpose of the project. This was delivered in the form of a research overview document. Organisations were made aware that publically available data would be used in the analysis whether they chose to participate or not. Participants were informed that the data taken from any interviews would remain anonymised to protect their interests. Transcripts of data were password protected and only stored on a university hard drive and a single personal laptop. This data will be kept until it is suitable to destroy the data in line with Northumbria University ethics guidelines.

I conducted structured interviews via electronic email. Electronic interviewing is a powerful method of data collection used to overcome geographical boundaries that may exist between interviewer and interviewee, and is often the preferred method of communication for organisations (Meho, 2006). This was important for this research because 96.3% CCCM organisations were located outside of the UK. To confirm ownership of the email address (Lefever, Dal, and Matthíasdóttir, 2007) and determine the

³⁹ I carried out seven interviews however two organisations wished to remove themselves from the project.

response from the organisation was that of the organisation rather than the individual, both organisational and individual consent forms were completed.

I asked organisations to provide a statement on their position of climate change. I chose a structured rather than semi-structured or unstructured interview schedule to obtain information that I could efficiently compare, code, and analyse (Arksey and Knight, 1999). While a semi-structured or unstructured interview may have provided a richer source of data (Opdenakker, 2006), the electronic interviewing process could have hindered such interaction. Nonetheless, this information provided an early indication as to whether the typology proposed in Chapter Four would be an appropriate tool to categorise the different CCCM messaging.

Using the typology identified in Chapter Four, I coded each statement to identify if CCCM neutralisation techniques emerged. This data collection processes became the pilot study adding validity to the typology. The study found the data gave a broad picture which generally supported the typology. However, the interviews did reveal that the proposed technique Denial of Victim Two (DOV2) was not in the data.

I proposed DOV2 referred to *victims of climate changes who had done insufficient to prepare for climate changes and therefore somehow deserved to be victims of these changes*. This technique draws directly from one portion of Sykes and Matza's original technique DOV, where those who neglect to address the consequences of climate change such as moving home to avoid rising sea levels are in some way deserving of their victimisation. There are two possible reasons for this. One, the technique does not fit the context of the CCCM. That is, victim blaming does not provide a suitable argument to gain support for climate change opposition. Two, it may be a true reflection of an argument used by CCCM organisation which did not appear in the sample. Because there was little sign that the technique would appear I removed this from the next stage of coding.

Table 5.3 presents the reformulated CCCM techniques of neutralisation after I had conducted the pilot study. To account for the emergence of any techniques that were not one of those that emerged from this interview data, I added the category of 'other' to the coding process.

I then applied the coding scheme to the documents taken from all organisations' website. I analysed a total of 805 documents from CCCM organisations at two time points. The initial analysis was conducted using the computer analysis software Nvivo which was then used to construct a dummy variable where '1' = an organisation did adopt a CCCM neutralisation technique, or '0' = an organisation did not adopt a CCCM neutralisation technique. I added these to an SPSS (Version 24.4) and STATA (Version 12) dataset for further analysis.

Table 5.3. Climate Change Counter Movement Neutralisation Techniques

<i>Name</i>	<i>Code</i>	<i>Climate Change Definition</i>
<i>Denial of Responsibility</i>	<i>DOR</i>	Climate change is happening, but humans are not the cause.
<i>Denial of Injury One</i>	<i>DOI1</i>	There is no significant harm caused by human action and
<i>Denial of Injury Two</i>	<i>DOI2</i>	there may even been some benefits
<i>Denial of Victim One</i>	<i>DOV1</i>	There is no evidence of climate change and no climate change victims.
<i>Condemnation of the Condemner</i>	<i>COC</i>	Climate change research is misrepresented by scientists, and manipulated by media, politicians and environmentalists.
<i>Appeal to Higher Loyalties</i>	<i>AHL</i>	Economic progress and development are more important than preventing climate change.
<i>Other</i>	<i>Other</i>	Any technique that does not appear above

I took measures to improve reliability in the document analysis. The reason being that a content analysis can suffer from reliability problems stemming from the subjective interpretation of the data (Maruna and Copes, 2005). As a result, I created a coding scheme, codebook, manual, and set of coding rules to conduct two inter-coder reliability tests (see Appendix C). I used Krippendorff's alpha as a measure of inter-coder reliability which is the recommended measurement of reliability for content analysis (Hayes and Krippendorff, 2007). Inter-coder reliability is measured as the percentage agreement between two coders where values of .00 (no agreement) to 1.00 (perfect agreement)

(Lombard, Snyder-duch, and Bracken, 2002).⁴⁰ Krippendorff's estimates between .677 and .800 suggest a high level of reliability (Krippendorff, 2004). As the percentage lowers, so too does the reliability of the results and subsequent conclusions that can be drawn.

The first set of independent coders were myself and an academic from Northumbria University. The coders were asked to independently code a sample of ten statements. Krippendorff's Alpha equalled 67.9 %. This is on the lower end of what can be reliable results. A second test was carried out using ten coders from a green crime undergraduate class at Northumbria University on the ten statements. Krippendorff's Alpha equalled 82.8%. Prior to this coding students received training where they had to code similar data using the same theoretical framework in two previous sessions. Coders completed the task independently thereby they were blind to each other's scoring (Maruna and Copes, 2005). These two tests suggested that the coding scheme was reliable.

To answer the third and fourth research questions, I conducted a cross-sectional analyse to determine whether country level political, economic, and ecological variables can predict the number of CCCM organisations and predict the different neutralisation techniques adopted by organisations across countries. I conducted this part of the analysis between the months November 2016 – July 2017. This cross-sectional analysis allowed me to examine the series of hypotheses proposed in Chapter Four. More specifically, I used the cross-sectional analysis to see if the Gramscian and neo-Gramscian theoretical construct of hegemony could explain why CCCM organisation appear in certain countries and if they used different neutralisation techniques.

To conduct the cross-sectional analysis, I created a list of dependent and explanatory variables. The dependent variables were created using the cross-national results of the content analysis. Explanatory variables were created using country level data collected from the sources described earlier in the chapter. I now provide an overview of these variables.

⁴⁰ Other common measures of coding reliability are Scott's (1955) π (pi) and Cohen's (1960) κ (kappa).

5.3.1. Dependent Variables

The dependent variables used in this analysis were (1) the count of CCCM organisations per country, and (2) the count of CCCM organisation adopting each neutralisation technique per country. When computing the count of CCCM organisations adopting each neutralisation techniques I recorded the number of organisations in a country that adopted a technique in 2015. As will be discussed in Chapter Six, there were significantly fewer accounts of the techniques DOV1 and Other. As a result, these variables were dropped from the analysis. The following dependent variables were used in the cross-sectional analysis and the count of these dependent variables are presented in Table 5.4.

Count of CCCM organisations: The first dependent variable is the count of organisations by country. 22.2% of countries in the dataset had at least a single CCCM organisation in 2015. This was after removing any organisations that no longer existed in 2015. The minimum count of organisations was 0 and the maximum was 302.

Denial of Responsibility (DOR): This variable is the count of organisations adopting DOR in a country. This technique is defined as “Climate change is happening, but humans are not the cause.” The minimum count across countries was 0 and the maximum 76.

Denial of Injury One (DOI1): This variable is the count of organisations adopting DOI1 in a country. This technique is defined as “There is no significant harm caused by human behaviour or climate change.” The minimum count across countries was 0 and the maximum 53.

Denial of Injury Two (DOI2): This variable is the count of organisations adopting DOI2 in a country. This technique is defined as “There are benefits to rising CO₂ emissions.” The minimum count across countries was 0 and the maximum 38.

**Table 5.4. Count Of Techniques Of Climate Change Opposition Used By
An Organisation In Each Country in 2015**

Country		DOR	DOI1	DOI2	COC	AHL
Argentina	Count	0	1	0	4	2
Australia	Count	3	2	3	8	6
Austria	Count	1	1	0	2	1
Bahamas	Count	0	1	0	1	0
Belgium	Count	1	0	0	1	1
Belarus	Count	0	0	0	1	0
Brazil	Count	1	1	0	4	4
Bulgaria	Count	0	0	1	1	1
Canada	Count	7	3	1	9	7
Chile	Count	1	1	0	1	1
China	Count	1	1	1	3	0
Costa Rica	Count	0	0	0	1	0
Czech Republic	Count	1	2	1	2	3
Denmark	Count	0	0	0	1	1
Ecuador	Count	1	0	0	0	0
France	Count	2	2	1	8	3
Georgia	Count	0	0	0	0	0
Germany	Count	2	0	0	4	3
Ghana	Count	0	0	0	0	0
Guatemala	Count	1	1	0	2	1
Hong Kong	Count	1	0	0	1	0
India	Count	0	0	0	1	0
Israel	Count	1	1	0	1	1
Italy	Count	1	0	1	2	1
Lithuania	Count	0	0	0	0	1
Malaysia	Count	1	0	0	1	1
Mexico	Count	0	0	0	1	1
Netherlands	Count	1	0	1	1	1
New Zealand	Count	2	1	0	3	1
Nigeria	Count	0	0	0	1	1
Norway	Count	0	0	0	1	0
Pakistan	Count	1	0	0	1	0
Peru	Count	1	2	1	2	1
Philippines	Count	1	1	1	1	0
Poland	Count	1	0	0	1	1
Romania	Count	0	0	0	0	1
Russia	Count	1	1	1	1	1
Slovakia	Count	0	0	0	2	0
South Africa	Count	2	2	0	0	1
Spain	Count	1	1	0	2	0
Sweden	Count	0	0	0	0	1
Switzerland	Count	0	0	0	0	1
Thailand	Count	1	0	0	0	1
Turkey	Count	1	1	1	1	1
UK	Count	3	4	2	9	7
USA	Count	76	53	38	179	101
Venezuela	Count	0	0	0	1	0
Total	Count	115	83	51	268	159

Condemnation of the Condemners (COC): This variable is the count of organisations adopting COC in a country. This technique is defined as “Climate change research is misrepresented by scientists, and manipulated by media, politicians and environmentalists.” The minimum count across countries was 0 and the maximum 179.

Appeal to Higher Loyalties (AHL): The variable is the count of organisations adopting AHL in a country. This technique is defined as “Economic progress and development are more important than preventing climate change.” The minimum count across countries was 0 and the maximum 101.

5.3.2. Explanatory Variables

The explanatory variables are reported below. The following section justifies the use of each variable in the analysis divided across the three main hypotheses. Variable data is based on the year 2015. However, there were some exceptions and these are reported below.

Hypothesis One: Ecological Destruction (H1)

H1 suggests that ecological destruction is positively correlated with the number of CCCM organisations across countries. CCCM organisations are needed to support capital accumulation and provide the necessary hegemonic messages to sustain ecological withdrawals and additions across the globe. Where ecological destruction is high the residents of a nation may start to question production practices. Thus, more CCCM organisations are needed to offset these potential challenges to production by a nation's residents. I used the following four variables as indicators of ecological destruction.

Total GHG emissions (kt of CO₂ equivalent): Gases included under Total GHG emissions are CO₂, methane, nitrous oxide, perfluorocarbon, hydrofluorocarbon and sulphur hexafluoride. CO₂ makes up the largest share of GHG and contributor to climate change therefore all other GHG's are converted into measures of CO₂ to make them comparable (World Bank, 2017). Data is taken from the World Bank. I took the natural logarithm to correct for skewedness and improve goodness of fit of the models. There were 198 countries with data in 2015. Emissions of CO₂ come from burning oil, coal and gas for energy use, burning wood and waste materials, and from industrial processes

such as cement production and are measured in millions of kt of CO₂ equivalent. Various economic sectors lead to different levels of increased GHG emissions and the highest contributors are industry (24%), electricity and heat production (25%), and agriculture, forestry and other land use (24%).

The country with the lowest emissions is Romania with -50.75924 (kt of CO₂ equivalent). A negative measure of total GHG means the amount of GHG emissions emitted is less than the amount removed from the atmosphere. This can include the removal of GHG using biotechnologies such as carbon capture and storage. The country with the highest total GHG is China with a 2015 total of 12,454,711 (kt). The second highest is the US with total GHG emissions at 6,343,841 (kt). The ecological destruction perspective would suggest that, countries with higher GHG emissions will have more CCCM organisation to justify those emissions.

Ecological Footprint (per capita): Ecological footprint is a useful and often preferred measure of environmental degradation (Al-mulali, Tang, and Ozturk, 2015). It is one measure of the overall consumption practices of a society, and whether those consumption practices are ecologically sustainable. In this case, I adjust a nations ecological footprint by its population (i.e. create a measure of per capita ecological footprint). Per capita ecological footprint is measured as the total ecological footprint in a nation divided by the total population of that nation (<http://www.footprintnetwork.org/resources/data/>, 2016). Ecological footprint data were obtained from 2013, the most recent year available from the Footprint Network. In total, there were 183 countries that had ecological footprint values.

Most countries of the world now consume more of their natural resources than their ecological reserves (Global Footprint, 2016). This means most countries are running ecological deficits where the bio-capacity of a country is consumed more by the public than it can sustain. The ecological destruction perspective would suggest that countries with higher ecological footprints per capita would have more CCCM organisations to help justify further ecologically destructive and unsustainable uses of resources.

Population Growth (annual percentage): Population growth is calculated as the annual population growth rate per year and data is taken from World Bank. It is based on the “de facto definition of population, which counts all residents regardless of legal status or citizenship” (World Bank, 2016, np), and measured as a percentage based on the average exponential rate of growth of the population over a given period (UN, nd). The number of countries with 2015 population growth data were 212. The country with the highest population growth in 2015 was Oman with a 5.834 % increase. The country with the lowest population growth in 2015 is Andorra, which lost 3.23 percent of its total population (i.e., result in a growth score of -3.23). Negative results were common for those nations that experienced a higher number of deaths than births.

Population growth “has been blamed for a range of environmental problems” (Satterthwaite, 2009, p.545). Researchers draw on different perspectives to explain this relationship. On the one hand, one argument highlights the cumulative effects of environmental from population growth (Cropper and Griffiths, 1994). On the other, some stress the production and consumption of the growing population and the use of resources (York, Rosa, and Dietz, 2003). From the ecological destruction perspective, population growth may be positively related to the number of CCCM organisations countries. If population growth increases environmental destruction, the presence of CCCM organisations in those countries will be helpful to justify this destruction.

Fossil Fuel Energy Consumption (% of Total): Fossil fuel consumption is measured as the percentage of fossil fuel energy use from all energy sources. I took this data from the World Bank. There are 154 countries with data in 2015. Fossil fuels remain the primary source of energy consumption across the world (World Bank, 2017) and continues to be used more rapidly in low and middle-income countries (Yao, Feng, and Hubacek, 2015). Although the consumption of fossil fuels in higher income countries is around five times higher than middle and low-income countries (World Bank, 2017).

The country with the highest level of fossil fuel consumption is Oman, with 100% of its energy consumption from fossil fuels, followed by Saudi Arabia with 99.99% of its energy from fossil fuels. The country with the lowest fossil fuel consumption was the

Democratic Republic of Congo at 4.32%. The consumption of fossil fuels leads to the release of CO₂ emissions, the primary GHG contributing to climate change. From the ecological destruction perspective, more CCCM organisations are likely to operate in countries with high levels of fossil fuel consumption to protect levels of fossil fuel consumption.

Hypothesis Two: Global Capitalism Hypothesis (H2)

H2 suggests that integration into the global capitalist economy will be positively related to the number of CCCM organisations across countries. Thus, economic investment and growth in countries are positively related with the number of CCCM organisations across countries. As previously discussed in Chapter Three, countries that are more integrated into the global capitalist market may need CCCM organisation to protect against policies that might limit this type of economic investment and threaten production. I used the following five variables as indicators for economic growth and investment.

Total FDI Stocks (annual): I took this variable data from the UN Trade and Statistics database. It is measured in millions of US\$. There are 188 countries with data in 2015. Foreign direct investment (FDI) stocks are defined as the total value of capital provided by foreign firms to the host country in all sectors of the economy (Long, Stretesky, and Lynch, 2017). Countries with higher FDI stocks make up much of developed economies. Statistics do show that developing countries are becoming increasingly reliant on FDI investment (World Bank, 2016). The country receiving the highest FDI in 2015 is the US at 5 571 207 million US\$. The country with the lowest FDI stocks are made up of largely African nations including The Gambia (340 million US\$) and Lesotho (291 million US\$).

Because FDI stocks were not normally distributed and heavily skewed, I took the natural logarithm of this variable. The natural log of FDI stocks corrected for the variable skewness and improve goodness of fit in the models estimated in Chapter Seven. Theoretically, it is also safe to assume higher FDI stocks have a greater impact on organisation numbers within nations than lower FDI stocks since the threat to production

is likely much greater in nations with high investment in the global economy. Thus, FDI using the natural log is justified on both methodological and theoretical grounds.

FDI is a measure of capital mobility where investment links with the expansion of GPN (Holzinger, Knill, and Sommerer, 2008). This is important for the hegemony of the TCC, whereby CCCM organisations aim to influence policy in other parts of the world to expand economic global capitalism (Markusen and Venables, 1997; Robinson, 2004; Robinson and Harris, 2000). One perspective within the literature argues investment and economic growth are considered when creating domestic and international energy policies (e.g. Ahlquist, 2006). Insights into the relationships between FDI and environmental depletion (Dunlap and Jorgenson, 2012) indicate there may be reason to believe countries with high levels of FDI stocks are more likely to commit to or remain committed to a hegemonic global capitalist economic system led by a TCC (Robinson, 2004) because environmental policies may put in place restrictions to this form of economic growth. Thus, CCCM organisation may emerge and adopt oppositional messages to prevent climate action to protect this global capitalist economic market.

Gross Domestic Product (GDP) per capita: GDP per capita data is taken from World Bank. GDP per capita is measured in current millions of US\$. There were 206 countries with data for 2015. GDP per capita refers to the sum of gross value added by the resident's population (World Bank, 2016). Overall, it is taken as a measure of a country's level of economic development. In 2015, Luxemburg (101,909.8) and Switzerland (80,989.8) had the highest GDP per capita. Countries with the lowest recorded GDP per capita mainly include African, and low income nations including Uganda (693.9), Somalia (426.0) and Mozambique (528.3).

The maximisation of GDP across countries is important to maintain hegemonic investment and increase economic performance that is reliant on a fossil fuel based global capitalism (Clark and York, 2005; Newell and Paterson, 1998). As a result, from this perspective, I would expect to see more CCCM organisations operating in those countries that wish to protect economic growth and investment underpinning this hegemonic global capitalist economy.

Total Natural Resource Rents (% of GDP) (NRR): There were 183 countries with data on NRR taken from the World Bank. Total NRR refers to the sum of oil rents, natural gas rents, coal rents (hard and soft), mineral rents, and forest rents in 2015 (World Bank, 2017). A resource rent is the total economic revenue generated from extracting natural resources in a host country. It is also the deficit from resource exploitation that accounts for individual nation's sustainable use of resources. In other words, natural resource rents reflect the liquidation of a stream of revenue generated by the exploitation and often exportation of countries natural resources (World Bank, 2017).

NRR's account for a sizeable share of overall GDP in certain countries. For instance, in 2015, Saudi Arabia relies on 23.4% of its GDP from NRR, and Liberia gets 46.5% of its total GDP from NRR. Low-income nations tend to rely more heavily on NRR compared to high and middle-income countries. CCCM organisations may emerge to manage domestic governmental decision-making regarding its natural resource sector. That is, more CCCM organisations may operate to resist domestic environmental legislation, because this legislation may reduce the ability of a nation to extract and export its natural resources that stimulates economic growth.

Economic Freedom Index: I took this data from the Fraser Institute's Economic Freedom of the World Database from the last year available 2014. There were 163 countries included in the Economic Freedom Index. This variable indicates the "degree to which the policies and institutions of countries are supportive of economic freedom. The cornerstones of economic freedom are personal choice, voluntary exchange, freedom to enter markets and compete, and security of the person and privately owned property." (Economic Freedom, Fraser Institute, nd). The measure is created by constructing a summary index of 42 data points which are separated into five subcategories;

- size of government: expenditures, taxes, and enterprises
- legal structure and security of property rights
- access to sound money
- freedom to trade internationally

- Regulation of credit, labour, and business⁴¹

This data is made up of variables from several other sources, and is measured as the higher the economic index score, the more economic freedom exists in that country. Countries that have the top rates of economic freedom include Hong Kong (9.03), Singapore (8.71), and New Zealand (8.35), and the lowest include Iran (5.27), Chad (5.12) and Argentina (4.81).

This variable is to help measure the level of neoliberalism and the degree to which a country is open to the global capitalist market (Bjørnskov, 2016, 2015). That is, in a traditional way of exploring political power, economic freedom allows the potential to foster increases in national income and economic growth that allows a country to exert pressure across international policy domains (Carlsson and Lundström, 2002; Gwartney, Lawson, and Holcombe, 1999; Haan and Sturm, 2000; Islam, 1996; Panahi, Assadzadeh, and Refaei, 2014).⁴² From this perspective, greater economic freedom and therefore, the ability to integrate into the global capitalist market, I would expect higher levels of neoliberalism will be positively related to the number of CCCM organisations.

Top Fortune (Global) 500 Companies. This data is published yearly by Fortune Magazine. It reports the Top 500 companies across the globe denominated in millions of US\$. I recorded the count of companies located in a country to use them in the cross-national analysis. The methodology of constructing the database is based on the accumulation of revenues, profits, balance sheets, and number of employees (see <http://fortune.com/global500/> for more information). There were 36 countries that had at least one Top 500 company (see Table 5.5). The country with the highest numbers of companies was the US at 128. Therefore, I took the natural logarithm to correct for skewness and improve goodness of fit of the models.

Several researchers have used this data as an indicator of the TCC using this as an indicator of a non-state based operationalisation of the concept of hegemony (e.g. Murray, 2014; Robinson, 2004; Sapinski, 2015, 2016). Thus, based on the global capitalist

⁴¹ For more information see <https://www.fraserinstitute.org/economic-freedom/approach>.

⁴² For a contrasting article see Cebula, Clark, and Mixon (2013).

perspective, I would expect more CCCM organisations to operate where there are more Fortune 500 companies to protect the interests of, in particular, the TCC.

Table 5.5. Location and Count Of Top Fortune (Global) 500 Companies
(www.fortune.com/global500)

Country (count)		
Australia (8)	Hong Kong (3)	Russia (5)
Austria (1)	India (7)	Saudi Arabia (2)
Belgium (1)	Indonesia (2)	Singapore (2)
Brazil (7)	Ireland (2)	Spain (8)
Canada (11)	Italy (9)	Sweden (3)
Chile (1)	Japan (54)	Switzerland (12)
China (96)	South Korea (17)	Taiwan (8)
Colombia (1)	Luxembourg (1)	Thailand (1)
Denmark (1)	Malaysia (1)	Turkey (1)
France (29)	Mexico (3)	United Kingdom (30)
Germany (28)	Netherlands (13)	US (128)
Poland (1)	Norway (1)	Venezuela (1)

Hypothesis Three: Environmental Protection (H3)

H3 suggests that environmental protection is positively correlated with the number of CCCM organisations across countries. This is because environmental protection measures present challenges to the fossil fuel based hegemonic order (e.g. Levy and Egan, 2003). These indicators are also used to test if Gramsci's war of position argument can help explain the distribution of CCCM organisations across different countries. Previous qualitative research has linked the war of position argument to the CCCM (e.g. Levy and Egan, 2003; Levy and Kolk, 2002; Levy and Newell, 1998; MacKay and Munro, 2012). I used the following three variables as indicators of environmental protection.

Environmental NGOs (ENGOS): I measured registered domestic ENGOS in countries by counts in 2015. Data is taken from the World Association of non-governmental Organisations. Included in the analysis are those NGOs classified as

environmental organisations (ENGOS). The highest number of ENGOS are in the US and the variables was severely skewed across countries. There were several countries that had no recorded domestic ENGOS. I took the natural logarithm of ENGOS (being careful to ensure that those nations with “0” ENGOS were recoded as still having “0” ENGOS). As was the case with FDI, taking the natural log of ENGOS also reduced variables skewness and improve goodness of fit in the models that are presented in Chapter Seven. It is for this methodological reason that the natural log of ENGOS is preferred.

As discussed in Chapter Three, ENGOS often challenge fossil fuel hegemony and likely increase the number of CCCM organisations across countries to respond to ENGO challenges. Researchers have examined the conflicts between ENGOS and CCCM organisations revealing evidence of a war of position that may play an important role in environmental negotiations (Levy and Egan, 1998, 2003). Along the same lines, the expectation here is that the increase in ENGOS is likely to increase the number of CCCM.

Top 100 Climate and Earth Science University based Research Centres: This data came from the Times Higher Education Top global 100 university based climate and earth science research centres. This is because research centres play a significant role in supporting and developing governmental environmental protection and sustainability policy (Shackley and Wynne, 1996). This variable was also logged to correct for skewedness and improve goodness of fit.

Table 5.6 lists the country name and number of climate and earth research centres in the Top 100. The country with the highest number of earth and climate science research centres in the top 100 was US with 48. I propose where there are higher numbers of research organisations conducting research on climate science I expect to see more CCCM organisations. This is because, these research centres are at the forefront of providing research that challenges the oppositional messages produced by CCCM organisations, and therefore more organisations may emerge in these countries to (1) influence public perceptions about the risks and uncertainties surrounding climate science, and (2) influence the behaviour of climate scientists which may result in climate

scientists presenting information that underestimates the impacts of climate change (Lewandowsky et al., 2015).

Table 5.6. Location Of Top 100 Earth and Climate Science Research Centre's (2015) (Times Higher Education)

<i>Country</i>	<i>Number of Organisations</i>	<i>Country</i>	<i>Number of Organisations</i>
Australia	7	Japan	2
Canada	2	Korea (which one)	1
China	1	Netherlands	3
Denmark	2	Singapore	1
France	2	South Africa	1
Germany	8	Switzerland	5
Hong Kong	1	United Kingdom	15
Ireland	1	United States	48

Terrestrial and Marine Protected Land (percentage of Total Territorial Land):

This variable measures the level of protected terrestrial and marine land in a country.

There are 208 cases with data recorded in 2014, and this data is taken from the World Bank. Protected land refers to “a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values” (International Union for Conservation of Nature, nd).

According to the International Union for Conservation of Nature (nd, np), one tenth’ of the world’s land surface is under some form of protection. The expansion of protected land is part of the Millennium Development Goals safeguarding vulnerable animal and plant life, and protect biodiversity.⁴³ It is important to note that some protected land is based on domestic environmental policy, while others are based on international policy (Lockwood, 2010). Nevertheless, the level of environmental protection remains, and

⁴³ It is important to note however, that the implementation of environmental sustainability policies may not reflect overarching public perceptions on environmental protection (Stoll-Kleeman et al., 2001). That is, governmental intervention to protect certain areas of land and increase sustainability may not be a true reflection of public attitudes giving a false impression of how environmentalism. However, the point remains that the variable represents overarching support at state level for environmental protection and the potential resistance to anti-environmental action.

domestic policy decisions in some cases do have autonomy over international decisions (Ross, 1998). The country with the highest percentage of protected land is Slovenia (54%). Other countries with high levels of protected land include Bhutan (47.3%), and Venezuela (36.7). Countries with the lowest amount of protected land include Haiti (0.1%) and Barbados (0.0%).

I propose in line with the other environmental protection indicators where there is a higher percentage of protect land, I expect to see more CCCM organisations to challenge these environmental policies that may restrict access to natural resources and provide the opportunity for economic development.

5.3.3 Statistical Models

The dependent and explanatory variables above were then used to test the hypotheses. Table 5.7 models the descriptive statistics for all variables included in this analysis. I include data on skewness to justify why I used the natural logarithm of several explanatory variables. This improved goodness of fit for each model because these variables had either a significant amount of missing data or the data was heavily skewed.

Table 5.7. Descriptive Statistics For All Variables Used In The Negative Binomial and Ordinary Least Squared Analysis⁴⁴

Variable	Obs	Mean	SD	Min	Max	Skewness
Count of Organisations	218	1.797235	17.97466	0	302	
DOR	218	0.1513761	0.6440246	0	76	
DOI1	218	0.0963303	0.3392664	0	53	
DOI2	218	0.059633	0.2898019	0	38	
COC	218	0.2247706	0.8031799	0	179	
AHL	218	0.1972477	0.7513992	0	101	
Population Growth (annual)	212	1.269168	1.187	-3.229397	5.83403	.0862075
Total GHG (kt of CO ₂ equivalent)	198	212953.8	1010195	-50.75924	1.25E+07	9.943061*
Ecological footprint (per capita)	183	3.202247	2.218752	.5045039	13.09159	1.412105
Fossil Fuel Energy Consumption (% of Total)	143	5010.615	59101.55	0	706820	4.83245
FDI Stocks (annual)	196	134093.1	459349.3	11.91095	5571207	9.006113*
GDP (per Capita)	191	13149.28	17938.76	303.681	101909.8	2.141992
Total NRR (% of GDP)	183	7.75E+00	1.69E+01	2.95E-04	1.95E+02	7.907074
Climate and Earth Science Research Centre's ENGO's	218	.4541284	3.433396	0	48	11.95279*
Terrestrial and Marine Land Protected (% of territorial land)	218	16.70642	71.28845	0	882	9.219324*
Economic Freedom Index	208	16.07971	12.77696	0	54.25	.8387799
Fortune 500	218	4.971605	3.156371	0	9.03	-.8425779*
	218	2.288991	11.96631	0	128	8.113995*

Notes: * indicates variables that were taken as logged values in the analysis.

⁴⁴ Descriptive statistics show variables without log transformations.

To examine whether there were any initial associations between political, economic, and ecological indicators, the number of CCCM organisations, and CCCM neutralisation techniques, I conducted Pearson's R bivariate correlations. Bivariate correlations are useful measures of potential associations between variables that deserve further investigation. Bivariate correlations are important as they set the stage for the following multivariate analysis because bivariate correlations demonstrate any initial patterns between the dependent and explanatory variables. There are two points to note. One, neutralisation techniques were significantly correlated. This may mean the variation in the explanatory variables will decrease and reduce the ability to detect relationships between dependent and explanatory variables. Nonetheless, if there is a meaningful of variation in the messages adopted across countries, these relationships should still be apparent and noteworthy.

Two, as discussed above, the sample of organisations adopting the technique DOV1 and Other is small, I chose to remove these variables from the analysis. While bivariate correlation results may be interesting they do not help predict relationships between variables. Therefore, it was important to model the data and test the hypotheses using controls to mediate bivariate results.

Because my dependent variables were in the form of count data, I adopted statistical models that could analyse count data (Long and Freese, 2014). Descriptive statistics indicated the count of countries without CCCM organisations exhibits over-dispersion. Over-dispersion refers to when the variance exceeds the mean and suggests this method should be adopted (Dobson, 2002). That is, the data was not evenly distributed across the population, therefore a regression model needed to consider this unevenly distributed population. This is because the organisational universe covers only 22.2% of countries included in the analysis and the number of zeros in the data far exceeds what could be expected as a normal distribution. Thus, I treated the operation of these organisations as 'rare events'.

I initially chose to use a zero-inflated negative binomial regression (ZINB) analysis to answer research questions three and four. ZINB is a form of analysis that

accommodates over dispersion (Greene, 1994; Lambert, 1992). The ZINB model would allow me to analyse the zeros and non-zeros (Rodriguez, 2013) mediating associations between variables and estimating coefficients while accounting for excess zeros that emerge when dealing with non-linear count data (Greene, 1994), but refrain from removing these from the analysis as in an OLS model. This means I would be able to take into account why organisations may not emerge and/or adopt any CCCM neutralisations across countries.

However, the ZINB models did not converge. As a result, I made the decision to use a negative binomial regression analysis (NBR) to answer research question three and four. NBR is a multivariate regression technique that is also appropriate for analysing count data that accounts for excess zeros (Cameron and Trivedi, 1998). The NBR model then became the most suitable model for analysis (Greene, 1994) because the negative binomial method reduces the risk of incorrectly detecting statistical significance (i.e. committing a 'type 1' error in traditional hypothesis testing language) by under-estimating standard errors because of over-dispersion in the data (Ismail and Jemain, 2007). The NBR model worked as an effective replacement to the ZINB to answer research question three, where the dependent variable was the count of organisations in a country, and the explanatory variables were those above.

To answer the fourth research question, the dependent variables became the count of organisations adopting a technique of neutralisation. However, the NBR models would not converge. As a result, I conducted an Ordinary Least Squares (OLS) regression analysis eliminating observations if the count of organisations adopting a technique of neutralisation is below '1'. This means I analysed the data using a normal regression analysis, removing any cases with a value less than '1'.

Using OLS regression reduced the number of countries in the analysis substantially (N=48). As a result, I had to adjust my model specification (Gujarati, 2014). This is because, a rule of thumb is 10 outcome events per predictor (Vittinghoff and McCulloch, 2007). However, this rule can be relaxed depending on the data and

hypotheses (Howell, 1997). Moreover, initial R-squared results were high and could have been misleading.

I adjusted the model by removing any non-significant predictors from the NBR results that answered research question three. I removed Economic Freedom Index, Fossil Fuel Consumption (% of total consumption), and Population Growth from the analysis. Adjusted R-squared results revealed a better value range, improving goodness of fit having removed several indicators. The remaining variables still provided indicators that could test each hypothesis.

It is also important to note that these correlations may have indicated multicollinearity. Multicollinearity is the assumption that the explanatory variables are heavily correlated with each other and cannot be treated independently. To address this potential problem, I computed the Variance Inflation Factor (VIF) statistic for all models (Maddala, 1992). A VIF value in excess of 10 is generally considered evidence of multicollinearity (Neter, Wasserman, and Kutner, 1990). VIF results showed that Fortune (global) 500 companies was significantly correlated and indicated multicollinearity. As a result, I removed this variable from the analysis. I ran the same models without Fortune (global) 500 companies, and the mean VIF was 1.33 suggesting multicollinearity was not a problem in this particular data.

The data on CCCM organisation was heavily and negatively skewed. One nation, in particular, was responsible for the skewness: the US. That is, the US has such a large number of CCCM organisations that when it was removed from the analysis the skewness of the dependent variables decreased considerably. To see if this affected the results I conducted the same series of analysis excluding US observations. I report these findings alongside the models including US data in Chapter Seven.

As with any data modelling, there are weaknesses and risks to statistical assumptions (Drost, 2011). The most common problem with non-linear count models is heteroscedasticity (Hilbe, 2014). Heteroscedasticity refers to when standard errors may be biased in so far as they lead to incorrect conclusions on the significance of the regression coefficient which is not uncommon when data is not homoscedastic or non-

linear (Hayes and Cai, 2007; Long and Ervin, 2000). To address this problem, I estimated both conventional standard errors and robust standard errors (Hoechle, 2007). There were no meaningful differences between models with conventional standard errors and those with robust standard errors. Therefore, I reported the conventional standard errors (robust results not shown but available upon request).

5.4 Limitations of Methods

Overall, I used quantitative methods to answer the research questions. There are three additional limitations to the research design. First, the sampling procedure to locate the universe of CCCM organisations was a non-standard method because there was no authoritative source of CCCM organisation information. However, there were no other appropriate methods of identification that would have provided a source to identify CCCM organisations across the globe. Previous researchers have adopted a similar method to locate organisational and other data that does not have an authoritative source (e.g. Reynolds, Long, and Murray, 2014). In addition, I helped validate this process by employing a strategic coding instrument and relational defined boundary which I applied to identify CCCM organisations.

Second, even with a systematic coding process in place, all independent coding is subject to human error (Cavanagh, 1997). To help eliminate this problem, I logged all data retrieval processes to show a chain of information gathering. This log should enable any researcher to replicate my findings. Third, there was missing data for both the historical data on CCCM statements and secondary country level data. In the first case, where data was unavailable from the main source of organisational information (WayBack machine), other suitable outlets were used to retrieve data. This is because, internet archival data can only be retrieved as far back as 1996, and as evidenced some CCCM organisations operated before this point in time. In the second case, I reported any missing secondary data (see Appendix E for raw country level secondary data).

5.5. Conclusion

Chapter Five has outlined the methodology used for this thesis. I presented the method used to identify the CCCM organisational universe. This detailed the steps of

locating organisations using a specific coding instrument designed for this research. Next, I outlined the primary data collection process from five structured interviews with members of CCCM organisations. From these results, I confirmed the proposed typology of CCCM organisation messaging theorised in Chapter Four with some adjustments would be a useful coding scheme to analyse the data taken from CCCM organisations. I then applied this coding framework to the content analysis of documents taken from CCCM organisation websites across two points in time.

I discussed how I located organisations statements that I then coded using this typology. I then explained how I improved reliability of the coding instrument by conducting two inter-coder reliability tests. Following, I described the analytical strategy used to answer the research questions. I identified dependent and explanatory variables and justified why they were employed to test the hypotheses proposed in Chapter Four. I then identified why a negative binomial and ordinary least squared regression became the most suitable forms of analysis for this data. I closed the chapter by outlining some of the limitations of the research methodology. I now turn to the first data analysis chapter.

Chapter Six

Climate Change Counter Movement Neutralisation Techniques

6.1. Introduction

This chapter reports the results of the content analysis of documents taken from CCCM organisations posted on the worldwide web. I use this analysis to answer the first and second research questions: - *can the oppositional messages adopted by CCCM be rebranded as CCCM neutralisation techniques; and if these techniques can be rebranded, are they useful for monitoring change in CCCM organisation messages?* To answer these questions, I examine CCCM neutralisation techniques taken from documents at two points in time. The first point in time is the year in which the organisation appeared to emerge based on available data (i.e. 1957-2014). The second point in time is 2015 or the latest date a defunct organisation was operating. Throughout the remainder of this chapter I will refer to these two points in time as ‘time one’ and ‘time two.’

To answer these two research questions, I first provide descriptive statistics on the overall scope of neutralisation techniques adopted by CCCM organisation and how they changed over time. Next, I look closer at each neutralisation technique and examine the geographic distribution of organisations adopting these messages. I draw on the findings from previous research on the CCCM and neutralisation theory to help support my conclusions. Finally, I summarise these findings and outline future areas of investigation carried out in Chapter Seven. Table 6.1 is a reminder of the CCCM neutralisation techniques adapted from Sykes and Matza (1957). Recall, I coded the documents collected from CCCM organisations using this coding scheme. There were seven techniques, six techniques that are defined and an ‘other’ category.

Table 6.1. Climate Change Counter Movement Neutralisation Techniques

<i>Name</i>	<i>Code</i>	<i>Climate Change Definition</i>
<i>Denial of Responsibility</i>	DOR	Climate change is happening, but humans are not the cause.
<i>Denial of Injury One</i>	DOI1	There is no significant harm caused by climate change.
<i>Denial of Injury Two</i>	DOI2	There are benefits to rising CO ₂ emissions.
<i>Denial of Victim One</i>	DOV1	There is no evidence of climate change and no climate change victims.
<i>Condemnation of the Condemner</i>	COC	Climate change research is misrepresented by scientists, and manipulated by media, politicians and environmentalists.
<i>Appeal to Higher Loyalties</i>	AHL	Economic progress and development are more important than preventing climate change.
<i>Other</i>	Other	Any justification not classified as one of the above techniques.

6.2. Overall Scope & Trends

First, I examined the overall frequency of CCCM neutralisation techniques which emerged in the data. The content analysis suggested the messages adopted by CCCM organisations could be rebranded as CCCM neutralisation techniques. A total of 1,435 techniques were identified across a total of 805 documents. Table 6.2 presents the frequencies of organisations adopting each technique at time one and time two, and provides an example statement. Condemnation of the Condemner (COC) is the most commonly used technique across both points in time with the percentage of organisations adopting the technique slightly increasing from 64% to 64.4%. Appeal to Higher Loyalties (AHL) follows where 48.3% of organisations adopted the technique at time one, decreasing to 32.1% at time two.

Table 6.2. Frequency Of Climate Change Counter Movement Organisations Adopting A Neutralisation Techniques And Example

Technique of Neutralisation	Frequency Time 1	Frequency Time 2	Example
Denial of Responsibility	87	115	<i>“Changes in global temperatures are natural. There is no proof that temperature is affected by anything that man has done” (American Policy Centre, 1998).</i>
Denial of Injury 1	97	83	<i>“Man’s contribution to atmospheric CO₂ is small and dwarfed by natural emissions from the oceans, volcanoes and from other natural sources such as decaying vegetation, wild animals, insects, termites, bacteria and bush fires” (Carbon Sense Coalition, 2007).</i>
Denial of Injury 2	47	51	<i>“...The evidence is overwhelming that rising atmospheric CO₂ levels will continue to help plants thrive, leading to greater biodiversity, shrinking deserts, expanded habitat for wildlife, and more food for a growing human population...” (Heartland Institute, 2015).</i>
Denial of Victim 1	38	10	<i>“Computer models forecast rapidly rising global temperatures, but data from weather satellites and balloon instruments show no warming whatsoever” (Science and Environmental Policy Project, 1998).</i>
Condemnation of the Condemner	253	268	<i>“Our main purpose is to bring reason, integrity and balance to a debate that has become seriously unbalanced, irrationally alarmist, and all too often depressingly intolerant” (Global Warming Policy Foundation, 2009).</i>
Appeal to Higher Loyalties	233	159	<i>“The Kyoto Protocol, by focusing on attempts to curtail CO₂ at great cost, will not stop or reverse climate change. It would be better to spend our money on fighting true pollution of atmosphere and surface waters, and on feeding starving children” (Friends of Science, 1998).</i>
Justification by Comparison	0	29	<i>“...China emits more CO₂ in one month (more than 800 million tonnes) than the maximum amount Environmental Protection Agency’s (EPA) proposal will reduce in one year (approximately 550 million tonnes)” (American Coalition for Clean Energy, 2015).</i>

The other neutralisation techniques were less common. The percentage of organisations adopting the technique Denial of Responsibility (DOR) increased from 18.5% at time one to 25% at time two. While the percentage of organisations adopting the techniques Denial of Injury One (DOI1) decreased from 19.7% to 17.2%. There were fewer accounts of Denial of Injury Two (DOI2) compared to other techniques at both time points, however the overall percentage of organisations adopting the technique did increase from 12.5% to 13%. Denial of Victim One (DOV1) was the least adopted neutralisation technique and the percentage of organisations adopting the technique decreased from 8.2% to 2.1%.

An additional technique emerged at time two. It was used by 8% of organisations and labelled Justification by Comparison (JBC) (Cromwell and Thurman, 2003). This technique is derived from the crime and deviance literature and encompasses two characteristics; (1) a country should look to see how they are addressing climate change and if they are held to the same standard as other countries; i.e. if another country does not have to impose emissions limits than nor should that country; (2) Certain policies such as fighting terrorism are more important than remedying climate change. While this technique shares commonalities with AHL, I used JBC when an organisation made a direct comparison with tackling climate change and another policy issue.

Initial assessments of the seven techniques suggests they can be separated into two broad categories. The first category focuses on CCCM organisations which adopt neutralisation techniques that undermine the evidentiary basis of climate science. The techniques DOR, DOI1, DOI2 and DOV1 question the evidence behind human caused climate change and its impacts, minimising the need to address the problem. The second category of techniques are used to undermine the implementation of policy and an indirect attack on climate scientists and other actors promoting climate change action. Rather than question the science behind climate change, CCCM organisation turn their attention to denigrate scientists, environmentalists and policy-makers (COC) or justify inaction on climate change because (1) economic and social development is more important (AHL), and/or (2) action should be forestalled because other policy issues such as terrorism are

more important, or other countries are not held to the same level accountability to tackle climate change (JBC).

To answer research question two - *if these techniques can be rebranded, are they useful for monitoring change in CCCM organisation messages?* - I monitored these changes using data taken from the organisations point of emergence based on available data and their most recent point in time (i.e. 2015 or in their last year of operation). As discussed above, I label these as 'time one' and 'time two.' Change in CCCM organisational messaging over time has been the focus of both Farrell (2016b) and Boussalis and Coan's (2016) quantitative text mining projects and I make some additions to this literature by asking whether this theoretical framework is useful for monitoring change in CCCM organisation messages.

Overall, 254 (54.6%) organisations changed the neutralisation techniques they used over time. In some cases, organisations reduced or increased the number of techniques. The average number of techniques used by an organisation at both points in time was two (see Table B.6, Appendix B). Closer examination reveals a consistent pattern where an organisation will include one or two techniques, and far fewer organisations using three or more techniques at both time one and time two (see Table B.7, Appendix B).

Figure 6.1 presents significant cross-tabulation results to reveal more information on how this framework can be used to monitor how these arguments changed over time. It reports the frequency and percentage of cross-tabulations for each technique used at time two and whether it is influenced by the use or non-use of the same technique at time one. I treat the techniques as mutually exclusive (independent). Pearson's chi-square results reveal whether there are associations between techniques changing over time and significance is measured at the $p < 0.05$ level. I chose a Pearson Chi Squared test because the data on techniques were categorical variables, where '1' = an organisation did adopt that technique at that time period, and '0' = an organisation did not adopt that technique at that time period.

Figure 6.1. Cross-Tabulation Results On Techniques of Neutralisation Across Two Points In Time

		Denial of Responsibility Time One			
		No	yes	Total	
Denial of Responsibility	Freq. (%)	no 206 (76.0%)	44 (51.2%)	250 (70.0%)	
Time Two	Freq. (%)	yes 65 (24.0%)	42 (48.8%)	107 (30.0%)	
Total		271	88	357	
Chi-Square Tests		19.210*			

		Denial of Victim 1 Time One			
		No	yes	Total	
Denial of Victim 1 Time Two	Freq. (%)	no 314 (98.4%)	35 (92.1%)	349 (97.8%)	
	Freq. (%)	yes 5 (1.6%)	3 (7.9%)	8 (2.2%)	
Total		319	38	357	
Chi-Square Tests		6.205*			

		Denial of Injury 1 Time One			
		No	yes	Total	
Denial of Injury 1 Time Two	Freq. (%)	no 225 (82.7%)	53 (62.4%)	278 (77.9%)	
	Freq. (%)	yes 47 (17.3%)	32 (37.6%)	79 (22.1%)	
Total		272	85	357	
Chi-Square Tests		15.591*			

		Condemnation of the Condemner Time One			
		No	yes	Total	
Condemnation of the Condemner Time Two	Freq. (%)	no 71 (59.7%)	51 (21.4%)	122 (34.2%)	
	Freq. (%)	yes 48 (40.3%)	187 (78.6%)	235 (65.8%)	
Total		119	238	357	
Chi-Square Tests		51.558*			

		Denial of Injury 2 Time One			
		No	yes	Total	
Denial of Injury 2 Time Two	Freq. (%)	no 287 (92.3%)	19 (42.2%)	306 (86.0%)	
	Freq. (%)	yes 24 (7.7%)	26 (57.8%)	50 (14.0%)	
Total		311	45	357	
Chi-Square Tests		81.607*			

		Appeal to Higher Loyalties Time One			
		No	Yes	Total	
Appeal to Higher Loyalties Time Two	Freq. (%)	no 105 (73.9%)	117 (54.4%)	222 (62.2%)	
	Freq. (%)	yes 37 (26.1%)	98 (45.6%)	135 (37.8%)	
Total		142	215	357	
Chi-Square Tests		13.864*			

Notes: * p < 0.05; Degrees of Freedom (df) = 1

The results in Figure 6.1 present some interesting findings for monitoring change in organisational messaging. First, all significant results show that employing a technique is often a precursor for employing the same technique in future ($p < 0.05$). That is, the significant Chi-square results show that, with some confidence, employing the technique at one point in time is related to employing the same technique at another time. To be clear, CCCM organisations that use a denial tactic at one point in time are likely to use the tactic again.

Second, looking at the results for the policy oriented techniques (COC and AHL), a significantly higher percentage of organisations adopted COC at time two compared to time one. Of those organisations that did not adopt COC at time one, 40.3% went on to adopt the technique at time two and of those organisations which adopted the technique COC at time one, 78.6% of them continued to adopt the technique at time two ($p < 0.05$). Only 21.4% of organisations that did use the technique at time one did not use it at time two.

For those organisations adopting AHL at time one, 54.4% of organisations did not adopt the technique at time two ($p < 0.05$). That is, over half of the organisations adopting AHL at time one, did not use the technique again at time two. This means more organisations were more likely to no longer use AHL compared to the technique COC. A small percentage of organisations did add AHL to their denial tactics, where 26.1% of those that did not adopt the technique at time one went on to adopt the technique at time two ($p < 0.05$). This closer examination suggests that COC was a more popular technique and more commonly added to denial tactics compared to AHL, where a higher percentage of organisations no longer used this particular technique.

Third, looking at the results for the science based techniques (DOR, DOI1, DOI2, DOV1), 37.6% of organisations that adopted DOI1 at time one went on to adopt the technique at time two ($p < 0.05$). There was a 24% increase in the number of organisations adopting DOR at time two, however 51.2% of those organisations that adopted DOR at time one did not do so at time two ($p < 0.05$). Overall, this does show a small increase in the percentage of organisations choosing to add DOR to their denial tactics.

There was a far higher percentage of organisations that did not adopt DOI1 at time two, having employed the technique at time one (62.4%, $p < 0.05$). However, 17.3% of organisations that did not adopt DOI1 at time one went on to adopt the technique at time two ($p < 0.05$). In contrast to the results for DOI1, there was a higher percentage of organisations that continued to use the science technique DOI2 (57.8%, $p < 0.05$). Yet the percentage of organisations adding the technique at time two was lower than DOI1 at 7.7% ($p < 0.05$). Thus, while there was a higher percentage increase in the number of organisations adopting DOR, this was not the case for DOI2, rather organisations were more likely to continue using the technique.

DOV1 was the least used technique of neutralisation overall and only 7.9% of organisations that adopted this denial tactic at time one did so at time two ($p < 0.05$). There was only a small increase in organisations adding this denial tactic where 1.6% of organisations that did not adopt the technique at time one did use the technique at time two ($p < 0.05$).

The results in both Table 6.2 and Figure 6.1 provide mixed evidence supporting previous studies on the messages used by CCCM organisations over time. First, the finding regarding the technique COC bare similarities with McCright and Dunlap's (2010) analysis of US CCCM organisations. The researchers observed that prior to 1997, these organisations would more likely adopt positions that were "obfuscating, misrepresenting, manipulating a supressing research results" (p.111). Since 1997 and after the Kyoto Protocol, additional counter claims evolved, where CCCM organisations employed messages that became "intimidating or threatening [towards] individual scientists" (p.114). This might explain why COC did slightly increase at time two by 0.4%, and 40.3% of organisations introduced the technique at time two who had not done so at time one. Although, it is important to note, that the documents used to analyse CCCM organisations in this study showed that there was a consistently high percentage of organisations adopting COC at time one and time two.

These results also bare some similarities with the work of Farrell (2016b). He found that over time, CCCM organisation incorporated more policy oriented or strategic

forms of messaging than science based arguments. I grouped the techniques COC and AHL into these policy oriented or strategic sceptic groups. While COC was the most common strategic or policy oriented neutralisation technique and did increase in use at time two, the percentage of organisations adopting the strategic technique AHL decreased by 16.2% (Table 6.2) and the number of organisations adding the technique at time two was only 26.1%, a lower percentage than the technique COC (Figure 6.1). Thus, while the percentage of organisations adopting both COC and AHL were higher than other techniques, it was not the case that the number of organisations adopting both techniques increased at time two.

These results do show an increase in the number of certain science based neutralisation techniques and this corresponds with Boussalis and Coan's (2016) findings based on their sample of 19 CCCM organisations between the years 1998-2013. Their longitudinal analysis revealed a slight increase in the number of science-based arguments adopted by CCCM organisations leading to the conclusion that "the era of science denial is not over" (2016, p.89) (see also Hoffman, 2011). While there are no clearly defined points at time one or two in this research, the fact that the number of organisations adopting DOR and DOI2 increased (Table 6.2) does suggest like Boussalis and Coan's that science based arguments are still used by CCCM organisations despite the overwhelming scientific consensus on climate change. It is also reasonable to assume that the increase in certain science based techniques may well be in direct response to the prevailing and expanding evidence of the climate change consensus (Lewandowsky et al., 2017). However, additional counter claims in the form of strategic oppositional arguments such as COC that intimidate and denigrate scientists, environmentalists and policy-makers are also employed and have expanded in use by CCCM organisations.

Overall, the results of this examination suggest that the sociology of crime and deviance framework provides a useful way to rebrand the messages adopted by CCCM organisations answering research question one. Furthermore, the framework also appears to be a useful tool to monitor changes in organisational messaging answering research question two. This framework has been used to track changes in organisational messages

at two points in time, highlighting how there are some changes in the denial tactics used by CCCM organisations. I now turn to look closer at the specific neutralisation techniques adopted by CCCM organisations and look at the geographic variation of these techniques at time one and time two.

6.3. A Closer Look at Climate Change Counter Movement Neutralisation Techniques

6.3.1. Denial of Responsibility

“Climate Change: Natural and Unstoppable”

DOR refers to claims that climate change is happening but humans are not the cause. This means CCCM organisations justify inaction or less action on climate change because humans are not responsible. Table 6.3 lists the frequency of organisations in a country adopting DOR at both points in time. At time one, 18.5% of organisations adopted this technique across 16 countries. At time two, 25% of organisations across 26 countries adopted DOR. US based organisations consistently adopted the technique across both points in time rising from 21% to 26.8%. The percentage of organisations adopting the technique in Canada increased from 26.7% and 46.7%. Several organisations across Europe adopted the DOR technique. In the UK, 24.4% of organisations adopted DOR at both data points. In Germany, 40% of organisations adopted DOR at both time points. At least one organisation in Poland, Belgium, The Netherlands, Czech Republic, Italy, and Spain introduced the technique at time two. Across non-western nations, only one organisation in Brazil adopted the technique, while 33.3% of Guatemalan CCCM organisations adopted the technique at both points time one and two. At least one organisation in Pakistan, Turkey, Hong Kong and Ecuador adopted the technique at time two.

Table 6.3. Frequency Of Organisations Across Countries Adopting Denial of Responsibility At Time One And Time Two

	Time One	Time Two
	Country (Frequency)	Country (Frequency)
	Australia (4)	Australia (3)
	Brazil (1)	Austria (1)
	Bulgaria (2)	Belgium (1)
	Canada (4)	Brazil (1)
	Chile (1)	Canada (7)
	China (2)	Chile (1)
	France (1)	China (1)
	Germany (2)	Ecuador (1)
	Guatemala (2)	France (2)
	Malaysia (1)	Germany (2)
	New Zealand (1)	Guatemala (1)
	Russia (1)	Hong Kong (1)
	Slovakia (2)	Israel (1)
	South Africa (2)	Italy (1)
	United Kingdom (3)	Malaysia (1)
	United States (58)	New Zealand (2)
		Netherlands (1)
		Pakistan (1)
		Peru (1)
		Philippines (1)
		Russia (1)
		South Africa (2)
		Spain (1)
		Thailand (1)
		United Kingdom (3)
		United States (76)
Total	87	115

Table 6.4 contains examples of organisations that used DOR. The examples include a 2006 statement made by the US based think tank Goldwater Institute. They adopted a position on climate change developed from the work of Goldwater research fellow and contrarian scientist Robert Balling. They claimed rising CO₂ is a natural process where, "...its levels have fluctuated enormously over the history of the Earth, and the ecosystems of the planet have adjusted to cope with these variations..." In 2007, the Australian based Carbon Sense Coalition adopted DOR stating that, "man does not control these global events." In 2009, the Australian based Mannkal Economic Education Foundation released a document titled '100 reasons why climate change is natural.' They cite the work of several contrarian scientists including Ian Plimer, Willie Soon, and Richard Lindzen and have sponsored several of the Heartland Institute's International Conference on Climate Change.

The argument that humans are not the cause of climate change is akin to other research on the CCCM. For instance, McCright and Dunlap (2000) noted, that several CCCM organisations including the think tank National Centre for Policy Analysis, criticised the evidentiary basis that humans are responsible for climate change. In more detail, organisations using this technique will include pseudo-scientific evidence such as, climate change is the result of solar spots and water vapour trapped in oceans.

For example, the advocacy organisation Plants Need CO₂ stated, "As solar activity declines and rate of global warming follows suit, it is natural to wonder whether the two are in some manner related" (2015). Organisations also cite the Urban Heat Island Effect which is a legitimate scientific concern (see EPA, nd, <https://www.epa.gov/heat-islands>), but it has been manipulated by contrarian scientists and CCCM organisations. For instance, the Christian Coalition of America use this scientific position to undermine human's responsibility for climate changes stating, "Previous 'claimed' warming was based on thousands of weather stations worldwide. Most of these stations are located in cities where heat from buildings, roads, and other structures—directly causing Urban Heat Islands" (2015). The evidence presented here suggests DOR is a suitable way to rebrand the oppositional argument that humans are not responsible for climate change.

Table 6.4. Examples of Denial of Responsibility

Organisation	Country	Example
Natural Resources Stewardship Project	Canada	<i>"...CO₂ is very unlikely to be a substantial driver of climate change and is not a pollutant. Global climate change is primarily a natural phenomenon and so governments should focus on solving environmental problems over which we have influence (air, land and water pollution being obvious examples)" (2006).</i>
Scientific Alliance	UK	<i>"However, a changing climate is the norm and meteorologists accept that we will never fully understand the complex interactions and feedback mechanisms which determine these changes" (2001).</i>
Virginia Institute for Public Policy	USA	<i>"The "Greenhouse Effect" is a very real thing...Climate change has occurred in the past and it will occur again in the future" (1999).</i>
National Centre for Policy Analysis	USA	<i>"In the past two to three million years, the earth's temperature has gone through at least 17 climate cycles, with ice ages lasting about 100,000 years interrupted by warm periods lasting about 10,000 years...Since the current warm period is about 13,000 years old, the next ice age is long overdue..." (1991).</i>
Future of Freedom Foundation	USA	<i>"...Climate change is par for the course in the history of planet Earth. Even schoolchildren know that long ago, vast glaciers of ice stretched over much of our planet, gouging out valleys and fjords, drastically altering the landscape..." (2008).</i>
Lexington Institute	USA	<i>"Global warming is a real thing. It is caused by the accretion of chemicals in the atmosphere that trap solar energy, increasing surface temperatures. This process has been ebbing and flowing for hundreds of millions of years in a phenomenon scientist's call the "carbon cycle." Today the Earth is gradually warming, and if that trend were to continue indefinitely it could eventually become uninhabitable (as it was for much of its geological history)" (2009).</i>
National Mining Association	USA	<i>"CO₂ is also a naturally occurring "GHG." The earth has a natural "greenhouse effect" in which heat from the sun is trapped below the earth's atmosphere and is partially prevented from re-radiating back into space..." (1997).</i>

Table 6.4. Continued

Ontario Petroleum Institute	Canada	<i>"...the climate has changed constantly since the dawn of time..."</i> (2015).
Goldwater Institute	USA	<i>"...its levels have fluctuated enormously over the history of the Earth, and the ecosystems of the planet have adjusted to cope with these variations..."</i> (2006).
American Policy Centre	USA	<i>"Changes in global temperatures are natural. There is no proof that temperature is affected by anything that man has done"</i> (1998).
Planck Foundation	The Netherlands	<i>"Climate change is of all times (Greenland used to be green, so climate change has driving factors other than man made CO₂)"</i> (2015).
Ecuadorian Institute of Political Economy	Ecuador	<i>"The globe has warmed and cooled many times in the past four thousand years. At certain times, our planet has been cooler and warmer at other times"</i> (2015).
Ohio Oil and Gas Association (OOGA)	USA	<i>"The climate is inherently dangerous (and it is always changing, whether we influence the change or not)."</i> (2015)
Northern Virginia Chapter of SEEE	USA	<i>"Climate Change: Natural and Unstoppable"</i> (2009).
Harvard Smithsonian Astrophysical Observatory	USA	<i>"Sun-like Stars Hold Clues to Earth's Climate"</i> (1995).
Carbon Sense Coalition	Australia	<i>"...man does not control these global events..."</i> (2007).

6.3.2. Denial of Injury

6.3.2.1 Denial of Injury One

“Climate Change Is Not as Bad as You Think”

There were two strands of the rebranded technique Denial of Injury. The first is DOI1. The technique refers to *there is no significant harm caused by climate change*. This means that there is very little or only minor harm caused to the environment by human behaviour and subsequent consequences of climate change. Table 6.5 lists the frequency of organisations in a country adopting DOI1 at both points in time. In total, 19.7% of organisation across 19 countries adopted the technique at time one, decreasing to 17.2% of organisations across 18 countries at time two. For example, 22.2% of US based organisations adopted the technique at the first point in time before dropping to only 18.7%. In Canada, the number of organisations adopting the technique decreased from 40% to 20%. Twenty-eight-point six percent of organisations in the UK adopted the technique at both points in time, while 100 % of New Zealand based organisations adopted the technique at time one decreasing to 33.3% at time two.

Table 6.5. Frequency Of Organisations Across Countries Adopting Denial of Injury One At Time One And Time Two One

	Time One	Time Two
	Country (Frequency)	Country (Frequency)
	Argentina (1)	Argentina (1)
	Australia (3)	Australia (2)
	Brazil (1)	Austria (1)
	Belarus (1)	Bahamas (1)
	Canada (6)	Brazil (1)
	Chile (1)	Canada (3)
	China (1)	Chile (1)
	Denmark (3)	China (1)
	Ecuador (1)	Czech Republic (2)
	France (2)	France (2)
	Guatemala (1)	Guatemala (1)
	Israel (1)	Israel (1)
	Italy (3)	New Zealand (1)
	Mexico (1)	Peru (2)
	Netherlands (1)	Philippines (1)
	New Zealand (3)	Russia (1)
	Peru (1)	Spain (1)
	Russia (1)	South Africa (2)
	Spain (1)	Turkey (1)
	South Africa (2)	United Kingdom (4)
	Thailand (1)	United States (53)
	United Kingdom (4)	
	United States (61)	
Total	97	83

Table 6.6 contains examples of organisations that adopt DOI1. These examples include the Canadian based advocacy group Friends of Science led by several climate sceptics (Friends of Science, nd). In 2002, they claimed human actions have a small impact on the environment causing little harm where, "...so-called greenhouse gases constitute about 3% of the atmosphere. Of this 3%, CO₂ is a minute quantity; water vapour (clouds etc.) amounts to 97%..." In 2011, the Chinese think tank IPENCII supported a position on climate change using the work of climate sceptic Mark Levin; "... solar activity is the main cause of the twentieth century, global warming, GHG's and climate, but this does not matter much..." Likewise, the Cornwall Alliance that has sponsored several of the Heartland Institute's International Conference on Climate Change stated, "natural causes may account for a large part, perhaps the majority, of the global warming in both the last thirty and the last one hundred fifty years... Human emissions of CO₂ and other GHG's are probably a minor and possibly an insignificant contributor to its causes" (2000).

This evidence shows how DOI1 is similar to previous interpretations of CCCM messaging that shows how organisations attempt to minimise the harm caused by human behaviour and climate change. For instance, one of Mann's (2013) typologies of denial was that, "the human impact is small, and the impact of continued GHG emissions will be minor..." This message illustrates only the small amount of harm caused by human activities, minimising human caused climate change. Thus, this type of message has been examined in previous studies of CCCM organisational behaviour and individual beliefs and can be effectively rebranded as DOI1

Table 6.6. Examples Of Denial of Injury One

Organisation	Country	Example
Scientific Mises Research Centre	Belarus	<i>"...The analysis of statistical data for the past 50 years shows that the heating effect of CO₂ has been greatly exaggerated..." (1999).</i>
Cornwall Alliance	USA	<i>"Natural causes may account for a large part, perhaps the majority, of the global warming in both the last thirty and the last one hundred fifty years, which together constitute an episode in the natural rising and falling cycles of global average temperature. Human emissions of CO₂ and other GHG are probably a minor and possibly an insignificant contributor to its causes" (2000).</i>
Civic Institute	Czech Republic	<i>"The fact that the observed and predicted warming models do not match, it shows that the contribution of human greenhouse current changes the temperature is insignificant" (2008).</i>
IPENCIL	China	<i>"... Solar activity is the main cause of the twentieth century global warming. Human GHG's do not matter much..." (2011).</i>
Fraser Institute	Canada	<i>"...even if global warming is occurring, many scientists agree that delaying action by 15 to 25 years would not impose serious additional costs. Furthermore, the costs of any global warming that might be occurring (whether the result of human activities or not) are likely to be exaggerated..." (1997).</i>
Association of Liberal Thinking	Turkey	<i>"Our world is warming up for some time. It has cooled in some periods. One reason of this process can be said that a share of human activity" (2007).</i>
Competitive Enterprise Institute	USA	<i>"There is little evidence that human activity is having more than a marginal impact on the Earth's climate and even less that moderate climate shifts will be disastrous for either human civilisation or the environment" (1997).</i>
Sense about Science UK	UK	<i>"In a few cases, man-made climate change appears to be causing more extremes – heat waves, for example. But it is too simple to blame every weather disaster on man-made change; there have been catastrophic floods and storms recorded throughout history. Some events, such as certain tornadoes, cannot be said to be increasing and indeed aren't predicted to change in a warmer world. And even when we think increasing events may well be due to climate change, we cannot blame each single event on human activity" (2015).</i>

Table 6.6. Continued

Centre for American Experiment	USA	<i>“The scientific evidence, however, does not support catastrophic warming scenarios. To provide some perspective, here are some facts...GHG comprise only about 1 percent of our atmosphere, most of which is nitrogen and oxygen. Of that 1 percent, the most abundant GHG is water vapour, which accounts for about 98 percent of all GHG in the atmosphere...The climatological predictive models that serve as a basis for catastrophe scenarios fail to accurately simulate climate responses to changes in greenhouse gases...Plants on a basis of all existence flourish with increases in CO₂...The spread of diseases is much more dependent on human behaviour...such as the chlorinating of water, than it is on climate” (1997).</i>
The Spectator Foundation	USA	<i>“Climate Change Is Not as Bad as You Think” (2015).</i>
International Organisation of Motor Vehicle Manufacturers	USA	<i>“Man-made emissions of CO₂ represent less than 5% of the total, including CO₂ emissions from natural sources, but even this relatively small increase can shift the Earth’s natural balance” (2015).</i>
Canadian Taxpayers Association	Canada	<i>“The consequences of global warming are vastly overstated” (2008).</i>
Frontiers of Freedom	USA	<i>“...Water vapour is the main greenhouse gas, but trace gases such as CO₂ and methane also play a part” (1998).</i>
Oregon Institute on Science and Medicine	USA	<i>“A review of the research literature concerning the environmental consequences of increased levels of atmospheric CO₂ leads to the conclusion that increases during the 20th Century have produced no deleterious effects upon global weather, climate, or temperature. Increased CO₂ has, however, markedly increased plant growth rate” (1997).</i>

6.3.2.2. Denial of Injury Two

“The Positive Effects of Additional Atmospheric CO₂ “

DOI2 implies that rising CO₂ emissions have a positive impact on humans and the environment. It is used by a 12.5% of organisations at time one increasing to 13% of organisations at time two. Table 6.7 lists the frequency of organisations in a country adopting DOI2 at both points in time.

Organisations in the UK, Australia, and the US consistently adopted the technique at both points in time. Organisations in developing countries also adopted this technique, including China (Cathay Institute), the Philippines (Minimal Government Thinkers), and Peru (Andes Libre) used the technique at one or both points of time. All three of these organisations have (1) incorporated the work of and promote known contrarian scientists, and/or (2) have been members of the Civil Society Coalition on Climate Change (CSCCC), and/or (3) co-sponsored one or more of the Heartland Institute’s International Conference on Climate Change.

For instance, the Philippines based Minimal Government Thinkers has previously co-sponsored the Heartland Institute’s International Conference on Climate Change, was a member of the CSCCC, and has promoted work by climate sceptics including Paul Driessen and Willie Soon. Outlining their position on climate change the organisation’s President, Bienvenido Oplas Jr, stated, “Lie if they must, demonise a useful gas CO₂ (the gas that we humans exhale, the gas that plants and crops need)” (2010). Similarly, the Peruvian based Andes Libre, used the work of climate sceptic Donald Boudreaux to support their position on climate change. In particular, they drew attention to the positive outcomes of capitalism concluding, “The same capitalism and industry that are blamed for increasing Earth’s average temperature a little bit are the greatest anti-pollutant in human history” (2015).

Table 6.8 contains examples of organisations adopting DOI2. In 2009, the New Zealand based advocacy organisation Climate Realists positively framed climate change

contending, "...Increasing the amount of CO₂ in the atmosphere increases plant growth rates, just as humans perform better in a high oxygen environment..." The organisation Plants need CO₂ has since emerging in 2009, maintained that their purpose is to "educate the public on the positive effects of additional atmospheric CO₂ and help prevent the inadvertent negative impact to human, plant, and animal life if we reduce CO₂." In 1998, the US based think tank American Policy Centre positively framed the impacts of a "naturally" changing climate stating "...The truth is, someday humans may be able to take tropical vacations at the North Pole – and it will be perfectly natural..." In 1998, the US think tank the Ethan Allen Institute, released a statement contending "...if global warming does occur, it is likely to be beneficial to crops and animal life..."

The positive framing of climate change and rising CO₂ emissions has been observed in previous CCCM research (e.g. Hoffman, 2011; Dunlap and Jacques, 2013). For example, Hoffman (2011, p.18) reported how some sceptic articles and arguments have examined the "positive externalities that will occur due to climate change (e.g. longer growing seasons)," and McCright and Dunlap (2003) noted some sceptics argue that "the net effect of global warming would be beneficial should it occur" (p.354). This type of argument rebranded as DOI2 is consistent with previous findings that present climate change and rising CO₂ emissions as beneficial.

Table 6.7. Frequency Of Organisations Across Countries Adopting Denial of Injury Two At Time One And Time Two

	Time One	Time Two
	Country (Frequency)	Country (Frequency)
	Australia (4)	Australia (3)
	Belarus (1)	Bulgaria (1)
	Brazil (1)	Canada (1)
	Czech Republic (1)	China (1)
	France (1)	Czech Republic (1)
	Hong Kong (1)	France (1)
	New Zealand (1)	Italy (1)
	Slovakia (1)	Philippines (1)
	UK (1)	Russia (1)
	United States (35)	Turkey (1)
		United Kingdom (2)
		United States (38)
Total	47	51

Table 6.8. Examples Of Denial Of Injury Two

Organisation	Country	Example
Consumer Alert	USA	<i>“Larger quantities of CO₂ in the atmosphere and warmer climates would likely lead to an increase in vegetation” (2000).</i>
Northern Virginia Chapter of SEEE	USA	<i>“It’s a well-known fact that CO₂ is plant food and essential to the growth of crops and trees—and ultimately essential to the well-being of animals and humans” (2008).</i>
Oregon Institute on Science and Medicine	USA	<i>“A review of the research literature concerning the environmental consequences of increased levels of atmospheric CO₂ leads to the conclusion that increases during the 20th Century have produced no deleterious effects upon global weather, climate, or temperature. Increased CO₂ has, however, markedly increased plant growth rate” (1997).</i>
Greening Earth Society	USA	<i>Empirical evidence suggests that these expected negative results of fossil fuel combustion are unfounded. Instead, evidence of very modest night time winter warming, robust plant growth, rejuvenating forests and ample harvests abounds (1997).</i>
Minimal Government Thinkers	Philippines	<i>“Lie if they must, demonise a useful gas CO₂ (the gas that we humans exhale, the gas that plants and crops need)” (2010).</i>
Plants need CO₂	USA	<i>“Educate the public on the positive effects of additional atmospheric CO₂ and help prevent the inadvertent negative impact to human, plant and animal life if we reduce CO₂” (2009).</i>
Andes Libre	Peru	<i>“The same capitalism and industry that are blamed for increasing Earth’s average temperature a little bit is the greatest anti-pollutant in human history” (2015).</i>
Free Market Foundation	South Africa	<i>“Furthermore, according to the study, the effects of post-war warming have been benign or beneficial” (2000).</i>

Table 6.8. Continued

<i>The Environmental Conservation Organisation</i>	USA	<i>“There is another side of the CO₂ emissions issue that is almost never discussed, yet could hold the answer to meeting food production needs until population levels stabilise. CO₂ is a limiting factor to plant growth throughout the world. The addition of this gas to any environment causes plants to grow faster and more robust, increasing both their productivity and growth...More importantly, CO₂ enhancement dramatically improves crop tolerance to stress such as droughts and pollution, permitting much greater crop production compared to normal levels of CO₂. If global CO₂ does increase, the crops will grow even faster and healthier” (2001).</i>
<i>World Taxpayers Association</i>	USA	<i>“They should be rejoicing in the fantastic possibilities they have ahead – and in how our world has been able to adapt with more freedom, greater wealth and resources, more food and higher possibilities for all” (2015).</i>
<i>Council for Agricultural Science and Technology</i>	USA	<i>“Enriching the atmosphere with CO₂ is not all bad. In fact, CO₂ is the stuff of photosynthesis and raising its concentration speeds photosynthesis” (1995).</i>
<i>International Society for Individual Liberty</i>	USA	<i>CO₂ is a welcome fertiliser” (2004).</i>
<i>Colorado Mining Association</i>	USA	<i>“On CO₂, 1) Powerful Nutrient, (2) Key to Photosynthesis, (3) Key to Habitable Climate, (4) Valuable Industrial/Manufacturing Component, (5) Not a Pollutant” (2006).</i>
<i>Heartland Institute</i>	USA	<i>“The evidence is overwhelming that rising atmospheric CO₂ levels will continue to help plants thrive, leading to greater biodiversity, shrinking deserts, expanded habitat for wildlife, and more food for a growing human population...” (2015).</i>
<i>Institute for Democracy and Economic Affairs</i>	Malaysia	<i>“...just about any carbon-emitting process—is itself a position incompatible with the wellbeing of human life...” (2007).</i>

6.3.3. Denial of Victim One:

“There is No Global Warming. Period”

The technique DOV1 was derived from Sykes and Matza’s original definition that justifies deviance by suggesting that there is no visible victim. Compared to other techniques, the employment of DOV1 is disproportionately smaller and the percentage of organisations adopting the technique decreased from 8.2% to 2.1%. Table 6.9 lists the frequency of organisations in a country adopting DOV1 at both points in time.

The highest percentage of organisations using this technique are in the US (time one = 11.6%, time two = 13.4%). Both the Argentinian (Centro de Investigaciones de Instituciones y Mercados de Argentina) and Australian (Australian Environmental Foundation) organisations that used the technique at time one, did not at time two. In France, the percentage of organisations adopting the technique decreased from 22.2% to zero at time two. For instance, at time one, the French think tank Instituto Turgot stated; “The popular imagination is captivated beliefs that have no scientific basis.” (2007, np). In other words, there is no scientific basis to climate change and no victims. Similarly, in 2009, the French think tank the Institute for Research in Economic and Fiscal Issues used DOV1 to state the opposite that global warming is not occurring where instead, “the data on Antarctic, which happen to show the opposite trend...”

Table 6.9. Frequency Of Organisations Across Countries Adopting Denial of Victim One At Time One And Time Two

	Time One	Time Two
	Country (Frequency)	Country (Frequency)
	Argentina (1)	Canada (1)
	Australia (1)	China (1)
	Belgium (1)	United States (8)
	Canada (1)	
	China (1)	
	France (2)	
	United States (31)	
Total	35	10

Table 6.10 provides more examples of organisations that use DOV1. In 1998, the US think tank the American Policy Centre employed DOV1 stating, “there is no global warming. Period.” Similarly, the US trade association the Louisiana Oil and Gas Association’s Vice President Gifford Briggs stated on behalf of the organisation: “We don’t believe in global warming, period...” (2009). Russian think tank the Institute for Economic Analysis, that was also a member of the CSCCC, used the technique stating, “the correlation between CO₂ concentration in the atmosphere and global temperature is not proven...” (2007).

The US think tank the Capitol Resource Institute stated that, “[higher CO₂ concentrations and rising temperatures are causing] no harm to the global environment or to human health” (2015). This position reflects directly the technique proposed in Sykes and Matza’s original conception of denial of victim where the victim is physically absent and there is no evidence victimisation has occurred. This is similar to Feygina, Jost and Goldsmith’s (2010) understanding of climate change denial. They proposed individuals adopt the justification that climate change is not happening because they do not see it or feel they experience it (see also Lazarus, 2008).

This justification corresponds with the concept of climate myopia where an individual is unable to see the consequences of climate change and do not believe it exists (Silvertown et al., 2010). However, well-known contrarian scientists acknowledge the scientific debate is not whether global warming is happening, rather how much damage it does and if humans are responsible for the changes (see for example, <https://www.youtube.com/watch?v=DOFoJo6zwEU>). That contrarian scientists do not adopt the argument that climate change is not real, may be one reason why the percentage of organisations adopting the technique decreased over time. It reflects the ever-growing scientific consensus on climate change that can no longer be disputed.

Table 6.10. Examples Of Denial Of Victim One

Organisation	Country	Example
Institut Turgot	France	<i>“The popular imagination is captivated beliefs that have no scientific basis” (2007).</i>
Centre for New Europe	Belgium	<i>“The earth’s climate, as measured in the atmosphere, is currently not warming” (2000).</i>
Institute for Economic Analysis	Russia	<i>“The correlation between CO₂ concentration in the atmosphere and global temperature is not proven...There is no sign that the warming of the planet in the 20th century was “unique” Previous instances of global warming could not been triggered by the anthropogenic burning of fossil fuels” (2007).</i>
American legislative Exchange Council	USA	<i>“The scientific theory used by the Rio Climate Treaty to measure Global Warming is out of date. Though still not fully understood, there has been no statistically significant warming since 1978” (2015).</i>
CO₂ Science	USA	<i>“Growth-enhancing effects of CO₂ create an impetus for cooling” (2015).</i>
Science and Environmental Policy Project	USA	<i>“Computer models forecast rapidly rising global temperatures, but data from weather satellites and balloon instruments show no warming whatsoever” (1998).</i>
Frontier Centre for Public Policy	USA	<i>“Three of the four methods of measuring global temperature show no signs of global warming: Proxy measurements (tree rings, sediments etc.) for the past 1000 years Weather balloons (radiosondes) for the past 44 years Satellites (MSU Units) for the past 21 years. The fourth method, surface measurement at weather stations, gives an averaged mean global rise of a mere 0.6°C over 140 years, but is intermittent and irregular. Individual records are highly variable, regional, and sometimes, particularly in remote areas, show no change, or even a fall in temperature. It is concluded that temperature measurements carried out away from human influence show no evidence of global warming. The small and irregular rise shown by many surface stations must therefore be caused by changes in their thermal environment over long periods of time, such as better heating, larger buildings, darkening of surfaces, sealing of roads, increases in vehicles and aircraft, increased shielding from the atmosphere and deterioration of painted surfaces” (2001).</i>

Table 6.10. Continued

Manhattan Libertarian Society	USA	<i>"What global warming? It's freezing here" (2007).</i>
Mises Institute	USA	<i>"So, the question that Americans must ask is this: "Do environmental problems exist?" The answer is yes, they do—but anthropogenic global warming is not one of them" (2000).</i>
The Sovereign Society	USA	<i>"The Climate-Change Hoax" (2015).</i>
American Policy Centre	USA	<i>"There is no global warming. Period" (1998).</i>
Louisiana Oil and Gas Association	USA	<i>"We don't believe in global warming, period...We are fighting for our right to exist" (2009).</i>
Centre for Urban Renewal and Education	USA	<i>"...Research has shown time after time that anthropomorphic climate change is a myth..." (2015).</i>
Capital Resource Institute	USA	<i>"[higher CO₂ concentrations and rising temperatures are causing] "No harm to the global environment or to human health" (2015).</i>

6.3.4. Condemnation of the Condemner

“It is a Socialistic Dream Come True... It is Madness.”

COC is the most frequently adopted technique at both time one and two. Table 6.11 lists the frequency of organisations in a country adopting COC at both points in time. The definition of COC is that climate change research is misrepresented by scientists, and manipulated by media, politicians, and environmentalists. CCCM organisations use this technique to shift attention away from climate science. They target attention to the actions of earth and climate scientists, environmentalists, and governments to stall climate action by undermining the objectivity or abilities of these actors to make effective policy decisions.

This technique is used by at least one organisation at time one across all countries in the dataset with the exceptions of Albania, Mexico, The Netherlands, Nigeria, Lithuania, Romania, Sweden, Switzerland, Venezuela, and Thailand. At time two, at least one organisation in every country in the dataset adopted the technique, with the exceptions of Albania, Ecuador, Lithuania, Ghana, Norway, Romania, Sweden, Switzerland and Thailand.

In many cases, the number of organisations across countries adopting COC has increased. For instance, the percentage of German based CCCM organisations adopting this technique increased from 60% to 80%. Similarly, there was a 50% increase in the number of Nigerian organisations adopting the technique. However, there were some exceptions to this case, including organisations in Australia decreasing from 83.3% to 73%, Peru 75% to 50%, the UK decreasing from 78.5% to 60%. Overall the percentage of organisation adopting this technique across countries remained high and increased.

Table 6.11. Frequency Of Organisations Across Countries Adopting Condemnation Of The Condemner At Time One And Time Two

Time One	Time Two
Country (Frequency)	Country (Frequency)
Argentina (3)	Argentina (4)
Australia (10)	Australia (8)
Austria (2)	Austria (2)
Belgium (2)	Bahamas (1)
Belurus (1)	Belgium (1)
Brazil (4)	Belurus (1)
Bulgaria (1)	Brazil (4)
Canada (8)	Bulgaria (1)
Chile (1)	Canada (9)
China (2)	Chile (1)
Costa Rica (1)	China (3)
Czech Republic (1)	Costa Rica (1)
Denmark (1)	Czech Republic (2)
France (6)	Denmark (1)
Germany (3)	France (8)
Ghana (1)	Germany (4)
Guatemala (2)	Guatemala (2)
Hong Kong (1)	Hong Kong (1)
India (1)	India (1)
Italy (3)	Israel (1)
Israel (1)	Italy (2)
Malaysia (1)	Malaysia (1)
New Zealand (3)	Mexico (1)
Norway (1)	Netherlands (1)
Pakistan (1)	New Zealand (3)
Peru (3)	Norway (1)
Philippines (1)	Nigeria (1)
Russia (1)	Peru (2)
Slovakia (2)	Philippines (1)
South Africa (2)	Poland (1)
Spain (1)	Pakistan (1)
Turkey (1)	Russia (1)
United Kingdom (11)	Slovakia (2)
United States (168)	South Africa (2)
	Spain (2)
	Turkey (1)
	United Kingdom (9)
	United States (179)
	Venezuela (1)
Total	268

Table 6.12 contains examples of organisations that adopt the technique COC. One example is from the Ghanaian think tank Imani: Centre for Policy and Education that was also a member of the CSCCC. They released a statement generated by Franklin Cudjoe, a research fellow at George Mason University (host to several climate sceptics) and the think tank the Discovery Institute. Amongst other techniques they criticised political actors and climate ‘alarmists’ claiming, “Rather than face up to climate change with reasoned technology, we are engaging in fear mongering and selling ourselves short in the face of limitless solutions our brains can bear” (2007). Similarly, in 2003, the Israeli think tank Jerusalem Institute for Market Studies worked with Kenneth Green, a Heartland Institute fellow and climate sceptic. They criticised climate science and the Kyoto Protocol:

“...many claims are made about the scientific understanding of climate that are not backed up by the core literature that dominates the field. But as most people read only summary versions of the scientific literature, they’re easily led astray by alarmist groups that exaggerate the concerns, while waving away the uncertainties that pervade climate science...”

The Bulgarian think tank Institute for Market Economics stated, “more and more frequently the movement in question (proclaiming global warming) is being referred to as religious, since it is based not on facts but on the faith of its followers” (2007). Likewise, the Guatemalan think tank Centro de Investigaciones Economicas Nacionales argued climate science is “an unfortunate example of lack of scientific rigor and fanaticism bordering on the fascist” (2007). Another example by the Mackinac Centre for Public Policy stated:

“What is really at work on the global warming issue is more than just an honest disagreement within the scientific community. Radical environmentalism--which seeks to impose ever bigger government on society--has become the last refuge of many of the world's socialists. It's this hidden agenda cloaked in supposed concern for the planet...” (1992).

Researchers have noted CCCM organisations have often criticised and labelled environmentalists and policy-makers as ‘alarmists’ (e.g. Antonio and Brulle, 2011). Antonio and Brulle (2011) highlighted the opposition to climate action by sceptics and CCCM organisations that have helped discredit the science, policy-makers and environmentalists. The researchers point out CCCM opposition in the wake of the

debunked Climategate scandal was widely circulated amongst the American public and in conservative media often reporting climate change as a “left-wing anti-capitalist conspiracy” (p.198) (see also Diethelm and McKee, 2009).

This research shows how these criticisms are extended beyond the US. For instance, in Germany, the organisation the European Institute for Climate and Energy, that has co-sponsored several of the Heartland Institute’s International Conference on Climate Change, argued, “the assertion of a “man-made climate change” is not justified as a science and therefore a fraud against the population (2015). Similarly, the Canadian based Montreal Economic Institute stated, “there is a certain fringe of the environmentalist movement whose members have almost nothing good to say about their fellow men and women. If not for humans, they sometimes explicitly argue that the Earth would be a wonderful place” (2015).

As these and other examples illustrate, while the cultural and political war on climate change politics does not exist in the same way in for example Europe as it does in the US, the same critical opposition towards environmentalists and environmental policy-makers on the ‘left’ cuts across organisational messaging across countries. The idea of a counter or hidden agenda of environmentalists, policy-makers etcetera, closely parallels the CCCM literature including McCright and Dunlap (2000) who have suggested that criticisms of scientists, environmentalists, and policy-makers are a tool used by sceptics to discourage climate action across the world. Thus, rebranding these messages as COC is consistent with previous literature.

Table 6.12. Sample Of Condemnation Of The Condemner

Organisation	Country	Example
Instituto Ordem Livre	Brazil	<i>“Some alarmists accept this irrefutable logic, but claim that the planet is on the route of destruction. For these eco-terrorists, the core problem is not the limit of the resource itself, but rather the consequence of economic growth. The planet would not be able to support more wealth without results harmful to the climate” (2009).</i>
Montreal Economic Institute	Canada	<i>“There is a certain fringe of the environmentalist movement whose members have almost nothing good to say about their fellow men and women. If not for humans, they sometimes explicitly argue, the Earth would be a wonderful place” (2015).</i>
European Institute for Climate and Energy	Germany	<i>“The assertion of a “man-made climate change” is not justified as a science and therefore a fraud against the population” (2015).</i>
Freedom Works Foundation	USA	<i>“The US EPA is responsible for some of the most costly regulations on individuals and businesses. There is virtually no limit to what the unelected bureaucrats at the EPA can do, without congressional oversight or approval” (2015).</i>
Illinois Oil and Gas Association	USA	<i>“The threat of global warming has been promoted by both climate scientists and politicians alike for two age-old reasons: money and power. The media has been complicit in this agenda because alarmist headlines sell well. Is the planet really heating up...Alarmists scream about ice melting, seas rising, polar bears decreasing and hurricanes increasing, claiming salvation will be found by burning food for fuel, despite the actual outcomes of their predictions. They try to shut down debate of their studies because their funding grants may disappear if global warming is found to be a non-problem. Politicians fear loss of a powerful excuse to pass more laws and regulations to tax and control the citizenry. Yet the truth about motives and science will come out, as it always does. It is time to look at climate reality” (2015).</i>
Ayn Rand Institute	USA	<i>“There is a grave danger facing mankind. The danger is not from acid rain, global warming, smog, or the logging of rain forests, as environmentalists would have us believe. The danger to mankind is from environmentalism” (1997).</i>

Table 6.12. Continued

Austrian Economics Centre	Austria	<i>“Climate control has become a major issue around the world as of late. Alarmist messages have been sent around the world about global warming, global climate change, and sometimes even global cooling” (2007).</i>
Federalist Society for Law and Policy Studies	USA	<i>“It is a socialistic dream come true... It is madness” (2001).</i>
Americans for Tax Reform	USA	<i>“As the left has shifted gears over the last thirty years, it has become clear: they are not interested in any particular type of energy--they are against all energy. Their hysteria has changed its focus from "global cooling" to "global warming", but their end is the same--a taxation of energy and the suppression of its production” (2008).</i>
Eagle Forum	USA	<i>“There must be an agenda behind this irrational plan. Let's try a multiple-choice question. Is the hidden agenda of the Kyoto treaty (a) to promote the presidential candidacy of Al Gore, who has staked his political future on a platform of prioritising the planet above people, or (b) to redistribute US wealth and jobs to foreign countries because the Clintonian liberals support income redistribution, or (c) to con the American people into accepting increased federal taxes, regulations and even rationing?” (1997).</i>
Fake Climate	Brazil	<i>“anthropogenic is just a smokescreen to hide the true government intentions, led by the British, US and other European countries, to manage our natural resources, sell "green" products, impose political, economic and military sanctions, as well as orchestrating forms of energy production and management of underdeveloped countries and the richest resources” (2009).</i>
Institute for Democracy and Economic Affairs	Malaysia	<i>“The environmentalist movement claims to be working for the benefit of mankind, since, as we have all been told, the human race as a whole must ultimately suffer if we fail to look after our planet. What most people do not appreciate, however, is that the environmentalists' disdain for technological progress—and more generally, just about any carbon-emitting process—is itself a position incompatible with the wellbeing of human life” (2010).</i>
Cathay Institute for Public Policy	China	<i>“Although global warming is really true, and is likely to cause problems, it has been distorted by alarmists who claim that unless drastic and urgent measures, otherwise catastrophic climate change will make human extinction” (2008).</i>

6.3.5. Appeal to Higher Loyalties

“The economic costs could be especially dramatic”

The AHL technique is that: *economic progress and development is more important than preventing climate change*. CCCM organisations recommend that rather than reducing the use of heavily polluting industries, imposing regulations, and adopt alternative energies to address climate change, economic and social development via the use of fossil fuels particularly for developing nations is more important. Table 6.13 lists the frequency of organisations in a country adopting AHL at time one and two. The percentage of organisations adopting AHL decreased over time. At time one, 48.3% of CCCM organisations adopted the technique at time one and at time two 32.1% of CCCM organisations adopted the techniques. There does not appear to be any clear geographical differences between organisations that adopt AHL across countries because the technique is used by at least one organisations across all 53 countries in the dataset at one or both points in time.

Malaysia, Israel, Hong Kong, Ghana, Chile, Belarus, Philippines, Poland, Romania, Russia, and Venezuela, had only one organisation that adopted AHL. For instance, the Polish think tank Instytut Globalizacji (Globalisation Institute) - originally identified by Plehwe (2014) - argued, “...eliminating the emission of CO₂ will cause a sharp increase in energy prices, which can cause long-lasting recession in developed countries and increase of poverty and hunger in poor countries...” (2009). Similarly, the Israeli think tank Jerusalem Institute for Market Studies, reviewed the Kyoto Protocol and concluded “a review of the economic literature suggests that GHG mandates hold the potential for inflicting massive economic harm, while it is economic productivity that lets us afford to protect our environment and health in the first place” (2003).

Table 6.13. Frequency Of Organisations Across Countries Adopting Appeal To Higher Loyalties At Time One And Time Two

Time One	Time Two
Country (Frequency)	Country (Frequency)
Argentina (2)	Argentina (2)
Australia (9)	Australia (6)
Austria (1)	Austria (1)
Belgium (3)	Belgium (1)
Belurus (1)	Brazil (4)
Brazil (4)	Bulgaria (1)
Bulgaria (1)	Canada (7)
Canada (9)	Chile (1)
Chile (2)	Czech Republic (3)
China (2)	Denmark (1)
Costa Rica (1)	France (3)
Czech Republic (2)	Germany (3)
Denmark (2)	Guatemala (1)
Ecuador (1)	Israel (1)
France (6)	Italy (1)
Germany (5)	Lithuania (1)
Ghana (1)	Malaysia (1)
Guatemala (1)	Mexico (1)
Hong Kong (1)	Netherlands (1)
India (2)	New Zealand (1)
Israel (1)	Nigeria (1)
Italy (3)	Peru (1)
Lithuania (1)	Poland (1)
Mexico (1)	Romania (1)
Norway (1)	Russia (1)
Netherlands (1)	South Africa (1)
New Zealand (3)	Sweden (1)
Peru (1)	Switzerland (1)
Poland (1)	Thailand (1)
Russia (1)	Turkey (1)
Slovakia (1)	United Kingdom (7)
South Africa (2)	USA (101)
Spain (2)	
Turkey (1)	
United Kingdom (8)	
United States (147)	
Thailand (1)	
Venezuela (1)	
Total	
233	159

Table 6.14 provides further examples of organisations adopting AHL. For instance, in 2006, the US advocacy organisation Citizens Outreach released a statement with support from other US CCCM organisations including National Black Chamber of Commerce, United for Jobs, 60 Plus Association, Americans for Tax Reform, Small Business and Entrepreneurship Council and the American Conservative Union. They argued:

“Any type of cap and trade system essentially amounts to a regressive tax on consumers, one that, if implemented here, would cost Americans an estimated \$300 to \$400 billion per year... If the US were to adopt an emissions trading scheme, small businesses, low-income families, seniors – all consumers – would see their utility bills skyrocket” (2006).

Similarly, one of the International Climate Science Coalition’s (ICSC) core principles adopts AHL referring to the “problems” with renewable energy resources and subsidies:

“So-called new renewable energy technologies are extremely expensive and rely on huge subsidies. To use such intermittent and diffuse power sources requires that the consumer pays between three and ten times the price of power from conventional sources (coal, oil, natural gas, hydro and nuclear)” (2015).

Importantly, the above examples illustrate two components to AHL. One, inaction on climate change is important to protect the rights of individuals from unfair regulation. For instance, the US based think tank Commonwealth Foundation for Public Policy Alternatives argued it:

“supports sound environmental policies based on factual evidence. We believe that regulators must clearly demonstrate that the environmental benefits such policies will produce will outweigh the costs they impose on businesses, property owners, and other taxpayers before imposing them” (1998).

Two, AHL draws attention to protecting social and economic growth in developing nations. AHL is used to appear to protect the interests of those in poorer or less developed nations. For instance, the UK based think tank Clexit adopted the technique contending:

“For developing countries, the Paris Treaty would deny them the benefits of reliable low-cost hydrocarbon energy, compelling them to rely on biomass heating and costly weather-dependent and unreliable power supplies, thus prolonging and increasing their dependency on international handouts. They will soon resent being told to remain forever in an energy-deprived wind/solar/wood/bicycle economy” (2015).

The definition of AHL draws parallels to strategic arguments adopted by CCCM organisations derived from previous CCCM literature (e.g. Farrell, 2016a, 2016b). For instance, Brisman and South (2015) contended the emergence of climate change contrarians has undoubtedly strengthened “a belief in the need to defend the individual freedoms perceived to be associated with neoliberalism, free-market capitalism and minimal state intervention” (p.457). In the same way, the technique AHL prioritises economic and social prosperity over mitigating climate change. Researchers have suggested this type of argument is used to promote a commitment to global capitalism and the accumulation of capital (McCright and Dunlap, 2011).

The position taken by the think tank the Austrian Economics Centre is another good illustration of this point. They draw direct attention to the benefits of capitalism stating; “The best antidote to help the environment is to reduce poverty. That can be best done by promoting the concept of democratic capitalism, which unfortunately has gone into decline in recent years” (2015). Thus, using AHL to promote social and economic development through a fossil fuel based global capitalist economy corresponds with the wider consensus on research on the CCCM that suggests messages promoted by CCCM organisations are used to sustain this form of capitalism.

Table 6.14. Examples Of Appeal To Higher Loyalties

Organisation	Country	Example
The Nassau Institute	The Bahamas	<i>"...If we are to have a rational policy on the complex issue of global warming, it will require more than the current simple-minded government responses. Many important questions remain unanswered about the intricate science of climate change. These questions need to be presented clearly and in a more balanced way to the public before committing to any costly "solutions" (2003).</i>
Institut Coppet	France	<i>"A balance that favours large groups...green energies that increase pollution...impoverishment of the population" (2014).</i>
Instytut Globalizacji	Poland	<i>"...The dogma of "decarbonisation" of energy, thus eliminating the emission of CO₂ will cause a sharp increase in energy prices, which can cause long-lasting recession in developed countries and increase of poverty and hunger in poor countries" (2009).</i>
Clexit	UK	<i>"For developing countries, the Paris Treaty would deny them the benefits of reliable low-cost hydrocarbon energy, compelling them to rely on biomass heating and costly weather-dependent and unreliable power supplies, thus prolonging and increasing their dependency on international handouts. They will soon resent being told to remain forever in an energy-deprived wind/solar/wood/bicycle economy" (Clexit, 2015).</i>
American Energy Freedom Centre	USA	<i>"These cost increases make the economy less efficient domestically and it makes the US less economically competitive internationally. Higher energy prices harms America's ability to grow its economy at home and it means more American jobs will be shipped overseas...Americans need an efficient economy to reverse the recession and improve the lives of American workers. Carbon taxes and cap and trade will just make it more difficult to reverse the recession" (2009).</i>
Capital Research Centre	USA	<i>"When businesses try to absorb the costs of complying with complex environmental rules and permits, they are likely to pass on the cost to consumers by raising the price of their products. And when they are confronted by the uncertainties of statutory interpretation and the regulatory enforcement of environmental law they may decide to slow the development and application of new technologies.... Environmental regulation is increasingly expensive and, many argue, less effective in achieving its goals" (1997).</i>

Table 6.14. Continued

Kansas Independent Oil and Gas Association	USA	<i>“Because fossil fuels provide about 85% of the energy used in the US economy, any program that constrains CO₂ emissions will effectively constrain US energy use and result in higher prices and less economic output” (2009).</i>
The Heritage Foundation	USA	<i>“The economic costs could be especially dramatic. Consider one proposal a “carbon tax” of \$100 per ton, designed to reduce industry’s carbon emissions to 1990 levels by the year 2000. The Congressional Budget Office estimates this tax would reduce America’s gross national product by two percent. Put another way, the loss would be \$100 billion per year, or more than \$1,000 per family” (1996).</i>
Far West Agricultural Business Association	USA	<i>“FWAA does not support any existing climate change bill. With increased indirect costs of energy, “fuel switching” to natural gas will cause the feed stock for fertiliser to increase and thereby driving up the cost of inputs and food” (2010).</i>
Lavoisier Group	Australia	<i>“To explore the consequences which any international treaty relating to global decarbonisation targets, and the methods of policing such treaties, would have on Australian sovereignty and independence, and for the WTO rules which protect Australia from the use of trade sanctions as an instrument of extraterritorial power” (2000).</i>
Reason Foundation	USA	<i>“The only rationale for a strategy aimed at direct and aggressive reductions of GHG emissions would be the presence of clear indications that global temperatures are rising and that they will cause massive economic, environmental, and political upheavals. On the other hand, both the no-regrets and no-regrets-plus strategies articulate a set of goals that make sense given the high degree of uncertainty of global warming risks and the large potential costs of any strategy aimed directly at reducing GHG emissions” (1993).</i>
Austrian Economics Centre	Austria	<i>“The best antidote to help the environment is to reduce poverty. That can be best done by promoting the concept of democratic capitalism, which unfortunately has gone into decline in recent years” (2015).</i>

6.3.6. Justification by Comparison

“We face huge manmade challenges in the coming generation. But climate change is not among the biggest problems...” (2015).

The use of the technique JBC emerged out of the coding process. Versions of this technique have appeared in many crime and deviance studies (e.g. Cromwell and Thurman, 2003; Harris and Dumas, 2009), and expanded to other research areas including corporate social responsibility reporting (e.g. Fooks et al., 2013) and consumer behaviour (e.g. Gruber and Schlegalmilch, 2014). This technique suggests that those employing JBC claim a country should assess if the action or proposed actions taken at country level to remedy climate change is comparable to other countries; i.e. if one country does not have to impose emissions limits than nor should another. Another strand to JBC is where an organisation attempts to reduce the importance of climate action by making cross-policy comparison; i.e. the war on terror is more important than climate change (see also Elshof, 2010). Table 6.15 lists the frequency of organisations in a country adopting JBC at the second point in time where it was adopted by 8% of organisations across seven countries

Table 6.15. Frequency Of Organisations Across Countries Adopting Justification By Comparison At Time Two

Time Two	
Country (Frequency)	
	Australia (1)
	Denmark (1)
	France (1)
	New Zealand (1)
	Peru (1)
	United Kingdom (1)
	United States (23)
Total	29

Table 6.16 contains examples of organisations using JBC. For instance, in 2015, the US advocacy organisation American Coalition Clean Coal Energy, previously funded by Duke Energy Corporation and the Southern Company (Brulle, 2014b) contended, “...China emits more CO₂ in one month (more than 800 million tonnes) than the maximum amount EPA’s proposal will reduce in one year (approximately 550 million tonnes).” This organisation incorporates JBC by contrasting the US’ EPA strategy and China’s actions to tackle climate change. This justification does overlap with COC by criticising the EPA’s policy, while the comparison to China’s actions clearly demonstrates this new technique.

The Danish think tank the Centre for Political Studies, a previous member of the CSCCC, adopted JBC stating, “We face huge manmade challenges in the coming generation. But climate change is not among the biggest problems...” (2015). Similarly, the Industrial Energy Consumers of America is a trade association that justified its opposition to climate change action by using JBC:

“...must recognise and account for the significant GHG emissions that are being imported in manufactured goods, especially from countries like China, whose carbon intensity is four times that of Washington manufacturers...it imposes “global” carbon costs on “domestic” manufacturers, which further damages the industry’s ability to compete with foreign competitors...No other country in the world imposes global carbon costs onto their manufacturers...” (2015).

This interpretation of JBC is similar to Elshof’s (2010) assessment of common climate denial tactics where individuals or organisations will downplay legitimate and major concerns such as climate change, and then substitute them for rather minor ones. Similarly, Tingley and Tomz (2014) argued “countries that use this strategy will restrain their emissions insofar as other nations show similar restraint but will not make sacrifices if other nations prove unwilling to do their part” (p.2). This means, these organisations will make comparisons with other countries approaches and mechanisms to address climate change to undermine legislation that would put greater demands on one country to restrict GHG emissions. While the technique does emerge in other countries, it is predominantly located in the US. This reflects historical US environmental policy-making that has justified inaction on climate change because other countries are not held to the same accountability (Damassa, Ge, and Fransen, 2014).

Table 6.16. Examples Of Justification By Comparison

Organisation	Country	Example
Centre for Political Studies	Denmark	<i>"We face huge manmade challenges in the coming generation. But climate change is not among the biggest problems..." (2015).</i>
New Zealand Initiative	New Zealand	<i>"Just as developing countries are not expected to do as much as developed countries to curb emissions, New Zealand's actions should be less ambitious than Australia's because it is a wealthier country. None of this argues against exploring the best policy options for reducing emissions. However, there is no point in New Zealand taking additional action in advance of major emitters" (2015).</i>
Industrial Energy Consumers of America	USA	<i>"...must recognise and account for the significant GHG emissions that are being imported in manufactured goods, especially from countries like China, whose carbon intensity is four times that of Washington manufacturers. Imported industrial emissions dwarf the emissions that are emitted by the manufacturing sector. Washington manufacturers have substantially reduced GHG emissions by more than any other sector of the state economy... No other country in the world imposes global carbon costs onto their manufacturers..." (2015).</i>
American Coal Coalition for Clean Energy	USA	<i>"...China emits more CO₂ in one month (more than 800 million tonnes) than the maximum amount EPA's proposal will reduce in one year (approximately 550 million tonnes)" (2015).</i>
Centre for Strategic and International Studies	USA	<i>"It commits the nation to making economy-devastating cuts in our energy use – while China and India continue to increase their polluting emissions for years to come. Oh, and we get to transfer billions of dollars to them and other countries to boot" (2015).</i>
Committee for a Constructive Tomorrow (USA Branch)	USA	<i>"Even drastic reductions in US CO₂ emissions will mean nothing globally, because China, India and other developing nations are now emitting far more CO₂ than the US could eliminate even by shutting down its economy" (2015).</i>

6.3.7 Using Multiple Techniques of Neutralisation

CCCM organisations often employed more than one technique and on average organisations used two techniques (see Table B.6 Appendix B). Some organisations adopt several science or strategic techniques, while others employed techniques from both broad categories. The Environmental Literacy Council, a US think tank that has received funding from fossil fuel industry organisations (Brulle, 2014b), combined the strategic techniques COC and AHL:

“Climate change also reveals how difficult it is to separate environmental science from environmental politics. [COC] This is not simply to say that people use science for political reasons... A troubling question fuels international climate policy discussions: Are enough facts established about global climate change to justify undertaking far-reaching action to limit GHG emissions? The consequences, however we answer that question, might be very great” [AHL] (2008).

Above, the Environmental Literacy Council argued that environmental policy is no longer a scientific question but has been manipulated and placed into a political discourse.

Moreover, they contended that addressing climate change will have economic and social consequences, and as a result, action should be stalled or prevented. The Canadian branch of the think tank the Ludwig von Mises Institute used DOV1 and COC to justify its opposition to climate action:

“... it is getting cooler not warmer [DOV1] and hence the change of the rhetoric to a vague concern over "climate change...this really is an opinion cartel with present views not driven by science [COC]” (2010).

Here the organisation claims that there is no warming, instead the opposite is occurring, while at the same time criticising scientists and policy-makers by implying they are a form of ‘cartel.’

Similarly, the Slovakian think tank the Institute for Economic and Social Studies, in 2006 used both scientific and strategic neutralisation techniques, stating it is a matter of “**natural warming**” [DOR], and they label climate scientists and environmentalists as “**alarmists**” [COC]. Likewise, the Centre for Urban Renewal and Education adopted DOV1 and COC. They contended, “Research has shown time after time that **anthropomorphic climate change is a myth [DOV1]**. The scientific establishment,

driven by environmental ideology, must return to facts-based, results-driven science [COC]" (2015).

In 1992, the US based Mackinac Centre on Public Policy combined AHL, DOR, and COC in a report produced by the Vice President of the organisation:

“There’s no reason to allow bad science or no science to inflict billions in costs on the US economy [AHL]... Like so many scientists who welcome or at least don’t worry about warming, we take a broader view--considering the historical variations in the earth’s temperature and cycles in CO₂ concentration [DOR]...Radical environmentalism--which seeks to impose ever bigger government on society--has become the last refuge of many of the world’s socialists to publicly condemn the “emergence of an irrational ideology which is opposed to scientific and industrial progress and impedes economic and social development [COC]” (1992).

This example shows how an organisation criticises the scientists and environmentalists, using this evidence to condemn climate action that would harm the economy and in this case the US economy. Moreover, they incorporate the pseudo-scientific argument that climate change is a cyclical process that is not unique to this period in time forestalling climate action.

In 2009, the French think tank the Institute for Research in Economic and Fiscal Issue combined the strategic techniques COC and AHL:

“...it appears more and more clearly that the worldwide consensus about global warming simply doesn’t exist, despite of medias and politicians, who want to make us belief the contrary [COC]... Those costs will be borne by all of us, but they will be especially dramatic for the poor countries, which will see their access to development denied [AHL]” (2009).

Here, the organisation claims the consensus on climate change does not exist, arguing that the issue is political polarised and any policy decisions are not free from ‘bias.’

Furthermore, they directly challenge those promoting climate action by claiming that harm will occur in developing nations if access to fossil fuel development is restricted.

Similarly, in 2010, the trade association Pulp and Paperwork’s Resource Council incorporated COC and AHL. They stated, **“Irresponsible legislative action [COC] would destroy the forest products and manufacturing industries in America and cause the loss of millions of jobs nationwide [AHL].”** Here the organisation does not focus on the

science critiquing climate change rather they challenge proposed policies that would compromise the manufacturing industry by making 'irresponsible' policy decisions.

In 1998, a memo from the Washington Legal Foundation incorporated the strategic techniques COC and JBC:

*"...Secretary of State Warren Christopher announced that environmental issues would play a heightened role in US foreign policy, crowding out economic issues and national security. **As a result, inappropriate environmental issues, including global warming and sustainable development, have increasingly distract American armed forces [JBC].** US troops have been deployed abroad as "enviro-cops" in Latin America and hold conferences and war games in environmental policy issues. **US tax dollars have gone to environmental groups waging spurious economic campaigns against American companies [COC]** claiming that their profits come at the expense of citizens' suffering more pollution and political persecution" (1998).*

The memo reveals the foundation minimises the issue of climate change by comparing it to other national security issues, while also denigrating environmentalist organisations and presenting them as a threat. The American Energy Alliance incorporated COC and AHL.

They stated:

*"In its work on global climate change issues, AEA [American Energy Alliance] will urge that public policy, particularly in the environmental arena, **be based upon objective science, not emotion or improbable scenarios that invite wealth-reducing government activism, which often impairs society's resilience to change [COC].** Irrational anxiety on the part of policymakers could **lead to poor outcomes, such as an increased tax burden and a decline in America's international commercial competitiveness...This over-regulation will result in higher prices for energy and as the items that consume it [AHL]**" (2008).*

Thus, the alliance claims that the alarmism from environmentalists and public policy-makers could lead to irrational policy decisions that could have negative consequences for America's [economic] interests.

Citizens for Government Waste combined DOR, DOI1, DOI2, COC and AHL:

*"The effort to control CO₂ emissions is occurring because of a supposed scientific consensus that man and CO₂ are causing global warming. Yet, more and more scientists are speaking out, **declaring that most global warming is not man-made [DOI1] but a natural and cyclic occurrence [DOR] and that CO₂ is not a pollutant, but a gas that is necessary for life on earth [DOI2].** Before taxpayers send hundreds of billions of their dollars to government bureaucrats and politicians that want to **control their activities and redistribute their wealth to politically-favoured policies [COC], there should be a debate on whether CO₂ and global warming warrant such a drastic and expensive response [AHL]**" (2015).*

A final example, comes from a 2015 report from the Education Action Group Foundation that combined DOR, DOI1, COC and AHL:

“Following are some basic facts about global warming that are in direct contrast to the spoon-fed pabulum that is being force-fed as undisputed fact through the mainstream media and our government-sanctioned educational system [COC]...There is no scientific consensus on the human role in climate change...Future warming due to human greenhouse gas emissions will be much less than the United Nations forecasts [DOI1]...CO₂ has not caused weather to become more extreme, polar ice and sea ice to melt, or sea level rise to accelerate [DOR]...Reducing CO₂ emissions is extremely expensive and won't affect the weather...Public policies should aim at fostering economic growth to adapt to natural climate change [AHL]” (2015).

These examples show the complex nature of how CCCM organisations adopt several techniques of neutralisation. Importantly, they highlight how arguments on climate change are often interlinked. For example, by criticising environmentalists and environmental policy-makers (COC), can be directly linked and used to support the argument that climate change policy decisions that are influenced by environmental alarmists or corrupt politicians can harm social and economic development (AHL).

Many crime and deviance studies show that techniques of neutralisation are not used mutually exclusively (Copes, 2003; Conklin, 2001; Mitchell and Dodder, 1983). Therefore, the adoption of multiple CCCM neutralisation techniques is unsurprising, the reason being that organisations adopt several neutralisation techniques to appeal to different groups of people who may respond more favourable to some over others.

Farrell (2016a) found similar results in his study of CCCM organisational messaging. He identified that messages were not necessarily exclusive, rather he identified thematic clusters within his dataset where certain arguments were often grouped together. For instance, science based arguments such as ‘CO₂ is good, warming and cooling, climate change as a long-term cycle’ are positively correlated. Similarly, arguments about ‘EPA regulations, Kyoto and international treaties and the environmental lobby’ were clustered together; although there were overlaps throughout. Noting these relationships, I conducted simple bivariate correlations to see if CCCM neutralisation techniques were positively correlated at data point two.

Table 6.17 reports bivariate correlation results which took statements from 2015. DOR is significantly correlated with DOI1, DOI2, DOV1 and COC. AHL was significantly correlated with DOI1 and DOI2. These significant correlations between CCCM neutralisation techniques show preliminary associations that show the complex nature of how multiple techniques are used by CCCM organisations. It is not simply science oriented techniques which are significantly correlated, rather there are significant correlations between both types of arguments. These results align with previous research both on the CCCM and neutralisation theory, which argues that multiple neutralisation techniques are used to justify inaction on climate change.

Table 6.17. Bivariate Correlations For Climate Change Counter Movement Neutralisation Techniques in 2015

	DOR	DOI1	DOI2	DOV1	COC	AHL	Other
DOR	1						
DOI1	.193**	1					
DOI2	.215**	.242**	1				
DOV1	.108*	.040	.079	1			
COC	.149**	.091	.124*	.084	1		
AHL	-.012	.121*	.135**	.010	.036	1	
Other	.042	-.027	.113*	-.045	-.076	.067	1

Notes:

** p <0.01 (2-tailed).

* p <0.05 (2-tailed).

N=417 (48 missing)

6.4. Discussion: An Alternative Way to Classify Climate Change Counter Movement Organisational Messages

The results of the content analysis have revealed that the rebranded neutralisation techniques are used by CCCM organisations. Evidence indicates these organisations adopted one or more of seven techniques: (1) DOR, where climate change is happening but humans are not the cause; (2) DOI1, there is no significant harm caused by humans; (3) DOI2, where there are some benefits to climate change and rising GHGs; (4) DOV1, where there is no global warming and therefore no victims; (5) COC, where scientists, environmentalists, politicians and the media are corrupting the science or messaging on climate change; (6) AHL, where economic and social development are of greater concern

than addressing climate change; (7) JBC, where other policy actions are more important and/or the actions taken by other countries to address climate change are less important and thus less action will be required. These findings answer research question one.

In some cases, neutralisation techniques were not mutually exclusive where on average, organisations adopt two or more neutralisation techniques. While the focus of this research concerns a cross-national analysis of organisational messaging, I can still address some findings that align with previous research examining organisational factors which may help explain why CCCM organisations adopt certain denial tactics over others.

As discussed, the different CCCM neutralisation techniques can be clustered into two broad categories of 'science' and 'strategic' neutralisation techniques. The techniques DOR, DOI1, DOI2 and DOV1 mimic scientific arguments providing counter scientific claims. These techniques are arguably a form of pseudo-science used to legitimise oppositional positions. As mentioned in Chapter Two, pseudo-scientific arguments adopted by individuals and CCCM organisation may often be legitimised by a group of contrarian scientists that are regularly cited and even work for one or more CCCM organisations. Fifty-eight-point one percent of organisations used and/or promote data and research by one or more of the Heartland Institute's global warming expert list (2015).⁴⁵ Cross-tabulation results show that at data point two DOR ($\chi^2 = 9.703$, (1df) $p = 0.002$), DOI1 (χ^2 , 6.380, (1df) $p = 0.012$), DOI2 (χ^2 6.414, (1df) $p = 0.011$) are significantly correlated with an organisation using or supporting a contrarian scientists (see Tables B.15, B.16, B.17, Appendix B).

These contrarian scientists span across different geographic locations and have infiltrated organisations across countries (e.g. Farrell 2016a; Plehwe, 2014). For instance, climate sceptic Willie Soon is a research fellow at several organisations across countries. He is a senior research fellow at the US organisations, Heartland Institute, Science and Environmental Policy Project, and the George C Marshall Institute. He produces research for the Canadian based Fraser Institute, and was a founding member of the UK based Clexit. His work is also cited by several CCCM organisations in other countries such as

⁴⁵ Data based on 459 organisations with 6 missing cases.

the Brazilian based Fake Climate. Ultimately, connections with contrarian scientists may impact the messages adopted by CCCM organisations, and are significantly correlated with pseudo-scientific neutralisation techniques. This lends support to the argument that CCCM organisations use these contrarians scientists to legitimise their justifications for opposing climate action by manipulating or producing contrasting scientific findings by creating doubt about climate science (Washington and Cook, 2011). Moreover, it signals that these contrarian scientists may play an important role in the international diffusion of climate change denial across the world.

There are significant correlations between strategic-oriented techniques and the ideological values of organisations. That is, CCCM organisations that state directly their interests are to protect economic freedom, private property rights, individual liberty, and traditional conservative values aligned with the political right, are more likely to be strongly correlated with the strategic sceptic techniques AHL and COC. Cross-tabulation results for these techniques and organisational characteristics promoting individuality, economic liberty, and free markets are significantly correlated with COC (time one, $\chi^2 = 7.812$ (1 *df*), $p = 0.005$, time two, $\chi^2 = 23.285$, (1 *df*), $p = 0.00$) (see Tables B.8, B.9, B.10, B.11, Appendix B for significant results). COC is also significantly positively correlated with traditional and conservative values at organisational level (time one, $\chi^2 7.161$, (1 *df*), $p = 0.007$, time two, $\chi^2 9.208$, (1 *df*) $p = 0.002$). AHL is also significantly correlated with conservatism at time one (χ^2 , 4.535, (1 *df*), $p = 0.033$) (see Tables B.8, B.9, B.18, Appendix B for significant results).

Several US based organisations that adopt these values use COC. CCCM organisations on the political right include Citizens for a Responsible Energy, Eagle Forum, and Physicians for Civil Defence, along with several others, all of which promote the above organisational values of, and incorporate COC and AHL into its messaging on climate change.

For example, the Eagle Forum's mission is to "enable conservative and pro-family men and women to participate in the process of self-government and public policy-making so that America will continue to be a land of individual liberty, respect for family integrity,

public and private virtue, and private enterprise” (nd, np). On the Kyoto Protocol, they adopted COC and AHL stating;

*There must be an agenda behind this irrational plan. Let's try a multiple-choice question. Is **the hidden agenda of the Kyoto treaty...to promote the presidential candidacy of Al Gore, who has staked his political future on a platform of prioritising the planet above people [COC]...to con the American people into accepting increased federal taxes, regulations and even rationing? [AHL]**” (1997).*

Here the Eagle Forum promotes traditional conservative values and economic freedom, and adopt these techniques to discredit policy based on the idea that environmentalists and policy-makers have ‘a hidden agenda,’ and present concerns for American citizens based on the implications of increased federal taxes and regulations.

Organisations that adopt the values of individual liberty and economic freedom are also used by non-US CCCM organisations. Strategic neutralisation techniques are also adopted by organisations in other countries whose organisational values again are on the political right (e.g. Austrian Economies Centre, LIBERA, Centro de Investigaciones de Instituciones y Mercados de Argentina). For instance, the Belarus based free market think tank adopted COC, and AHL in a 1999 statement about the Kyoto Protocol. They are concerned with the impact of a ‘western’ environmentalist ideology, and the costs on social and economic development.

“...The zealous Green west ignore the factual context and beat the bell for the next attempt to destroy the Earth [COC]...Implementation of the Protocol's requirements will be a significant economic cost to producers. Rich in America it will survive, but how to be with the poor countries... [AHL].”

These few examples provide early indication that strategic-oriented techniques are positive and significantly associated with the notions of economic freedom and individual liberty. It alludes to the idea that these techniques may be used in a politically polarising way to engage certain populations based on their ideological views. As Hamilton (2010a) noted, the response by the CCCM is often to vilify those that argue, “Un-restrained capitalism is jeopardising future well-being that comprehensive government intervention is needed and that the environment movement was right all along” (p.2). This ties with

research outlining the connection between the political right and actions to forestall climate change because climate change policies will likely compromise the underlying neoliberal ideology promoted more stringently by those on the political right (e.g. Dunlap and McCright, 2015). As a result, CCCM organisations may attack climate scientists, policy-makers, and environmentalists by claiming to mitigate climate change do themselves cause harm. Thus, there is reason to believe this preliminary examination supports this argument.

In sum, this data reveals that CCCM organisations adopt oppositional messaging and that these can be rebranded as CCCM neutralisation techniques. As demonstrated, this rebranding is consistent with previous literature (e.g. McCright and Dunlap, 2000, 2003, Farrell 2016a, Boussalis and Coan, 2016). In some cases, scientific arguments are used in opposition to climate science to generate doubt through a form of, what appears, a legitimate form of scientific inquiry. Scientific knowledge may still be used as a legitimised argument to further a debate on climate change. In other cases, CCCM neutralisation techniques are used in a strategic form to foster resistance to policy-making and action on forestall climate change. For instance, they adopt arguments such as claiming scientists are corrupt and have lied to the public or that the implementation of climate change policies may cause social and economic harm.

By adopting this sociology of crime and deviance framework it places the employment of these neutralisation techniques in the context of actively distorting the scientific consensus on climate change which has significant ecological costs. That is, researchers have argued we should take a closer look at the role of climate denial in relation to environmental harm (Lynch et al., 2010). Furthermore, such activity may be considered or labelled deviant (see also White, 2015; Kramer, 2013). Thus, by showing how the CCCM employ oppositional messages that actively distort and potential forestall action to mitigate climate change, such actions contribute to further environmental harm. However, it is important to consider why these organisations employ these messages. More specifically, can an analysis of political, economic, and ecological factors provide

further insight into why these messages are employed? Moreover, can this analysis tell us more about the geographic variation? I answer these questions in the following chapters.

6.5. Conclusion

This chapter has reported the findings from the content analysis of the CCCM organisations and the types of messages they employ. These arguments can be rebranded as techniques of neutralisation, answering the first research: *do CCCM organisations adopt arguments that could be rebranded as CCCM neutralisation techniques?* Various neutralisation techniques have been adopted by these organisations both at their point of emergence (i.e. when they first released statements on climate change) and in 2015. Analysing these two points in time allowed me to answer the second research question: *can the oppositional messages adopted by CCCM be rebranded as CCCM neutralisation techniques; and if these techniques can be rebranded, are they useful for monitoring change in CCCM organisation messages?* These techniques are one way in which CCCM organisations justify inaction on climate change aiming to convince both the public and politicians to do the same. And the crime and deviance theoretical framework lends a new perspective on why CCCM organisations may adopt these different CCCM neutralisations techniques drawing on previous literature.

The following chapter presents the results of a cross-national analysis to address the third and fourth research questions. It draws on political, economic, and ecological factors as proxies for the theory of hegemony to understand the cross-national differences in the location of CCCM organisations and the messages they adopt. Answering these questions and uncovering potential reasons why these organisations emerge and why they adopt certain techniques over others, may allow us to predict the number of organisations and what arguments are likely to be used by CCCM organisations in different countries. This is because these organisations do emerge in different parts of the world and there may be various reasons for why they emerge and why they adopt different messages. I believe that these differences may be explained by political, economic, and ecological characteristics of a country.

Chapter Seven

Are Climate Change Counter Movement Organisations Protecting Fossil Fuel based Global Capitalism?

7.1 Introduction

This chapter presents the results of the cross-national analysis and addresses the third and fourth research questions. First, I examine whether political, economic, and ecological factors can help explain the number of CCCM organisations across countries (research question three). Second, I provide the results of the analysis which examines if these same factors influence the type of messaging used by CCCM organisations across countries (research question four).

I first provide bivariate correlations to assess associations between the number of CCCM organisations, CCCM neutralisation techniques, and political-economic variables. Second, I present results from a series of negative binomial regression (NBR) equations to test hypotheses regarding if and how many CCCM organisations are located in different countries. Third, I report the results of several OLS regression equations to test if political, economic, and ecological factors can help explain the variation in messages adopted by CCCM organisations across countries. The hypotheses constructed in Chapter Four are repeated below.

Hypothesis One (H1): Ecological Destruction Hypothesis

(H1): ecological destruction will be positively related to the number of CCCM organisations across countries.

(H1a): ecological destruction will be positively related to the number of organisations that use Denial of Responsibility (DOR).

(H1b): ecological destruction will be positively related to the number of organisations that use Denial of Injury One (DOI1).

(H1c): ecological destruction will be positively related to the number of organisations that use Denial of Injury Two (DOI2).

Hypothesis Two (H2): Global Capitalism Hypothesis

(H2): integration into the global capitalist economy will be positively related to the number of CCCM organisations across countries.

(H2a): integration into the global capitalist economy will be positively related to the number of organisations that use Appeal to Higher Loyalties (AHL).

Hypothesis Three (H3): Environmental Protection Hypothesis

(H3): environmental protection will be positively related to the number of CCCM organisations across countries.

(H3a): environmental protection will be positively related to the number of organisations that use Condemnation of the Condemner (COC).

I conclude the chapter with a discussion outlining what this analysis suggests are the potential forces behind the manifestation of CCCM organisations in different countries and if they can explain the differences in the messages adopted by CCCM organisations across countries.

7.2. Bivariate Correlation Results

I begin the empirical analysis by calculating Pearson bivariate correlations between independent and dependent variables to provide initial indicators of support or rejection for each hypothesis. Statistical significance is judged at $p < 0.05$ level. In the bivariate case, there are some findings of note. First, neutralisation techniques are positively correlated suggesting there may not be clear differentiation between the techniques and therefore no clear distinction for the adoption of different techniques across countries.

Second, in some instances these bivariate results show some support for my hypotheses. For example, GDP per capita, count of the top 100 universities climate and earth science research centres, ENGOs, total GHG, and ecological footprint (per capita), were all positively and significantly correlated with the number of organisations. These findings provide support for all three main hypotheses, i.e. higher levels ecological destruction, environmental protection, and higher integration into the global capitalist

economy are associated with higher numbers of CCCM organisations. These results are presented in Table 7.1.

Nevertheless, these bivariate results in Table 7.1 show mixed support for the hypotheses that address research question four. FDI stocks, GDP per capita, and the economic freedom index, were positive and significantly correlated with all neutralisation techniques. The results show that overall, these variables are positively related to the use of all neutralisation techniques by CCCM organisation. I proposed in H2a that these indicators would only be positively associated with the technique AHL. However, the results indicate there may be less variability, whereby global capitalism indicators are positively associated with several neutralisation techniques. Nonetheless, these correlations still reveal the significant relationships between all neutralisation techniques and global capitalism variables.

Ecological footprint was positively and significantly correlated with all the neutralisation techniques. Total GHG was also significantly correlated with all the neutralisation techniques except DOI1. Fossil fuel energy consumption was only significantly correlated with DOI2. Consistent with the findings on the count of organisations, population growth was not significantly correlated with any neutralisation technique. These correlations show early indication that ecological indicators are positively related to CCCM neutralisation techniques which deny the severity, minimise the risks, or promote the benefits of climate change to resist climate action that support H1a, H1b, and H1c. And, unexpectedly they indicate these variables are also associated with the techniques COC and AHL.

Table 7.1. Bivariate Correlations For All Variables in the Analysis

Variables	1	2	3	4	5	6	7	8
(1) <i>Count of Organisations</i>	1							
(2) <i>DOR</i>	0.8615*	1						
(3) <i>DO11</i>	0.4406*	0.6922*	1					
(4) <i>DO12</i>	0.7366*	0.7662*	0.5506*	1				
(5) <i>COC</i>	0.8710*	0.9228*	0.6474*	0.7737*	1			
(6) <i>AHL</i>	0.8437*	0.8998*	0.6663*	0.7711*	0.9265*	1		
(7) <i>Foreign Direct Investment: Stocks, annual (natural log)</i>	0.0494	0.2191*	0.2891*	0.2255*	0.2371*	0.2706*	1	
(8) <i>GDP (per Capita)</i>	0.2054*	0.2492*	0.2147*	0.2718*	0.2909*	0.3141*	0.5172*	1
(9) <i>Total Natural Resource Rents (% of GDP)</i>	-0.0332	0.1096	0.1041	-0.0856	-0.0303	0.0639	-0.0358	-0.1348
(10) <i>Count Top 100 University Climate and Earth Scientist Research Centres (natural log)</i>	0.6324*	0.6438*	0.4820*	0.6983*	0.6983*	0.7172*	0.3123*	0.4807*
(11) <i>ENGOS (natural log)</i>	0.2427*	0.2770*	0.1738*	0.2477*	0.2928*	0.2918*	0.1880*	-0.0643
(12) <i>Total Greenhouse Gas Emissions (kt of CO₂ equivalent) (natural log)</i>	0.1606*	0.1616*	0.1016	0.2243*	0.1345	0.1980*	0.2997*	0.0647
(13) <i>Ecological Footprint (Per Capita)</i>	0.2087*	0.2382*	0.2355*	0.2637*	0.2580*	0.2872*	0.4298*	0.7790*
(14) <i>Fossil Fuel Energy Consumption (% of total)</i>	0.0048	0.0826	-0.0301	0.2162*	0.1444	0.0646	-0.0314	0.0663
(15) <i>Population Growth (annual %)</i>	-0.0383	-0.0587	-0.0618	-0.0944	-0.0784	-0.0905	-0.2349*	-0.1941*
(16) <i>Terrestrial and Marine Protected Land (% of total territorial area)</i>	0.0003	0.0764	0.1114	-0.0133	0.1168	0.0959	0.1618*	0.1854*
(17) <i>Economic Freedom Index</i>	0.0834	0.1836*	0.2294*	0.1486*	0.1954*	0.2064*	0.4006*	0.2144*

Notes; *p <0.05

Table 7.1. Continued

Variables	9	10	11	12	13	14	15	16	17
<i>(9) Total Natural Resource Rents (% of GDP)</i>	1								
<i>(10) Count Top 100 University Climate and Earth Scientist Research Centres (natural log)</i>	-0.0993	1							
<i>(11) ENGOs (natural log)</i>	0.023	0.2776*	1						
<i>(12) Total Greenhouse Gas Emissions (kt of CO₂ equivalent) (natural log)</i>	0.1252	0.2091*	0.1962*	1					
<i>(13) Ecological Footprint (Per Capita)</i>	-0.0968	0.3290*	-0.1874*	0.1182	1				
<i>(14) Fossil Fuel Energy Consumption (% of total)</i>	-0.0348	-0.0247	0.0013	0.0025	-0.0546	1			
<i>(15) Population Growth (annual %)</i>	0.1789*	-0.0937	0.1441*	0.0451	-0.2806*	-0.0886	1		
<i>(16) Terrestrial and Marine Protected Land (% of total territorial area)</i>	0.0033	0.0477	0.038	0.0663	0.1125	0.0281	-0.0368	1	
<i>(17) Economic Freedom Index</i>	-0.0014	0.1920*	0.4321*	0.4143*	0.1761*	0.033	0.0543	0.2002*	1

Notes: *p <0.05

Two environmental protection variables were positively correlated with all the techniques of neutralisation. The top 100 climate and earth science university based research centres and the count of ENGOs were both positive and significantly correlated with all neutralisation techniques. In contrast, terrestrial and marine protected land was not significantly correlated with any neutralisation technique. Overall, these results may indicate associations between environmental protection variables and COC which supports H3a, but they are also significantly associated with several other neutralisation techniques.

While these bivariate results present preliminary associations between dependent and explanatory variables further statistical analyses are needed. As a result, I expand on these results to determine if different associations emerge when using multivariate techniques that examine associations between the number of CCCM organisations, CCCM neutralisation techniques, and political, economic, and ecological factors across countries.

7.3. Multivariate Analysis

7.3.1 Predicting the Number of Climate Change Counter Movement Organisations:

Results

I conducted a series of NBR analyses to examine the count of CCCM organisations to address the third research question: - do political economic factors predict the number of CCCM organisations across countries? As discussed, I hypothesised that indicators of ecological destruction, global capitalism, and environmental protection may predict the number of CCCM organisations across countries. These hypotheses are as follows:

(H1): ecological destruction will be positively related to the number of CCCM organisations across countries.

(H2): integration into the global capitalist economy will be positively related to the number of CCCM organisations across countries.

(H3): environmental protection will be positively related to the number of CCCM organisations across countries.

Table 7.2 reports the results of the NBR analyses where the dependent variable is the count of organisations across countries, and ecological destruction, global capitalism, and environmental protection indicators are explanatory variables with the US included in the models. There are four models split to test H1, H2, and H3 separately, followed by a final model that includes all indicators.

Statistical models show the coefficients (*estimate*) and standard error, (*SE*) using unstandardised coefficients. Coefficients are interpreted as a 1-unit change in the explanatory variable can be associated with an expected 1-unit change in the natural log of the count of CCCM organisations, controlling for the other explanatory variables in the model.

The percentage change (*% change*) is the standardised coefficient. It refers to how many standard deviations the dependent variable will change, per 1-standard deviation increase in the explanatory variable. Statistical significance is set at $p < 0.001$, $p < 0.01$, $p < 0.05$ and $p < 0.10$ levels to allow the reader to also make independent interpretations about statistical significance. Standardisation is used to help report and meaningfully interpret the regression coefficients when both variables are in different units of analysis.

Model 1a reports results for the ecological destruction variables. I hypothesised that ecological destruction will be positively related to the number of CCCM organisations. I expected the CCCM will need more organisations disputing climate change in countries that want to protect production practices even though they are linked to ecological destruction. I included the following four variables as indicators of ecological destruction; population growth (annual), total GHG emissions, ecological footprint (per capita), and fossil fuel consumption (% of Total). Only the ecological footprint variable is statistically significant, where for each 1-standard deviation change in ecological footprint per capita there is an associated 207.03% increase in the expected count of CCCM organisations ($p < 0.001$).

Table 7.2. Negative Binomial Results Predicting The Count Of CCCM Organisations (US Included)

Variables	Count of Organisations			
	H1	H2	H3	All Variables
	Model 1a	Model 1b	Model 1c	Model 1d
	Estimates (SE) %change	Estimates (SE) %change	Estimates (SE) %change	Estimates (SE) %change
<i>Foreign Direct Investment Stocks, Annual (natural log)</i>		0.322549** (0.119116) 112.86788		0.521858*** (0.099987) 246.77397
<i>GDP (per Capita)</i>		7.43E-05*** (1.06E-05) 278.91473		-3.1E-05* (1.32E-05) -42.492643
<i>Total Natural Resource Rents (% of GDP)</i>		0.00649 (0.007232) 11.556165		0.007965# (0.004148) 14.402106
<i>Count of Top 100 University Research Centres of Climate and Earth Science (natural log)</i>			1.386062*** (0.277944) 84.42336	1.424978*** (0.243127) 87.14655
<i>ENGOS (natural log)</i>			0.404027** (0.118446) 74.448887	0.381431*** (0.119552) 71.808483
<i>Total Greenhouse Gas Emissions (kt of CO² equivalent) (natural log)</i>	0.000352 (0.069674) 6.134779			-0.03717 0.050477 -10.042523
<i>Ecological Footprint (per Capita)</i>	0.545365*** (0.120658) 207.0305			0.292034** (0.098586) 91.62777
<i>Fossil Fuel Energy Consumption (% of total)</i>	0.006008 (0.012335) 100+			-0.00209 (0.007557) -100
<i>Population Growth (annual %)</i>	-0.19604 (0.300663) -18.739862			-0.18109 (0.191848) -19.525209
<i>Terrestrial and Marine Protected Land (% of total territorial area)</i>			0.031562* (0.012914) 49.67102	0.039442* (0.015798) 67.69836
<i>Economic Freedom Index</i>		0.109573 (0.146242) 41.319274		-0.20658 (0.181285) -49.220776
Constant	-2.28493 (1.200876)	-5.67432 (1.447994)	-2.30775 (0.369122)	-6.52797 (1.809921)
Log likelihood	-141.222	-173.317	-174.503	-106.734
Pseudo R ²	0.1364	0.1741	0.222	0.3231
Mean VIF	1.18	1.27	1.06	1.82
N	120	165	207	110

Notes: The percentage change is associated with a 1-standard deviation increase in explanatory variables and was calculated using the following transformation on the standardised independent variables: [(exp b) -1] x 100 (see Long, 1997).

*p<0.05, ** p <0.01, *** p <0.001, # p<0.10

Model 1b reports results of the model testing the global capitalism indicators. I used four variables as indicators of global capital integration: FDI stocks, GDP per capita, total NRR, and the economic freedom index. H2 proposed that integration into the global capitalist economy would be positively correlated with the number of CCCM organisations across countries. I expected more CCCM organisations would be needed in a country that is attempting to increase their economic performance and increase economic growth through expanding their position in the global capitalist economy. This is because climate action has and could continue to put in place policy mechanisms that disrupt the same or increasing levels of capital accumulation (e.g. Dunlap and McCright, 2010).

Both FDI stocks and GDP per capita were positive and significantly associated with the count of organisations in Model 1b. A 1-standard deviation change in FDI stocks leads to an expected increase in the count of CCCM organisation by 112.87% ($p < 0.01$). This suggests that for every 1 million US\$ increase in FDI stocks the number of CCCM organisations are predicted to increase by 112.87% in a country. A 1-standard deviation change in GDP per capita leads to an expected increase in the count of CCCM organisations by 278.91% ($p < 0.001$). This suggests there are more CCCM organisation in countries that either are integrated in, or want to expand their position in the global capitalist economy.

Next, H3 proposed that CCCM organisations are more likely to emerge in locations with environmental protection. The expectation was that more CCCM organisations would be needed where there are higher levels of environmental protection. This is because, more environmental protection challenges fossil fuel hegemony by putting in barriers to accumulate capital (e.g. Vogler, 2016). I used the following variables as indicators of environmental protection; the number of Top 100 universities conducting research on climate and earth sciences, the number of domestic ENGOs, and the percentage of terrestrial and marine land protected as a percentage of total land.

Model 1c shows positive and significant associations between all environmental protection explanatory variables and the count of CCCM organisations across countries. The strongest association is between the Top 100 universities conducting research on

climate and earth sciences and the count of organisations, where a 1-standard deviation change in the top 100 hundred climate and earth science research centres in a country leads to an 84.42% increase in the estimated count of CCCM organisation operating across countries ($p < 0.001$).

The percentage change for the variables ENGOs and terrestrial and marine protected lands is smaller compared to the variable top 100 university research centres, but still significant. A 1-standard deviation change in the count of ENGOs in a country leads to a 74.45% increase in the number of CCCM organisations ($p < 0.01$), and a 1-standard deviation change in the percentage of total terrestrial and marine land protected leads to a 49.67% increase in the number of CCCM organisations ($p < 0.05$).

Finally, I tested all explanatory variables reported in Model 1d. Six indicators were significant. FDI stocks was positively and strongly associated with the count of organisations, where a 1-standard deviation change in FDI stocks increases the expected count of CCCM by 246.77% ($p < 0.001$). Next, ecological footprint per capita is positively and significantly related to the count of organisations, where a 1-standard deviation change increased the expected number of CCCM organisations by 91.63% ($p < 0.01$).

The indicator GDP per capita reverses direction in this final model, where it becomes negatively significant. That means as GDP per capita increases, it is less likely that CCCM organisation will emerge as a 1-standard deviation change in GDP per capita decreases the expected number of CCCM organisations by 42.5% ($p < 0.05$) contrary to H2. Total NRR is also significant ($p < 0.10$) in Model 1d compared to Model 1b where it was not significant. A 1-standard deviation change in total NRR as a percentage of GDP increase the expected number of CCCM by 14.40%.

The results for top 100 universities with climate and earth scientist centres, ENGOs, and terrestrial and marine protected land (% of total territorial area) remain similar to those in the previous models. For instance, a 1-standard deviation change in the top 100 hundred climate and earth science research centres in a country leads to an 87.15% increase in the number of CCCM organisations ($p < 0.001$). A 1-standard deviation change in ENGOs is again significant where a 1-standard deviation change in the count of

ENGOs leads to a 71.8% increase in the number of CCCM organisations ($p < 0.001$).

Finally, the percentage change of terrestrial and marine protected land is slightly higher in Model 1d compared to Model 1c. A 1-standard deviation change increases the expected count of CCCM organisations by 67.7% ($p < 0.05$).

I estimated an additional group of models with the US excluded to see if there were any substantive differences. I do this because the US is an outlier and has more CCCM organisations than all other countries. These results are reported in Table 7.3. There are some differences to note.

First, in Model 2b, only FDI remained a significant predictor of the count of organisations where a 1-standard deviation change in FDI stocks is expected to increase the number of organisations by 112.86% ($p < 0.001$). This differs to Model 1b where GDP per capita was also positive and significant. The other difference was total NRR. This variable became a significant predictor at the $p < 0.05$ level, where a 1-standard deviation change in NRR leads to 13.12% increase in the number of CCCM organisations (Model 2d). The rest of the results in Table 7.3 were similar to those in Table 7.2 and suggest there was little difference in the percentage changes. Thus, while the US is often noted as being unique, it has little impact on cross-national explanations of the existence of CCCM organisations in this data.

Table 7.3. Negative Binomial Results Predicting The Count Of CCCM Organisations (US Excluded)

Variables	Count of Organisations			
	H1	H2	H3	All Variables
	<i>Model 2a</i>	<i>Model 2b</i>	<i>Model 2c</i>	<i>Model 2d</i>
	<i>Estimates</i> (SE) %change	<i>Estimates</i> (SE) %change	<i>Estimates</i> (SE) %change	<i>Estimates</i> (SE) %change
<i>Foreign Direct Investment Stock, Annual (natural log)</i>		0.643042*** (0.104945) 350.9512		0.659979*** (0.095938) 377.267
<i>GDP (per Capita)</i>		4.24E-06 (9.38E-06) 7.9012855		-2.7E-05* (1.08E-05) -37.8537
<i>Total Natural Resource Rents (% of GDP)</i>		0.005869 (0.0054) 10.395237		0.007271* (0.003037) 13.12271
<i>Count of Top 100 University Research Centres of Climate and Earth Science (natural log)</i>			1.432675*** (0.355955) 88.25874	0.736927** (0.237145) 38.10404
<i>ENGOs (natural log)</i>			0.40829** (0.121524) 75.47614	0.405833*** (0.089926) 75.90344
<i>Total greenhouse gas emissions (kt of CO² equivalent) (natural log)</i>	-0.0290043 (0.058789) -4.073949629			-0.00598 (0.039733) -1.695374
<i>Ecological Footprint (Per Capita)</i>	0.2744787** (0.097985) 75.53916598			0.301232*** (0.079106) 95.89272
<i>Fossil Fuel Energy Consumption (% of total)</i>	0.0050496 (0.0099432) 6.6666E+284			-0.00589 (0.006582) -100
<i>Population Growth (annual %)</i>	-0.3076215 (0.2336407) -29.54145054			-0.12334 (0.171248) -13.780283
<i>Terrestrial and Marine Protected Land (% of total territorial area)</i>			0.031833* (0.01316) 50.18925	0.040379** (0.013829) 68.66031
<i>Economic Freedom Index</i>		0.083132 (0.119192) 30.004178		-0.19226 (0.18333) -47.336107
Constant	-1.087974 (1.021611)	-8.214646 (1.223887)	-2.326946 (.3781015)	-8.37454 (1.827935)
Log likelihood	-125.85541	-142.515	-167.492	-97.3712
Pseudo R ²	0.061	0.198	0.1277	0.2433
Mean VIF	1.17	1.28	1.03	1.83
N	119	164	206	109

Notes: The percentage change is associated with a 1-standard deviation increase in explanatory variables and was calculated using the following transformation on the standardised independent variables: [(exp b) - 1] x 100 (see Long, 1997).

*p<0.05, ** p <0.01, *** p <0.001, # p<0.10

7.3.2 Predicting Variation in Neutralisation Techniques: Results

To unpack if and how CCCM organisations used different messaging strategies across countries, I asked the question: - *do political, economic, and ecological factors influence what CCCM neutralisation techniques are adopted by CCCM organisations in different countries.* By asking this question I investigate further if the sociology of crime and deviance framework could help organise CCCM organisations across countries. I hypothesised that different messages may be adopted by CCCM organisations based on different political, economic, and ecological factors. Recall, that this analysis used OLS regression because the sample is limited to countries that have at least one CCCM organisations. Thus, the nature of the dependent variable makes OLS an appropriate techniques in this particular circumstance.⁴⁶

Table 7.4 presents the results of several OLS regression equations to determine whether different political, economic, and ecological factors influence the neutralisation techniques adopted by CCCM organisations across countries when the US is included in the models. I report the unstandardised coefficients (*estimates*) and standard errors (*SE*) in parentheses. I used the following political, economic, and ecological factors as explanatory variables; FDI stocks, GDP per capita, total NRR, count of top 100 universities conducting climate and earth science research, ENGOs, ecological footprint (per capita) and terrestrial and marine protected land. The dependent variables are the count of organisations in a country adopting a CCCM neutralisation technique.

While I removed some explanatory variables from the models above due to the small sample size of particular models (see Chapter Five), I was still able to test the related hypotheses to see if political, economic, and ecological factors could explain differences in the techniques of neutralisation adopted by CCCM organisations across countries. As a reminder, the related hypotheses were as follows:

Hypothesis One (H1): Ecological Destruction Hypothesis

(H1a): ecological destruction will be positively related to the number of organisations that use Denial of Responsibility (DOR).

⁴⁶ I did not use NBR because the models did not converge. See Chapter Five for further justification.

(H1b): ecological destruction will be positively related to the number of organisations that use Denial of Injury One (DOI1).

(H1c): ecological destruction will be positively related to the number of organisations that use Denial of Injury Two (DOI2).

Hypothesis Two (H2): Global Capitalism Hypothesis

(H2a): integration into the global capitalist economy will be positively related to the number of organisations that use Appeal to Higher Loyalties (AHL).

Hypothesis Three (H3): Environmental Protection

(H3a): environmental protection will be positively related to the number of organisations that use Condemnation of the Condemner (COC).

The results in Table 7.4 reveal the count of earth and climate science research centres in the top 100, is positively and significantly associated with all techniques of neutralisation ($p < 0.001$). This suggests that, a country with more of the top 100 earth and climate science research centres are more likely to adopt any of the five neutralisation techniques used in this analysis. While all techniques are significant, the coefficient size for both AHL and COC were marginally higher than the other techniques. For instance, a 1-unit change in the logged count of top 100 universities conducting research on climate science leads to an expected increase in the adoption of AHL by 1.12 units ($p < 0.001$). In other words, for a 1-unit increase in the logged count of top 100 universities operating in a country, 1.12 organisations are more likely to argue that restricting the use of fossil fuels and/or putting in place emissions limits will have negative impacts for social and economic development (AHL). Similarly, for a 1-unit change in the logged count of top 100 universities conducting research on climate science leads to an expected increase in the adoption of COC by 1.13 units ($p < 0.001$). This means for every one logged increase in the number of universities conducting research on climate science, 1.13 organisations are likely to condemn and criticise scientists, environmentalists, and/or policy-makers. Because COC was positively related to this environmental protection indicator it does

show partial support for H3a. However, this explanatory variable was positively related to all techniques, not only COC.

Table 7.4. Unstandardised Regression Coefficients For Ordinary Least Square (OLS) Regression Showing Relationship Between Political Economic Variables And Neutralisation Techniques (US included)

Variable	DOR	DOI1	DOI2	AHL	COC
	Model 3a	Model 3b	Model 3c	Model 3d	Model 3e
	Estimates (SE)	Estimates (SE)	Estimates (SE)	Estimates (SE)	Estimates (SE)
<i>Foreign direct investment stocks, annual (natural log)</i>	-0.1238448 (0.091379)	0.0087915 (0.0533968)	-0.0321833 (0.0405373)	-0.0849801 0.0940606	-0.1883906# 0.1097129
<i>GDP (per Capita)</i>	-0.0000151 (0.0000113)	-0.0000113# (6.58E-06)	-6.46E-06 (5.00E-06)	-0.0000142 (0.0000116)	-0.0000131 (0.0000135)
<i>Total Natural Resource Rents (% of GDP)</i>	0.009077# (0.0051138)	0.0038694 (0.0029882)	-0.000232 (0.0022686)	0.0078097 (0.0052639)	0.0011177 (0.0061398)
<i>Count top 100 universities Climate and Earth Scientists (natural log)</i>	0.9252742*** (0.2426811)	0.384357*** (0.1418094)	0.4892716*** (0.1076576)	1.120084*** (0.2498028)	1.125699*** (0.2913715)
<i>ENGOS (natural log)</i>	0.1046442 (0.1099898)	-0.0494672 (0.0642719)	0.006367 (0.0487934)	0.1083784 (0.1132175)	0.1191482 (0.1320576)
<i>Ecological Footprint (per capita)</i>	0.1714031 (0.1137984)	0.0759471 (0.0664975)	0.0602825 (0.0504829)	0.1879219 (0.1171379)	0.1605603 (0.1366303)
<i>Terrestrial and Marine Protected Land (% of total territorial area)</i>	0.0030769 (0.0136974)	0.0084251 (0.008004)	-0.0073651 (0.0060764)	0.0156513 (0.0140994)	0.0132471 (0.0164456)
Constant	0.9892932 (1.153283)	0.0474226 (0.6739148)	0.4698403 (0.5116165)	0.3937725 (1.187127)	1.808058 (1.384672)
R ²	0.4856	0.2803	0.5227	0.5698	0.4792
Adjusted R ²	0.3955	0.1543	0.4391	0.4946	0.388
Mean VIF	1.79	1.79	1.79	1.79	1.79
N	48	48	48	48	48

Notes: *p<0.05; **p<0.01; ***p<0.001, #p<0.10

Ecological footprint was not significantly associated with the techniques DOR, DOI1, and DOI2. Therefore, hypothesis H1a, H1b and H1c were not supported. None of the global capitalism indicators were significant predictors of the technique AHL failing to support H2a. However, two global capitalism predictors were significant at the p<0.10 level for the techniques DOI1 (Model 3b) and COC (Model 3e). FDI stocks was negatively related to the number of organisations adopting COC where a 1-unit change in logged FDI

stocks decreases the expected number of organisations adopting COC by 0.19 units ($p < 0.10$). Thus, as foreign investment increases, the number of organisations adopting COC is more likely to decrease. The same pattern occurred for GDP per capita and the technique DOI1. A 1-unit change in GDP per capita decreases the expected count of an organisation adopting DOI1 by 0.00001 unit ($p < 0.10$). This means for every 1 million US\$ increase in GDP per capita in a country, 0.0001 organisations are less likely to adopt DOI1.

Again, because of the skewed distribution of US CCCM organisations, I removed US observations and conducted a second analysis. These results are reported in Table 7.5. There were significant differences between the results in Table 7.4 and 7.5 showing greater variation, where several explanatory variables became significant predictors of certain CCCM neutralisation techniques.

First, unlike the results in Table 7.4, the explanatory variable the count of top 100 universities conducting climate and earth science research was only significantly associated with the technique DOI2 ($p < 0.05$) (Model 4c). A 1-unit increase in the logged count of top 100 universities conducting research on climate science leads to an expected increase in the adoption of DOI2 by 0.3 units ($p < 0.05$). Thus, it is more likely that in countries where more universities in the Top 100 are conducting research on climate and earth sciences, CCCM organisations will adopt the technique DOI2. This differs to H3a, which proposed this variable would be positive and significantly associated with COC.

A second environmental protection indicator ENGOs was not a significant predictor of COC, or any other neutralisation techniques, thus failing to support H3a (Model 4e). However, the environmental protection indicator terrestrial and marine protected land was positively related to the number of organisations adopting COC (Model 4e). For a 1-unit change in protect land, there is an expected increase in the number of organisations adopting COC by 0.02 units ($p < 0.05$). This means that for every 1% increase in protected land, 0.02 organisations are more likely to adopt COC. In countries with higher levels of protected land, the number of organisations adopting the technique COC is likely to be higher than those with a lower percentage of protected land.

Terrestrial and marine protected land was also a significant predictor of CCCM organisations adopting the technique AHL, where a 1-unit change in protect land is expected to increase the number of organisations adopting AHL by 0.021 units ($p < 0.05$). This means for every 1% increase in the protected land, I expected 0.021 organisations are likely to adopt AHL. Thus, a higher percentage of protected land increases the expected number of CCCM organisations adopting AHL (Model 4d).

There is some evidence to support H2a in Table 7.5. Both FDI stocks and total NRR strongly predicted the technique AHL ($p < 0.05$). In countries with higher integration into the global capitalist market, organisations are more likely to adopt AHL. However, unexpectedly, these two explanatory variables were also positive and significantly related to the technique DOR (Model 4a). For instance, a 1-unit change in the percentage of GDP from natural resource rents leads to a 0.008 unit increase in the adoption of the technique DOR ($p < 0.01$). This means for a 1% increase in GDP from total NRR, an additional 0.008 organisations may deny that humans are responsible for climate change. Similarly, for a 1-unit change in the logged FDI stock in millions of US\$ I expect a 0.15 unit increase in the number of organisations adopting DOR.

Like the results in Table 7.4, there was no support shown for H1a, H1b and H1c, where ecological footprint is used to indicate ecological destruction and it was not significantly associated with any neutralisation techniques in Table 7.5.

Table 7.5. Unstandardised Regression Coefficients For Ordinary Least Square (OLS) Regression Showing Relationship Between Political Economic Variables And Neutralisation Techniques (US Excluded)

Variable	DOR	DOI1	DOI2	AHL	COC
	Model 4a	Model 4b	Model 4c	Model 4d	Model 4e
	Estimates (SE)	Estimates (SE)	Estimates (SE)	Estimates (SE)	Estimates (SE)
<i>Foreign Direct Investment Stocks, Annual (natural log)</i>	0.10893# (0.059891)	0.045319 (0.058866)	0.027314 (0.040442)	0.1528* (0.062564)	0.099382 (0.067502)
<i>GDP (Per Capita)</i>	-6.66E-06 (6.69E-06)	-0.00001 (6.57E-06)	-4.30E-06 (4.52E-06)	-5.60E-06 (6.99E-06)	-2.70E-06 (7.54E-06)
<i>Total Natural Resource Rents (% of GDP)</i>	0.008019* (0.003007)	0.003703 (0.002955)	-0.0005 (0.00203)	0.006729* (0.003141)	-0.00019 (0.003389)
<i>Count top 100 universities Climate and Earth Scientists (natural log)</i>	0.183506 (0.165786)	0.267956 (0.162949)	0.299674* (0.111947)	0.362365 (0.173185)	0.208671 (0.186854)
<i>ENGOs (natural log)</i>	-0.0195 (0.066153)	-0.06895 (0.065021)	-0.02536 (0.04467)	-0.01844 (0.069106)	-0.03433 (0.07456)
<i>Ecological Footprint (per capita)</i>	0.017267 (0.06913)	0.051759 (0.067947)	0.020885 (0.04668)	0.030471 (0.072216)	-0.02999 (0.077915)
<i>Terrestrial and Marine Protected Land (% of total territorial area)</i>	0.009218 0.008078	0.009389 0.00794	-0.0058 0.005455	0.021925* 0.008438	0.020839* 0.009104
Constant	-0.94977 0.712742	-0.25686 0.700545	-0.02579 0.481281	-1.58699 0.744553	-0.58915 0.803318
R ²	0.2879	0.2032	0.2682	0.4572	0.2142
Adjusted R ²	0.1601	0.0602	0.1368	0.3598	0.0731
Mean VIF	1.74	1.74	1.74	1.74	1.74
N	47	47	47	47	47

Notes: *p<0.05;**p<0.01;***p<0.001, #p<0.10

7.3.3 Predicting Variation in Grouped Neutralisation Techniques: Results

As discussed in Chapter Six, I grouped different neutralisation techniques into what I contend are scientific based and strategic forms of neutralisation technique. I conducted a similar series of OLS regression equations as above, however the dependent variables became a count of DOR, DOI1 and DOI2 grouped into the variable ‘scientific techniques’ and a count of COC and AHL grouped into the variable ‘strategic techniques.’

Tables 7.6 present these results including models with both US included and the US excluded. I report the unstandardised coefficient (*estimates*), and standard errors (*SE*) in parentheses. There are some similarities and differences with the previous models. Consistent with Table 7.4, the count of university climate and earth science research centres is strongly associated with both scientific and strategic forms of neutralisation techniques across all models. For instance, 1-unit change in the logged count of top 100 universities adopting science based techniques is expected to increase the number of organisations adopting science based techniques by 5.24 units ($p < 0.001$). Thus, when a logged count in university based research centres conducting earth and climate research increases, 5.24 more organisations may adopt science based techniques.

Similarly, 1-unit change in the logged count of top 100 universities conducting research on earth and climate science is expected to increase the number of organisations adopting strategic techniques by 9.56 units ($p < 0.001$). This means for 1-unit change in the logged count of universities, it is expected that there will be 9.56 more organisations adopting strategic based techniques.

Terrestrial and marine protected land remains significant, where a 1-unit change in percentage of protected land increases the expected count of organisations adopting strategic sceptic techniques by 0.04 units ($p < 0.05$) (Model 5d). This suggests strategic techniques such as AHL and COC are more likely to be employed where environmental protection is higher, consistent with H3 with the US excluded.

There are other differences to the previous models. For instance, when the US is included in the model, FDI stocks is negatively related to both broad categories of techniques ($p < 0.001$). This means, as a country's FDI stocks increase, it is less likely that CCCM organisation will employ either science or strategic techniques (Models 5a and 5b). The negative relationship between FDI stocks and neutralisation techniques differs significantly from previous models, where it was positive and significantly associated with several CCCM neutralisation techniques.

For instance, for a 1-unit increase in logged FDI stocks leads to a 1.4 unit decrease in organisations using science based neutralisation techniques. This means for

every increase in the logged value of FDI stocks in millions of US\$, 1.4 organisations are less likely to employ science based neutralisation techniques. Similarly, a 1-unit increase in the logged FDI stocks, leads to a 2.54 unit decrease or 2.54 less organisations using strategic forms of scepticism. However, where the model excludes the US, FDI is significantly and positively associated with policy based neutralisation techniques ($p < 0.10$) (Model 5d). A 1-unit increase in logged FDI leads to a 0.22 unit increase in the CCCM organisations adopting strategic neutralisation techniques.

GDP per capita was negatively associated with science based techniques when the US was excluded ($p < 0.10$) (Model 5c). In countries with higher GDP per capita, outside of the US, they are less likely to adopt one of the pseudo-scientific neutralisation techniques where a 1 unit change in GDP per capita is likely to decrease the count of organisations adopting science techniques by 1.13 units ($p < 0.10$). This means for every 1 million US\$ increase in GDP per capita, 1.13 organisations will be less likely to adopt scientific neutralisation techniques.

It is important to note, unlike previous results in Tables 7.4 and 7.5, ecological footprint as an indicator of environmental destruction became significantly associated with scientific based techniques of neutralisation ($p < 0.10$) (Model 5a). As levels of ecological footprint per capita increase, organisations in those countries are more likely to employ science based techniques. For instance, a 1-unit change in ecological footprint per capita increases the expected number of organisations using science techniques by 0.99 units ($p < 0.10$). This means for every 1 global hectare increase in ecological footprint, the number of organisations adopting science based techniques is expected to increase by around one. Returning to the hypotheses, these findings partially support H1, H1a, H1b, and H1c, when the scientific neutralisation techniques are grouped. Thus, the techniques DOR, DOI1 and DOI2 are likely employed because they help justify higher levels of environmental destruction.

Table 7.6. Unstandardised Regression Coefficients For Ordinary Least Square (OLS) Regression Showing Relationship Between Political Economic Variables And Grouped Neutralisation Techniques (US and US Included)

Variables	<i>Model 5a</i>	<i>Model 5b</i>	<i>Model 5c</i>	<i>Model 5d</i>
	US	US	Non-US	Non-US
	Science	Strategic	Science	Strategic
	<i>Estimate</i> (SE)	<i>Estimates</i> (SE)	<i>Estimate</i> (SE)	<i>Estimate</i> (SE)
<i>Foreign Direct Investment: Stocks, Annual (natural log)</i>	-1.4074*** (0.464383)	-2.543022*** (0.891439)	0.036296 (0.057043)	0.224528# (0.121392)
<i>GDP (per Capita)</i>	-6.35E-05 (5.73E-05)	-0.000115 (0.00011)	-1.13E-05# (6.37E-06)	-1.47E-05 (1.36E-05)
<i>Total Natural Resource Rents (% of GDP)</i>	0.00609 (0.025988)	0.017436 (0.049887)	-0.00047 (0.002864)	0.00486 (0.006095)
<i>Count Top 100 University Climate and Earth Scientist Research Centres (natural log)</i>	5.248272*** (1.233292)	9.557027*** (2.367453)	0.647735*** (0.157902)	0.737844* (0.336026)
<i>ENGOs (natural log)</i>	0.781663 (0.781663)	1.445458 (1.072995)	0.011706 (0.063007)	-0.030541 (0.134084)
<i>Ecological Footprint (Per Capita)</i>	0.991549# (0.578317)	1.837673 (1.110149)	0.035575 (0.065843)	0.00508 (0.140118)
<i>Terrestrial and Marine Protected Land (% of total territorial area)</i>	-0.035658 (0.069609)	-0.032268 (0.133624)	0.002432 (0.007694)	0.040749* (0.016373)
Constant	11.62126 (5.860922)	20.6499 (11.25075)	-0.405042 (0.67885)	-2.404402 (1.444637)
R ²	0.5705	0.5453	0.4054	0.3449
Adjusted R ²	0.4953	0.4657	0.2987	0.2273
Mean VIF	1.79	1.79	1.74	1.74
N	48	48	47	47

Notes: *p<0.05; **p<0.01; ***p<0.001; # p<0.10

7.4. Discussion: Are Climate Change Counter Movement Organisations Protecting Global Capitalism?

The findings reported above provide support for several hypotheses. First, these results provide strong evidence supporting the global capitalism hypothesis (H2). I proposed that more organisations are needed in countries that are more integrated into the global capitalist economy, and that want to prevent climate action that may minimise

and reduce the ability to accumulate capital in a fossil fuel based global capitalist economy (see also Hove, Menestrel, and Bettignies, 2002; Levy and Egan, 2003).

Drawing on the wider literature and theoretical framework of hegemony to support this evidence, one perspective would suggest that CCCM organisations may operate to help protect economic investment for foreign enterprises (Robinson, 1998; Sklair, 1997, 2001). FDI stocks are one way in which the global capitalist economy can expand (Ernest and Kim, 2002), and legislative actions taken to remedy climate change will likely decrease capital mobility and expansion of global capitalism (e.g. Curtis, 2009). The results across the models show on several occasions that FDI stocks positively predicts the number of CCCM organisations.

Thus, CCCM organisations may operate to counter legislative action that could put in place limits to the expansion of GPN and protect global capitalism. This is because, CCCM organisations can help protect both the interests of corporations and the state that use this form of global investment to accumulate capital. CCCM organisations may operate because climate mitigation may compromise this hegemonic mode of capital accumulation (Vogler, 2016). Moreover, the relationship between FDI stocks and the number of CCCM organisation - that CCCM organisations which may or may not be funded by corporate interests (e.g. Brulle, 2014b; Greenpeace, nd) – indicates these organisations may be working in the interests of a TCC. As Sapinski (2015) documented, corporate actors such as Fortune 500 companies, play a crucial role in the construction of knowledge and diffusion of ideas into environmental policy-making at domestic and international level. While further investigation between the network ties of for-profit actors and CCCM organisations used in this study are required, this initial finding suggests this may be the case, because FDI is used as a proxy for the TCC using CCCM organisations as agents of hegemony to protect the global capitalist economy.

GDP per capita becomes negative when all variables are included in the model, contrary to the expected direction of H2. I hypothesised that more CCCM organisations would operate in countries to help integrate into the global capitalist economy. GDP per

capita is one indicator of integration. However, these results suggest that as GDP per capita increases, the number of CCCM organisations are likely to decrease.

On reflection, this result may mean that CCCM organisations are emerging and operate to protect global capitalism, but they are doing so in developing and less developed countries. CCCM organisations operating outside of the US, particularly those in less developed countries that are often less integrated into the global capitalist economy (Sachs et al., 1995) can help justify pollution that comes along with rapid economic development. Thus, CCCM organisations may be emerging to protect global capitalism, but the major locations of economic growth occur in countries with lower GDP per capita.

It is conceivable that these findings are related to theoretical examinations of the unequal structural implications of global commodity flows (Bair, 2005). For instance, Jorgenson (2005) articulated less developed nations may have rapid economic growth, but they are often those with lower GDP per capita at the periphery of the global capitalist economy. As a result, they “possess relatively lower per capita consumption levels because on average (1) the majority of the population has substantially lower income levels and (2) the domestic market focuses on the export of raw materials and commodities produced by means of dependent industrialisation” (p.385) (see also Jorgenson, 2004). This means, the political-economic conditions emerging from global commodity chains where developed countries with high levels of consumption have externalised the environmental costs across less developed countries and where consumption is lower (Rice, 2005), yet forms of environmental degradation and harm remain (Jorgenson and Burns 2004).

Thus, while CCCM organisation may be promoting the accumulation of capital and commitment to economic development, they may have begun to emerge in countries with lower levels of living standards comparable to levels of economic growth. This may mean, CCCM organisations aid in the ability to minimise the perception of the ecological consequences emerging from rapid economic developments and the externalisation of environmental costs. They may also aid in emphasising and supporting the disparity

between nations across countries to sustain a global hegemonic ideology. This is even evident in the current dataset with several organisations emerging across less developed nations such as Nigeria and Ghana. Thus, it will be interesting to see how CCCM organisations may mature across some of these less developed nations in the future.

This finding and further support for H2 is reflected in the relationship between NRR and the number of CCCM organisations. Recall, as the percentage of GDP from NRR increases by a standard deviation, the number of CCCM organisations in a country increases by 13.12% ($p < 0.05$). Contextual information on trade flow patterns can provide more information as to why this may be the case. The World Trade Organisation (2015) has reported that the global mobility of the natural resource market has increased due to lower market prices necessitating larger amounts of extraction and exportation to generate profit. However, this also creates a high dependency on the exports of natural resources to accumulate capital (Muradian, Walter, and Marinez-Alier, 2012).

The presence of more CCCM organisations may help suppress environmental policies that restrict natural resource extraction which could restrict the ability for a country to generate economic growth from natural resources. CCCM organisations in countries that rely heavily on natural resource rents as a mechanism to increase GDP are also more likely to employ the argument that environmental policies will harm economic practices that are central for the social wellbeing of the population (i.e. AHL) (Model 4d). This is because, climate change policies may increase the costs of natural resource extraction and production potentially harming economic performance (Grubb, 2001).

Overall, from this perspective, the operation of CCCM organisations reflects interpretations of the unequal world order that has manifested under a fossil fuel based global economy (Di Muzio, 2016). Researchers have identified an economic order that has seen powerful and economically wealthy nations, governments, and other elite actors pursue [environmental] policies and investments in politically and economically weaker nations that reinforce global capitalist hegemony (Le Billon, 2003; Roberts, 2001; Perelman, 2003). The presence of hegemonic civil society organisations such as CCCM organisations are important in influencing other countries environmental and economic

policies in less affluent nations to craft [hegemonic] environmental policy (Katz, 2006; Roberts, 2001).

Dissemination of an ideology to protect global capitalism (Burnham, 1991; Gill and Law, 1989) is important for developed nations, such as the US, to effect politics across countries. In so doing, they can justify a type of lifestyle that has brought with it a commitment to fossil fuel based over production and consumption (Altvater, 2009). Therefore, climate change denial is essential to maintain a commitment to a fossil fuel based global capitalism. However, the type of denial may manifest differently in certain countries depending on this position. In particular, these results illustrate that CCCM messaging may take the form of appealing to higher loyalties, where CCCM will attempt to forestall climate action by claiming social and economic development, particularly from fossil fuels, is more important than addressing climate change in certain countries over others.

As a result, CCCM organisation may emerge to resist domestic and international policy that may impose boundaries to environmentally destructive production practices across countries spreading these messages to the public and politicians (see also Levy, 2008). Economically powerful nations and actors such as TNC's, operate across countries, relying on global production and commodity networks controlled by these powerful actors, becoming, as some have argued, leaders of the global hegemonic bloc (Roberts, 2001; Robinson, 2004; Sklair, 2002).

A surprising finding was that the variable the economic freedom index used as a measure of neoliberalism was not statistically significant and appears unrelated to the operation of CCCM organisations across countries. In previous literature, climate change denial at individual and organisational level has often been associated with neoliberal ideology (e.g. Antonio and Brulle, 2011). Importantly, this has manifested in the politically partisan divides on opinions on climate change where climate change opposition is often associated with neo-liberal ideology and the political right (e.g. Boykoff and Olsen, 2013).

However, this country level examination using the economic freedom index illustrates this is not a statistically significant predictor of the count of organisations across

countries. It is important to note that neoliberalism is a very complex concept which does not lend itself well to a country level measure such as the economic freedom of the world index. It is quite possible that better, more valid indicators of neoliberalism may be related to the presence of CCCM organisations. Unfortunately, other cross-national indicators of neoliberalism do not currently exist.

Overall the above results, provide support for the over-arching global capitalism hypothesis. This is consistent with previous evidence which describes the anti-environmental regulatory strategy pursued by CCCM organisations as agents of hegemony that are attempting to protect the interests of fossil fuel based production practices (see also Neubauer, 2011).

The results across several models also provide empirical support for H3. The importance of this relationship suggests that the Gramscian theory of war of position argument also has merit in this case. Gramsci argued that during periods of organic crisis a war of position emerges within an “inevitable clash between hegemonic and counter hegemonic actors and the need for a long-term strategy to develop an alternative ideology that opposes hegemony (Levy and Newell, 2002, p.88).

As hypothesised, CCCM organisation are needed to oppose climate science, ENGOs, and environmental protection policies. For instance, as the number of ENGOs increases, the number of CCCM organisations is expected to increase by 71.8% ($p < 0.05$) (Model 1d). Similarly, in countries with more top 100 hundred climate and earth science research centres, there is an estimated increase in the operation of CCCM organisations by 87.15% ($p < 0.001$) (Model 1d). It appears that CCCM organisations may operate when environmental protection is at its highest to prevent a shift from fossil fuel based hegemony.

From this perspective, environmental regulations may have serious costs for both corporate and state level economic integration in the hegemonic global capitalist market (see also Neubauer, 2011). Thus, where there are higher levels of counter-hegemonic resistance (i.e. environmental protection), more hegemonic forces may operate to reinforce the hegemonic ideology. These results also lend support for the argument made

by Dunlap and McCright (2015) stating that climate change denial is “designed specifically to counteract a competing global advocacy network: the IPCC, civil society organisations, policymakers, and others trying to promote efforts to deal with climate” (p.320). Thus, as evidenced here, CCCM organisations are operating and evolving in response to its opponents that challenge a fossil fuel based hegemonic global capitalist economy.

There were some interesting results that provided mixed support for the related H3a. For instance, when all variables are in the model, the number of universities conducting research on climate and earth sciences across countries is the only significant explanatory variable for all the neutralisation techniques. That means that while this variable is significantly associated with the technique COC supporting H3a, it is also significantly associated with all neutralisation techniques when the US was included in the dataset (Table 7.4).

These results alone tell us something about the way the US has shaped the CCCM. Since climate change came to the forefront of politics in the US, it has been strongly contested (McCright and Dunlap, 2011). McCright and Dunlap (2010) argued that the CCCM has adopted a form of anti-reflexivity by rejecting the climate science consensus in response to the reflexive modernisation of the west, which has recognised and is attempting to address the implications of industrial capitalism and environmental exploitation (see also Antonio and Brulle, 2011).

The role of CCCM organisations has been to challenge potential environmental policies such as the Kyoto Protocol and has been absorbed into a form of “culture war” in US politics (McCright and Dunlap, 2011). CCCM organisations have reacted to this, operating and producing pseudo-scientific reports, and critical statements fostered by those on the political right in opposition to those promoting climate action (e.g. Brulle et al., 2012). This may explain why, there is no variation across neutralisation as this variable is significantly related to all neutralisation techniques. These strong findings regarding the predictive power of the climate science variable predominantly disappear in the models after the US was removed. This demonstrates that organised opposition to climate

scientists currently appears a mainly US phenomenon. It will be interesting to see if this changes as the CCCM matures in other countries.

Nonetheless, because the count of top 100 universities conducting research on climate and earth sciences is a significant predictor of COC it does partially support H3a. These results support previous findings that have observed the strategy of condemning scientists and institutions that produce research supporting the scientific consensus on climate change (Greenberg et al., 2011; Mackay and Munro, 2012). Climate scientists have been criticised as part of the historical anti-environmental strategy and political polarised war on climate change (Mann, 2013; Weart, 2011) where “deniers of the scientific consensus avoided normal scientific discourse and resorted to ad hominem attacks that cast doubt on the entire scientific community while disrupting the lives of some researchers” (Weart, 2011, p.41). Overtime, it has become easier in the US with its historical ideological divide on climate change policy, to denigrate scientists. However, in many cases, scientists themselves have failed to mount a concerted public relations campaign to defend their position (Lewandowsky, et al., 2015).

In the model excluding the US there is greater variation in the messages used by CCCM organisations (Table 7.5). For instance, the count of the top 100 universities conducting earth and climate science research is only significantly associated with the pseudo-scientific technique DOI2. Also in the models, terrestrial and marine protected land was positive and significantly related to COC. As the percentage of terrestrial and marine land protected land increases, CCCM organisations may be more likely to employ the technique COC ($p < 0.05$). These results support H3a (Model 4e) because in countries with higher levels of environmental protection, CCCM organisation are more likely to adopt COC, condemning scientists, environmentalists, and policy-makers.

An unexpected finding is that terrestrial and marine protected land is also significantly associated with AHL, where AHL refers to economic progress and development is more important than preventing climate change. As I explained, employing this technique may help reinforce a commitment to global capitalism and the accumulation

of capital where CCCM organisations use this technique to reduce environmental protection that may prevent the use of resources to generate profit.

This point is emphasised turning to the positive significance between FDI stocks and the count of CCCM organisations, where FDI stocks is used as an indicator of the interests of foreign enterprises attempting to expand the global capitalist economy (e.g. Fast, 2014; Robinson, 2004). It can be argued that CCCM organisations may play an important role in protecting this hegemonic bloc and a global capitalist economy. Furthermore, looking closer at the messages adopted by CCCM organisations, I hypothesised that AHL will be employed where FDI is integral for economic development, and protected lands may in-still barriers to natural resources use to accumulate capital and increase capital mobility.⁴⁷ Importantly, CCCM organisations in these countries may recommend continued use of resource extraction, and reduce or remove environmental regulations that stall economic and social development. Significantly, CCCM organisations may add that this is even more important for the economic advancement of developing nations (see also South and Brisman, 2015).

When I group neutralisation techniques into science and strategic neutralisation techniques, I find that the war of position argument appears the strongest predictor of CCCM organisational messaging (Table 7.6). The explanatory variables the count of earth and climate science, the count of ENGOs, and terrestrial and marine protected land are strongly associated with both science and strategic techniques. H3 is supported by the overall operation and adoption of these grouped messages, however, there is substantial variation in the choice of messages adopted by organisations in different countries meaning the relationship between environmental protection indicators and the technique COC is only partially supported (H3a).

In the case of H2, when neutralisation techniques are split into two broad categories, FDI stocks is negative, meaning organisations in countries with higher FDI are less likely to employ both science and strategic neutralisation techniques when they are

⁴⁷ I did test for interactions between NRR, terrestrial and marine protected land, and FDI to determine if this interaction had statistical significance in the model. However, the results were insignificant.

combined and the US is included ($p < 0.05$) (Models 5a and 5b). This, suggests that instead of an economic agenda influencing the specific types of messages adopted by CCCM organisations, it is instead, as discussed above, the influence of counter-hegemonic resistance guiding the types of messages employed by CCCM organisations.

There was minimal support for H1 and H1a, H1b, and H1c when the scientific techniques were treated independently. I proposed more CCCM organisations would need to operate where there are higher levels of ecological destruction (H1), and as a result they would employ the techniques DOR (H1a), DOI1 (H1b), and DOI2 (H1c). Ecological footprint was a significant predictor of the count of organisations across countries when all variables are held constant, providing some support for H1 (Model 1d). However, on closer examination of the messages adopted by CCCM organisations across countries, H1a, H1b and H1c were not supported when each technique was treated independently (Tables 7.4 and 7.5).

Nevertheless, when I group the science based techniques in Table 7.6, ecological footprint was a significant predictor of these neutralisation techniques ($p < 0.10$). This means as ecological footprint increases, it is more likely that CCCM organisations in those countries will use science based neutralisation techniques, supporting H1. These results then do give weight to the notion that CCCM organisations operate where there are higher levels of environmental destruction, using pseudo-scientific messaging to undermine human's impact on the environment. This is unsurprising because those countries that want to continue the same levels of production and consumption would argue for example, that there is no significant harm caused by humans on the environment, nor the subsequent consequences of climate change.

In sum, these results add to the CCCM literature by applying a theoretical framework incorporating Gramsci's theory and the sociology of crime and deviance. This approach can tell us why CCCM organisations may utilise certain arguments relating specifically to the war of position. These results reveal political, economic, and ecological conditions can help explain where CCCM organisations are more likely to operate, addressing the third research question: - *do political, economic, and ecological factors*

predict the count of organisations across countries? These results also suggest that certain political, economic, and ecological conditions can help explain why CCCM organisations are more likely to disseminate certain neutralisation techniques over others. This addresses research question four: - *do political, economic, and ecological factors influence what neutralisation techniques are adopted by CCCM organisations in different countries?*

Related to these research questions I constructed a set of hypotheses. There is strong evidence to suggest that CCCM organisations are more likely to operate in countries that are more integrated into the global capitalist economic market (H2). Moreover, they are more likely to operate where there are forms of counter-hegemonic action that has and continues to diagnose the problems associated with human's impact on the climate (H3). Thus, these results suggest, CCCM organisations operate as ideological agents disseminating a hegemonic ideology to protect a fossil fuel based global capitalist economy, and resist counter hegemonic challenges that expand across national boundaries. This supports previous research on the CCCM, that suggests CCCM organisations operate as hegemonic civil society actors promoting the ideological interests of current modes of production that "protects modern western social order which has been built by an industrial capitalism powered by fossil fuels" (Dunlap and McCright, 2013, p.144-145) (see also Wright and Greenberg, 2015).

7.5. Conclusion

In this chapter, I presented the results of the cross-national analysis of CCCM organisations and the messages they adopt to answer the third and fourth research questions. In all, there was support for all three main hypotheses and several of the related hypotheses predicting variation in the messages adopted by CCCM organisations across countries. There was strong support for the environmental protection (H3) and global capitalism hypothesis (H2), however, there was less support for the ecological destruction hypothesis (H1). These results and commentary have provided, to my knowledge, the first cross-national analysis of CCCM organisational messaging that applies a two-part theoretical perspective incorporating both a Gramscian perspective and

the sociology of crime and deviance. This has introduced a new and original way to examine the international network of CCCM organisations.

The following chapter revisits the findings from the overall thesis before reviewing some of the limitations of the research. Using the findings from both the content and cross-national analyses, I loosely formulate a counter-narrative that targets how specific neutralisation techniques could be employed by individuals, environmental organisations and incorporated into decision making processes to justify climate action in certain countries. I close the thesis with some final words pointing out why the sociology of crime and deviance has been an important expansion of the CCCM literature and a personal reflection on what I believe are the challenges facing human and non-human populations that may emerge by failing to counter CCCM opposition.

Chapter Eight

Discussion and Conclusion

8.1. Introduction

This concluding chapter compiles the information presented throughout the previous seven chapters to show how I examined CCCM organisations, CCCM organisational messaging, and answered the research questions. I summarise the findings from the content analysis and cross-national analysis of CCCM organisations. In doing so, I reveal how my investigation has contributed to a new way of understanding the CCCM. I then address some of the limitations of the research before outlining prospects for future research. Next, I outline the importance of responding to the actions of CCCM organisations. I draw on the findings from the previous chapters and wider literature to offer some suggestions on how to counter CCCM organisations and the oppositional messaging they use across countries. I conclude with final words on what I observe are the wide implications of research on the CCCM and how this along with other research should aid in formulating responses to CCCM organisations.

8.2. Overview

The overarching aim of this research was to examine CCCM organisations synthesising a framework from the sociology of crime and deviance and political economic literatures. Specifically, this thesis examines a newly constructed set of neutralisation techniques employed by CCCM organisations in their effort to oppose climate change mitigation efforts. I conducted a cross-national analysis of CCCM organisations to determine if political, economic, and ecological factors are associated with the number of CCCM organisations located across countries and the neutralisation techniques they adopt.

The thesis posed four research questions:

(1) Do CCCM organisations adopt what can be rebranded as CCCM neutralisation techniques?

(2) If these techniques can be rebranded, are they useful for monitoring change in CCCM organisation messages?

(3) Do political, economic, and ecological factors predict the count of CCCM organisations across countries?

(4) Do political, economic, and ecological factors influence what CCCM neutralisation techniques are adopted by CCCM organisations in different countries?

The previous chapters have offered some answers to the research questions. It has provided a unique perspective on the movement by employing a sociology of crime and deviance framework to expand the understanding of the arguments adopted by CCCM organisations. Second, the cross-national analysis has examined the operation of CCCM organisations across countries. And third, the cross-national analysis has revealed if political, economic, and ecological factors can help explain the different messages adopted by CCCM organisations in different countries.

Chapter One outlined the research aims, to set the stage for how I examine the CCCM. Chapter Two provided contextual background on the CCCM. I identified the number and location of CCCM organisations before offering a historical account on the emergence of the movement outlined by previous scholars. I then examined previous approaches to understanding the messages of CCCM organisations.

In Chapter Three, I presented the first of the two-part theoretical framework used to examine the CCCM organisations and the messages they adopt. I provided a summary of Gramsci's hegemony before outlining the neo-Gramscian perspectives that I use to examine cross-national differences in the number of CCCM organisations and their messages.

In Chapter Four, I explored the second of the two-part theoretical framework used to examine the CCCM. I described how and justified the benefits of a theoretical framework informed by the sociology of crime and deviance literature for examining the CCCM. I provided a brief history of the theory, before explaining how developments and modifications of the framework could lend itself to the study of CCCM organisations. In the final section of Chapter Four, I outlined three overarching and five related hypotheses

used to examine CCCM organisations and the messages they adopt. These hypotheses suggest that the theory of hegemony can help us understand why CCCM organisation operate and why the neutralisation techniques they adopted differ across countries.

Chapter Five presented and justified the methodological approach taken to examine the CCCM. I first defined what I proposed were CCCM organisations and discussed the data collection process used to identify the CCCM organisational universe. Second, I outlined the process of conducting the content analysis of organisational messages. Third, I explained how I used this data to create dependent variables, and what cross-national explanatory variables were used to conduct this cross-national analysis. Finally, I discussed the analytic strategy used to examine CCCM organisations, justifying why a series of NBR and OLS regression equations could be used to examine these organisations in more detail and test the proposed hypotheses.

Chapter Six reported the results of the content analysis to answer the first and second research question: - (1) *Can the arguments adopted by CCCM organisations be rebranded as CCCM neutralisation techniques;* and (2) *if these techniques can be rebranded, are they useful for monitoring change in CCCM organisation messages?* The data suggested the arguments adopted by CCCM organisations could be rebranded as neutralisation techniques. These techniques were then divided into two broader categories of science and strategic neutralisation techniques. These results are consistent with previous research, which I have added to by using a sociology of crime and deviance framework to rebrand these messages.

Chapter Seven presented the results of the cross-national analyses of CCCM organisations testing the hypotheses created in Chapter Four. These were used to determine if political, economic, and ecological variables could explain the number of CCCM organisations located in countries and the messages they use answering research questions three and four. A series of NBR analyses reveal support for several hypotheses, where several political, economic, and ecological factors were positively and significantly associated with the count of CCCM organisations across countries. OLS results examined the relationships between political, economic, and ecological factors and techniques of

neutralisation used by CCCM organisations across countries. To interpret these I drew on the concept of hegemony and previous literature on the CCCM. A summary of these research findings follow.

8.3. Summary of the Research Findings

To answer the first and second research question, I conducted a content analysis of 805 documents created by CCCM organisations at two points in time. The results revealed 1435 examples of oppositional arguments that could be rebranded as CCCM neutralisation techniques. CCCM organisations would adopt one or more of the following seven techniques: (1) DOR, where climate change is happening but humans are not the cause; (2) DOI1, there is no significant harm caused by humans; (3) DOI2, where there are some benefits to climate change and rising GHGs; (4) DOV1, where there is no global warming and no victims; (5) COC, where scientists, environmentalists, politicians and the media are corrupting the science or messaging on climate change; (6) AHL, where economic and social development are of greater concern than addressing climate change; (7) JBC, where other policy issues are more important than addressing climate change, and/or a country should not take action on climate change because other countries are not taking the same measures.⁴⁸

I next divided these CCCM neutralisation techniques into two broad categories. The techniques DOR, DOI1, DOI2, and DOV1 all mirror pseudo-science based arguments used to justify opposition to climate action. CCCM organisations used these techniques to construct images of (1) humans are not responsible for climate change; (2) there is very little harm caused by human behaviour and climate change; (3) CO₂ and climate change provide benefits; (4) there is no evidence of climate change. These I argued, promote a

⁴⁸ A point to note is that I removed the technique Denial of Victim Two which referred to *victims of climate changes who had done insufficient to prepare for climate changes and therefore somehow deserved to be victims of these changes*. While this technique was not located in the dataset or interviews, in a recent interview after the two hurricanes in the US in 2017, GOP congressman Jeb Hensarling argued “The federal government is encouraging and subsidizing people to live in harm’s way... I just went to Houston, I visited with some of the survivors, I mean, people whose homes have flooded three times in eight years... At some point, God is telling you to move... If all we do is force federal taxpayers to build the same home in the same fashion in the same location and expect a different result, we all know that is the classic definition of insanity...” (<https://www.rawstory.com/2017/09/texas-gop-congressman-hurricanes-are-gods-way-of-telling-you-to-move/?comments=disqus>). While he did not directly mention climate change, Hensarling’s comments do mirror the technique Denial of Victim Two. Future research should add this messaging into its coding scheme.

form of pseudo-science sometimes legitimised by the citation of one or more contrarian climate scientists.

The techniques COC, AHL and JBC are strategic oppositional arguments used to justify inaction on climate change. By employing these techniques, CCCM organisations avoid questions on scientific facts; rather they criticise environmentalists, scientists and policy makers and/or outline how action to address climate change may compromise everyday behaviour. They (1) criticise and denigrate environmentalists, policy-makers, climate scientists and the media; (2) outline that the exploitation of natural resources and the pollution are less important, and in some cases, are essential by-products for human and social development; and (3) justify inaction on climate change by making cross-policy and cross-country comparisons. These results answer research question one.

It was often the case that CCCM neutralisation techniques were not used mutually exclusively where, on average, organisations would adopt two or more techniques. There was also evidence that the adoption of neutralisation techniques did change overtime. For instance, 58.8% of organisations changed their messages over time and some organisations increased or decreased the number of techniques they used. More specific findings also reveal COC, DOR, and DOI2 were the only techniques that had an overall increase in use by CCCM organisations compared to the other techniques where the number of organisations adopting these techniques decreased. Additionally, the results suggested that the adoption of a neutralisation technique at one point in time, is a precursor to the adoption of the same neutralisation technique again. While further longitudinal investigation can advance our understanding of these changes in organisational messaging, overall these results suggest that the neutralisation theory framework may provide a suitable tool to track changes in organisational messaging over time, answering research question two.

In general, these CCCM neutralisation techniques mirror well documented findings by scholars such as McCright and Dunlap (2011) and Wright and Nyberg (2014) who have noted narratives used by CCCM organisation have created a sort of 'political myth' about climate change to forestall climate action. In the same way, CCCM organisations employ

techniques of neutralisation to distort the science and policy on climate change to support the interests of a carbon intensive global capitalism at the behest of human populations and the ecosystem.

These results also align with the anti-reflexive hypothesis (e.g. McCright and Dunlap, 2010). McCright and Dunlap (2010) contended that the CCCM has emerged in response to the rise of environmentalism and progressive social movements. They have challenged the legitimacy of scientific developments that have come to recognise the impacts of human behaviour on the ecological crises. In the same way, I have provided evidence of these anti-reflexive arguments but have examined them using a crime and deviance framework. Furthermore, I asked why CCCM organisations operate and present oppositional messages. Aligned with previous interpretations of the movement (e.g. Neubauer, 2011), I hypothesised CCCM organisations operate and adopt neutralisation techniques to help sustain an ecologically destructive fossil fuel based hegemony. I proposed CCCM organisations operate as agents of the current hegemonic ideology to protect a fossil fuel based global capitalist economy, resisting counter hegemonic challenges that expand across national boundaries. These organisations operate as civil society actors promoting the ideological interests of the current production practices that “protects modern western social order which has been built by an industrial capitalism powered by fossil fuels” (Dunlap and McCright, 2013, p.144-145).

I operationalised political, economic, and ecological indicators that represent the Gramscian and neo-Gramscian theoretical construct of hegemony. They were used to test whether hegemony could help explain the count of CCCM organisations and the adoption of neutralisation techniques across countries answering research questions three and four. This cross-national analysis was justified because CCCM organisations, although skewed toward the US, are found across 53 countries. I conducted a series of NBR and OLS analyses to test the following hypotheses:

Hypothesis One (H1): Ecological Destruction Hypothesis

(H1): ecological destruction will be positively related to the number of CCCM organisations across countries.

(H1a): ecological destruction will be positively related to the number of organisations that use Denial of Responsibility (DOR).

(H1b): ecological destruction will be positively related to the number of organisations that use Denial of Injury One (DOI1).

(H1c): ecological destruction will be positively related to the number of organisations that use Denial of Injury Two (DOI2).

Hypothesis Two (H2): Global Capitalism Hypothesis

(H2): integration into the global capitalist economy will be positively related to the number of CCCM organisations across countries.

(H2a): integration into the global capitalist economy will be positively related to the number of organisations that use Appeal to Higher Loyalties (AHL).

Hypothesis Three (H3): Environmental Protection Hypothesis

(H3): environmental protection will be positively related to the number of CCCM organisations across countries.

(H3a): environmental protection will be positively related to the number of organisations that use Condemnation of the Condemner (COC).

The results from this study provide empirical support for the Gramscian, and neo-Gramscian perspective on several accounts. First, there was strong evidence supporting H2. I expected more organisations to operate in countries that want to increase their economic performance and growth and are integrated into the global capitalist economy. For example, the variable FDI stocks is a measure of growing access to markets, reducing the costs of production across transnational boundaries, and acquiring assets such as natural resources (Hornberger, Battat, and Kusek, 2011). As FDI stocks increase, the percentage of CCCM organisations increases, suggesting that more organisations

operate where there is higher integration or willingness to expand the global capitalist economy (e.g. Table 7.2).

I add to this argument by suggesting CCCM organisations disseminate neutralisation techniques to justify inaction and stimulate support across countries to implement climate change policies that would not impede this hegemonic form of capital accumulation. For instance, total NRR was positively and significantly related to the number of organisations adopting the techniques DOR and AHL. These results mean that more CCCM organisations are needed in those countries to protect the accumulation of capital where NRR make up a high percentage of GDP, and these are more likely to employ the neutralisation techniques DOR and AHL.

Moreover, the use of fossil fuels is important for protecting the global capitalist economy, which in certain nations is essential for increasing the ability to integrate into the global capitalist economy. By operating and employing DOR and AHL, CCCM organisations may claim ecological additions and withdrawals are essential to drive economic growth and these withdrawals are not the cause of climate change. This is because, CCCM organisation are more likely to deny responsibility that ecological withdrawals and additions are linked to climate change helping to alleviate the responsibility of addressing climate change, thereby protecting economic growth through the fossil fuel based hegemonic capitalist economic system (see also Jacques and Knox, 2016).

Second, there was less evidence supporting H1, H1a, H1b and H1c. Results for H1 revealed ecological footprint (per capita) significantly predicted the count of CCCM organisations across countries. However, there was less support for H1a, H1b and H1c, where ecological footprint was not significantly associated with any CCCM neutralisation techniques. Although when I grouped the scientific techniques DOR, DOI1 and DOI2 together, ecological footprint did become a significant predictor of these grouped techniques supporting H1a, H1b, and H1c.

Third, I found strong support for H3 and H3a. I proposed CCCM organisations operate and employ neutralisation techniques to oppose counter-hegemonic challenges in

what Gramsci (1971) described as a war of position. War of position signifies “the inevitable clash between hegemonic and counter hegemonic actors and the need for a long-term strategy to develop an alternative ideology that opposes hegemony” (Levy and Newell, 2002, p.88). For instance, all environmental protection indicators including, top 100 universities conducting research on climate and earth science, the number of ENGOs, and the amount of terrestrial and marine protected land were all positively and significantly associated with the operation of CCCM organisations across countries (Tables 7.2 and 7.3). This is because environmental protection mechanisms including protected lands may restrict access to natural resources or increase emissions reduction targets, which impose barriers on [fossil fuel based] hegemonic production practices (Hove et al., 2002), and CCCM organisations will more likely emerge to resist this counter-hegemonic opposition.

These results also showed that, when the US was included in the analysis the count of top universities conducting research on climate and earth science was the strongest significant explanatory variables of all neutralisation techniques. This is significantly different to models that excluded the US, which showed greater variation in the significant associations between political, economic, and ecological factors and CCCM neutralisation techniques.

These results highlight how the US CCCM has dominated the discourse of the movement, attacking environmentalists, policy-makers, and climate scientists (see also Mann, 2013). Many researchers have described and analysed the historical anti-environmental regulatory agenda exhibited by the US ‘denial machine,’ its impacts on public opinion, and responses by the scientific community (e.g. Brulle, 2012, 2014a, 2014b; McCright and Dunlap, 2000, 2003, 2010, 2015; Oreskes and Conway, 2010). For instance, Lewandowsky et al. (2015) outlined the ‘seepage’ of climate change denial and its effect on the scientific community. Lewandowsky and colleagues reported that climate scientists have responded to opposition from CCCM organisations by “taking positions that they would be less likely to take in the absence of outspoken public opposition” (p.1). They expand on that point by noting that climate scientists have come to “doubt their own

conclusions and are compelled to do more work to further strengthen them even if this meant discarding previously accepted standards of statistical practice” (p.9). This example provides support for the significant relationship between CCCM organisations and the variable the count of earth and climate science research centres, because there is evidence that these organisations impact the scientific community.

Overall, the findings do suggest CCCM organisations operate and use CCCM neutralisation techniques to protect fossil fuel hegemony against climate action supporting H1, H2, and H3. These techniques both justify the continued use of fossil fuel based production practices and rationalise the ecological consequences to help sustain support the current hegemonic global capitalism. More specifically, the global capitalist argument is the strongest predictor of CCCM organisations. In the traditional global capitalist market growth paradigm, the likes of trade associations, investors, or other political agents – like those in the CCCM – will find ways to reduce the costs of implementing changes; whether that be by lobbying against, or finding regulatory solutions in response to environmental regulations (Schnaiberg, 1980; Schnaiberg and Gould, 1994).

Moreover, these organisations are strongly associated and emerge in response to the expansion of environmentalism and reflexive action taken to address the ecological crisis. CCCM organisations have worked together to minimise the harms associated with and defend the economic system in the face of an overwhelming scientific consensus that industrial fossil fuel based capitalism has had negative environmental consequences (McCright and Dunlap, 2011). As Klein (2015) noted, actions to address climate change:

“...directly challenge our reigning economic paradigm (deregulated capitalism combined with public austerity) ...They also spell extinction for the richest and most powerful industry the world has ever known- the oil and gas industry, which cannot survive in anything like its current form if we humans are to avoid our own extinction ...” (p.63).

Klein adds that “the stories on which Western cultures, are founded (that we stand apart from nature and can outsmart its limits), as well as many of the activities that form our identities and define our communities)” (p.63). As a result, it is important that CCCM organisations operate across countries and disseminate oppositional messaging to support and protect a political-economic system of global capitalism.

Overall then, these findings reflect the comments of McCright and Dunlap (2010) who argued the CCCM are a “force defending the industrial capitalist system from widespread scientific, political, and public acknowledgement of the systems unintended and unanticipated consequences, such as climate change” (McCright and Dunlap, 2010, p.320). The specific findings for H1, H2, and H3 suggest that these political, economic, and ecological factors emerging from a hegemonic fossil fuel based neoliberal global capitalism, may be a key force in driving these CCCM organisations. Moreover, these tactics are spread across nations to protect a hegemonic “neoliberal order in the global capitalist system” (Dunlap and McCright, 2015, p.320).

8.4. Limitations & Prospects

While there are several important and interesting findings that have emerged from this research, there are limitations and unanswered questions. Nonetheless, these unanswered questions also set the foundation for future research.

First, while the content analysis has resulted in quantitative results providing insight into CCCM organisational messages, unfortunately these results cannot determine whether CCCM organisations believe the techniques they use. In other words, these content analysis results cannot answer the question: - *do organisations employing neutralisation techniques truly believe the oppositional messaging or do they accept the evidence and consensus but utilise these techniques in the interests of protecting fossil fuel industry actors?*

This is a very important question; however, the results of the content analysis cannot provide an answer to it. I can speculate by drawing on broader knowledge from the CCCM literature that the CCCM organisations have known that human caused CO₂ emissions are the main cause of climate since as early as 1957 (Centre for Environmental Law, 2016; Supran and Oreskes, 2017). Denying climate change has been part of an ongoing campaign to protect the interests of fossil fuel based industries. However, further investigation is needed to answer this question.

Second, the content analysis does not reveal the causal order of techniques; a common criticism of research using neutralisation theory (Fritsche, 2005). One reason for

this is the inherent methodological complication of neutralisation theory (Maruna and Copes, 2005). This is because, Sykes and Matza proposed a deviant employs these neutralisation techniques before the deviant act. In Chapter Four I addressed this issue of timing, modifying the theory and proposing CCCM organisations are operating concurrently with the challenges to production practices. Nonetheless, future research on CCCM organisations may identify how CCCM organisations may be reactive to specific political or economic events or changes at certain points in time.

For instance, longitudinal studies analysing messages overtime may provide further information on the timeline in which neutralisation techniques are employed. While I conducted, a cross-national analysis comparing the differences across countries to determine if political, economic, and ecological factors influence the count of and messages adopted by CCCM organisations in 2015, I have not examined these same relationships overtime. This research could be done by collecting more organisational and cross-national data where these same relationships can be examined over time.

A longitudinal analysis may identify if CCCM organisations employ neutralisation techniques in response to a political event such as an international environmental agreement, or emerge before in a pro-active manner to forestall climate action such as the commitment to international environmental agreements. Such an examination could expand on the work of Fankhauser, Gennaioli, and Collins (2015) found, individual beliefs on climate change are often based on the reactions to political or ecologically destructive events. In the same way, CCCM organisations may also be extremely reactive to the external environment. These organisations may be susceptible to slight political changes and/or events at one point in time such as Climategate or an economic crisis (see also Boussalis and Coan, 2016; Carmichael, Brulle, and Huxster, 2017; Farrell, 2016a). Previous researchers have also measured how weather changes over time influence beliefs in climate change amongst the public (e.g. Bohr, 2016; Li, Johnson, and Zaval, 2011; Zaval et al., 2014). The same application could be applied to future research examining the operation of, and the adoption of neutralisation techniques used by CCCM organisations overtime.

This effort to understand change over time, ties in with investigations into if and how CCCM organisations may be changing their strategies to forestall climate change action. For example, research already indicates that corporate actors and CCCM organisations have begun to lobby and propose mechanisms for a form of ‘climate capitalism’ (e.g. Parr, 2013, Carroll and Sapinski, 2016; Sapinski, 2015, 2016). For instance, Peetz et al., (2017) noted that the standpoints of corporations, industry associations, think tanks, affiliated interest organisations, and NGOs claiming to actively respond to the climate crisis have been disseminated based on environmental sustainability. However, these groups actively distance their business behaviour from the policy positions that they promote. Corporate actors have begun to integrate a more sustainable face to some of their business practices, however, their historic and continuing connections with denial organisations, allow their potentially old ideological climate denial tendencies to help shape political policy and convince government’s and the public to question climate change science and action. In this sense, corporate actors have begun to support climate capitalism to justify the continued practice of accumulating capital, while appearing concerned about the environment (e.g. Lovin and Cohen, 2011; Wanner, 2015; Wright and Nyberg, 2015) and there is also evidence CCCM organisations may do the same.

Further investigation could also address the interlocking networks between CCCM organisations, corporate actors and government officials (e.g. Plewhe, 2014) using a sociology of crime and deviance framework. That is, further research can investigate the individuals and the interlocking networks with other actors within the CCCM that span across national boundaries, examining these through a crime and deviance lens. This prospective analysis could tell us more about how the TCC, or a small elite group, have the greatest access to environmental policy-making and influence the development of policy which links with the works of Carroll and Sapinski (2016) and Sapinski (2015, 2016). This is because, the global capitalist economy has reorganised production, requiring transnational markets to flourish and to maximise profits which has led to “the unprecedented concentration and centralisation of world-wide economic management,

control, and decision-making power in transnational capital and its agents” (Robinson, 2004, p.11). CCCM organisations will need to operate across countries to maximise their opportunity to expand global capital mobility and therefore profit making for the TCC. They may operate to disseminate the TCC ideological values, to try to “weaken environmental legislation, and align state policy more closely with the interests of dominant and transnational capital” (Benton, 2000, p.104). Future research could examine more specifically these links between CCCM and members of the TCC, such as fossil fuel industry actors.

One focus of this thesis was to examine if political, economic, and ecological factors could explain where CCCM organisations may operate and what messaging they adopt across countries. However, organisational factors may also be important for understanding the differences in CCCM organisation messaging. For instance, in Chapter Six, bivariate correlations revealed a significant association between neutralisation techniques COC and AHL and the political orientation of CCCM organisations. This supports the consensus across the CCCM literature which suggests a reason why organisations adopt contrarian messaging is based on their political values (e.g. Farrell 2016a).

Further research on organisational factors could also look at the role of gender in CCCM organisation staff members, the size of organisations and openness of their support for climate opposition (Boussalis and Coan, 2016), and funding sources (Brulle, 2014b) to see if these variables have stronger predictive power over CCCM neutralisation techniques compared to political, economic, and ecological factors. For instance, the funding sources have been reported to have played an integral role in organisational decisions to promote climate scepticism and how these messages differ if the organisations have or have not been funded by industry actors (Farrell, 2016a). Therefore, a similar inquiry into funding sources might differentiate and help predict the operation of CCCM organisations and the neutralisation techniques they employ, and how these may differ across the world.

There is reason to believe that the adoption of neutralisation techniques may also be based on the sources of information used by organisations across countries. More specifically, the adoption of neutralisation techniques may be the product of a well-documented group of climate denial scientists and larger prominent CCCM organisations that exert pressure or provide information and resources to organisations across the international network (e.g. Plewhe, 2014). For instance, in Chapter Six, 58.8% of CCCM organisations have cited information and contributions influenced by climate change contrarian scientists and these are located across geographic locations. While these are only preliminary associations, future examination may reveal positive and significant associations between these organisational characteristics and CCCM neutralisation techniques.

Even with the limitations of this research, this research provides ample evidence for understanding the CCCM. One, on initial investigation of the movement, I identified a universe of CCCM organisations across 53 countries. Unsurprisingly the sample was dominated by US based organisation, however the vast international network of defunct and operating CCCM organisations suggested it could be interesting to examine the cross-national differences.

Two, I proposed a sociology of crime and deviance framework could help us understand the arguments used by CCCM organisations in different countries. I have presented evidence that shows the arguments employed by CCCM organisations can be rebranded as CCCM neutralisation techniques. This shift to incorporate the sociology of crime and deviance into the study of the CCCM provides a lens in which I can argue the implications of the CCCM perpetuate ecologically destructive hegemonic fossil fuel based global capitalism. This conclusion mirrors previous interpretations of the CCCM by sociologists and political ecologists yet offers an original contribution through a sociology of crime and deviance lens.

Three, because of the geographic diversity in the CCCM organisational network, I investigated if the messages adopted by organisations in different countries would be different and linked with certain political, economic, and ecological conditions. I examined

these cross-national differences to test whether the theory of hegemony could help explain these differences. There is evidence to suggest that the Gramscian and neo-Gramscian concepts of hegemony may help explain the differences in CCCM organisations across countries. While these findings should not be over-stated, they do provide empirical support for the argument that CCCM organisations are agents of hegemony, disseminating ideological messages to sustain global capitalism.

8.5. Responding to the Climate Change Counter Movement

As with any analysis that has employed a sociology of crime and deviance framework, it is important to ask how this research can be used to support and develop strategies that could mitigate the impacts and potentially prevent such deviance. As a result, I consider what potential solutions can be drawn from this research to help understand the CCCM and what narrative strategies individuals and organisations can adopt to mitigate the impacts of CCCM organisations now and in the future. This is because, if we are to prevent future environmentally harmful behaviour's we must provide further insight into these oppositional arguments adopted by CCCM organisations that play a vital role in environmental policy-making (McCright, 2008). To begin recommending appropriate mechanisms to address this deviance, I turn to the work of researchers that have used neutralisation theory to address crime and deviance.

Maruna and Copes (2005) argued an effective way to address neutralisation techniques is to delegitimise these techniques. By rejecting neutralisation techniques as justifications for deviance, they may not be accepted as suitable justifications for deviance, and as a result this may potentially reduce deviance. One attempt has been made to put this recommendation into practice.

In 2016, there was an attempt made by the California Senate to implement the Senate Bill 1161 or the California Climate Science Truth and Accountability Act of 2016. The bill was set up to allow the US senate to prosecute fossil fuel companies, think tanks and other organisations in the CCCM that had "deceived or misled the public on the risks of climate change" (Allen, Jackson, and Leno, 2016, np). It would make these justifications unacceptable in the same way neutralisation techniques are delegitimised in traditional

crime and deviance literature. The bill was eventually dropped and several actors within the CCCM organisations attacked the proposal (e.g. Bastasch, 2016). They asserted the action itself was discriminating against groups and challenging freedom of speech (see also Spakovsky, 2016). In this case, the attempt to de-legitimise the arguments employed by CCCM organisation was, at the time, an ineffective tool for addressing this “offending” behaviour.

Clarke (2009) proposed responses to challenge the adoption of neutralisation techniques should be specific to the crime or deviant act. Because the response at the organisational level for tackling the actions of CCCM organisations has been unsuccessful, an understanding of how neutralisation theory has been used as a social-psychological tool for addressing deviance may provide a narrative framework to minimise the impact of CCCM messaging. By targeting members of the public and politician’s reaction to CCCM neutralisation techniques, we may find ways to challenge the rhetoric of CCCM organisation across the world (Levy and Spicer, 2013).

According to O’Neill and Nicholson-Cole (2009, p.369) it is important for those promoting climate action not to encourage “fear.” That is, “nonthreatening imagery” linked to an individual’s everyday emotions appear to be more effective and engaging than those images that spark fear or “hysteria.” This is because it becomes easier to reduce the anxiety of everyday emotions by using non-threatening images instead of, for example dying polar bears, which may create a cloud of doubt (Hamilton, 2010a).

It is also the case that with the issue of climate change, the ‘facts quail before beliefs’ (Hamilton, 2010a, p.2). Climate change does not lack scientific data, rather it has become embedded in a politically polarised culture where partisan beliefs have tended to guide public opinion over scientific fact (Nisbet, 2009). Climate change is not simply a physical phenomenon but has in fact been tied to personal feelings and attitudes which have great influence over someone’s behaviour. This means it may be necessary to go beyond a pollution paradigm - focused on the science arguments - and instead encourage an emotive response (Nordhaus and Schellenberger, 2007).

This emotive response however, does not have to come from fearful presentations of the catastrophic consequences of climate change. Rather because climate change has become a narrative embedded across politically partisan lines, Bain et al. (2012) contended that promoting a better society by for example reducing poverty by increasing the renewable industry sector may help inspire more meaningful action across partisan lines.

Combining the findings from Chapters Six and Seven which document the relationships between CCCM organisations, neutralisation techniques and political, economic, and ecological factors, I can offer some recommendations on the type of effective narratives that could be distributed to challenge CCCM opposition across countries.

DOR is a science-based technique that claims humans are not responsible for climate changes. One way to counter this technique could be to present 'accessible' scientific arguments that contest the pseudo-scientific arguments presented by CCCM organisations such as sun cycles leading to natural fluctuations in the climate, or the heat island effect (Sahagian, 2017). Some location-specific recommendations based on the findings in Chapter Seven about the use of DOR could be developed for countries that have a high % of GDP from NRR and FDI stocks.

Emphasising the scientific consensus in opposition to climate change could be an effective tool to counter this pseudo-science. But it is also important to consider the political-economic conditions that give rise to this form of denial such as an economy reliant on oil production (Norgaard, 2006). Thus, instead of promoting the position that polluting industries can provide economic growth and social development, promoting a cultural and environmental citizenship argument may include proposing that economic and social development can be achieved via renewable and clean energies. A similar action should be taken for those organisations that adopt science-based techniques DOI1 and DOV1.

The techniques COC, AHL and JBC are strategic forms of scepticism. Rather than focus on the science, CCCM organisations criticise and question climate change policies

and those helping shape these policies. Highlighting how climate change action can mitigate climate change and benefit human populations may address this strategic form of scepticism. For instance, where there are high levels of FDI stocks, and percentage of GDP from NRR, this research suggests AHL is more likely to be employed over other neutralisation techniques. As above, by outlining how the benefits of climate change action would promote economic and social development may help counter this form of opposition. This positive framing of pro-environmental behaviours may also be effective to help counter CCCM organisations who use the technique COC to undermine the work of environmental organisations, environmental scientists and environmental protection policies.

The results presented in Chapter Seven reveal that the US may have a strong influence on the messaging adopted by CCCM organisations. When US observations were included in the analysis, the count of universities conducting climate and earth science was strongly associated with all neutralisation techniques. Attacks on climate scientists are just one example of the politically polarised nature of the US and historical attacks on climate change scientists made by the US denial machine (e.g. Mann, 2013). Responding to organisations that use all techniques and particularly those that employ COC and AHL, it is important to emphasise that climate change is not an ideological debate, rather it is a decision that will affect all populations whatever their political persuasion. Moreover, continuing to present the scientific consensus and debunk the claims of corruption and false science should be distributed using several platforms including education, the media, and religious institutions.

Here, I have proposed a simple set of narrative strategies that can be employed into the public and political environment to counter CCCM organisational messages. However, there is the question about to what extent individual action can help stimulate the growth of environmentalism and drive social change that challenges fossil fuel hegemony at organisational and societal levels? That is, can countering climate change opposition on an individual basis, effectively help stimulate and reshape wider political-

economic conditions that challenge environmentally harmful modes of production and the global capitalist economy?

Furthermore, in an era of 'post truth's' within the realm of politics (Lewandowsky et al., 2017) where the use of contrarian science has become a tool to protect a hegemonic fossil fuel based global capitalist economy, an important question to ask is how can we best tackle these falsehoods. As Lewandowsky et al. (2017) proposed "communication alone cannot resolve such deep-seated political conflicts." Therefore, employing an alternative narrative to counter the response to CCCM organisations may not achieve the desirable change to address climate change. Instead, to resolve this, it may be that only political activism can challenge these political-economic conditions (see also Brulle et al., 2012).

This may be possible. One such example is the rise of China as a world leader in solar energy which has begun addressing climate change by committing to emissions reductions and developing alternatives to fossil fuels (Arrieta-Kenna, 2017). Even under a one-party communist state that is passionately dedicated to economic growth environmental quality is high on the agenda (Williams, 2016). In the backdrop of rapid industrial development from coal, the fastest growing economy, and the world's worst polluter, the Chinese population and ENGOs have become key civil society actors (World Watch Institute, nd) leading a pro-environmental movement for change to resist a hegemonic system of ecological additions and withdrawals that had previously appeared as the only tool for economic development.

8.6. Final Words

As Achenbach explained, "In the US, climate change sceptics have achieved their fundamental goal of halting legislative action to combat [global] warming. They haven't had to win the debate on the merits; they've merely had to fog the room enough to keep laws governing greenhouse gas emissions from being enacted" (2015, p.47). By employing what I contend are CCCM neutralisation techniques, lobbying, hosting events, and creating a media strategy, CCCM organisations have partly succeeded in sowing doubt about the causes and consequences of climate change. As evidenced in this

research, CCCM organisations are not simply a US phenomenon, although the impact of actions taken by CCCM organisations appear less prevalent in other parts of the world (see for instance, McCright et al., 2016, on public opinion on climate change in Europe).

There are several reasons why further research and the development of strategies to respond to CCCM opposition are more imperative than ever. First, there has been a political shift in the US which may change the way the world responds to climate change. In 2015, under former president Barack Obama, the US, once an outlier in international climate agreements (Falkner, 2005), signed the 2015 Paris Agreement. The Paris Agreement moved to strengthen the global response to the threat of climate change and keep global temperatures at the maximum below the two degrees' Celsius threshold (UNFCCC, 2017). However, following the 2016 general election, Hillary Clinton, the sported favourite to become first female president lost to Republican candidate Donald Trump. I can speculate that under the Trump administration and with the help of Republicans in Congress and the Senate the impacts of greater legislative power on climate change and energy policy are unknown (see also Klein, 2017).

Further worries about inaction on climate change emerge from the fact that there are several actors that joined the new Republican administration and/or are members of the transition team who have promoted climate sceptic views. For example, climate sceptic Myron Ebell became head of the EPA's transition team, climate sceptic Scott Pruitt is now the EPA chief, and ex CEO to Exxon Mobil, Rex Tillerson is Secretary of State. While I should not overstate these risks, the appointments do signal that climate scepticism may be elevated in US domestic and international policies on climate change.

Already, there is reason to believe these fears are not unfounded. Under the administration, the White House has prioritised investment in energy and environmental policy justifying this using what I argue is the technique AHL.⁴⁹ For instance;

⁴⁹ Donald Trump has disseminated CCCM oppositional positions, prior to, during the primaries and as elected president. On social media and during primary debates Trump has employed what I argue are CCCM neutralisation techniques. For instance, "The concept of global warming was created by and for the Chinese in order to make US manufacturing non-competitive" (Trump, 2012) "Ice storm rolls from Texas to Tennessee - I'm in Los Angeles and its freezing. Global warming is a total, and very expensive, hoax!" (Trump, 2013) "It's really cold outside, they are calling it a major freeze, weeks ahead of normal. Man, we could use a big fat dose of global warming" (Trump, 2015).

“For too long, we’ve been held back by burdensome regulations on our energy industry. President Trump is committed to eliminating harmful and unnecessary policies such as the Climate Action Plan and the Waters of the US rule. Lifting these restrictions will greatly help American workers, increasing wages by more than \$30 billion over the next 7 years” (White House, nd).

Moreover, we have seen the US remove itself from the 2015 Paris Agreement, signalling a departure from the global consensus on reducing carbon emissions. Even while the rest of the world continues to strengthen the commitment to limit global emissions, the US may diffuse its interests and anti-environmental policies across countries. The outcome of four (or more) years under a Republican presidency may mean that the CCCM is elevated within climate politics across the world.

Furthermore, reflecting the comments of Tingley and Tomz (2014), even if the US committed irrevocably to reducing its emissions and investing in renewable energies, it still contributes to foreign policy and production practices that allow higher emissions in other parts of the global economy. Identifying how and why these CCCM neutralisation techniques are adopted is imperative for addressing the ecological crisis and reducing the impact of the CCCM in the coming years.

At a global level, it is important to ask how the CCCM may react to what the Paris Accord signalled as a stronger attempt to reduce emissions and mitigate climate change. On this I again can speculate. As much of the world increases their targets for reducing GHG emissions, setting limits and funding renewable energy programmes, the world still relies largely on non-renewable and heavily polluting goods (Ladd, 2016). Across many parts of the world, we have seen the rise in natural gas fracturing (fracking) as an alternative to coal and oil. Yet this still relies on the extraction of resources and continues to support a hegemonic fossil fuel based global capitalist economy (Nyberg, Wright, and Kirk, 2017). Additionally, in 2016, the International Energy Agency reported that although it was a significant decrease compared to previous years, global fossil fuel subsidies reached \$325 billion. This subsidy was double the \$150 billion spent on renewable and cleaner energies. Moreover, the International Energy Agency expects that even with competition in the renewable energy sector, global gas markets will significantly increase.

Furthermore, corporate actors have come to influence sustainable development policy discussions (Miller and Dinan, 2015). They have adopted sustainable or more 'environmentally friendly' positions, however, researchers contend that this is still aligned with the neoliberal global capitalist economy and is ecological destructive (e.g. Nyberg et al., 2013; Parr, 2013; Sapinski, 2015). Bohr (2016) stated, "neo-liberal climate change deniers frame scientific knowledge as an attack on economic freedom when utilised to guide policy government environment-economy relationships" (p.812). In other words, some CCCM organisations argue that global capitalism and free market economic mechanisms are self-corrective and help reduce the risks from human caused climate change. Bohr emphasised this mechanism used by climate deniers allows them to promote action on climate change that can be aligned with the 'immediate interests' (p.823) of capital accumulation, thereby sustaining neoliberal global capitalism.

The idea of a 'green market fetishism' then (Foster, et al, 2010), has infiltrated ways to address and mitigate climate changes. For instance, Goodman and Salleh (2013) concluded that "while the degradation of the environment was seen as a tax limit to economic accumulation, in the new 'green economy', environmentalism seems to have become a rationale for extending market activity" (p.411). In response to the 'environmental crisis', evidence suggests that the 'hegemonic elite' are adjusting to a new phase of capitalism that incorporates environmental sustainability while sustaining economic growth (see also Igoe, Neves, and Brockington, 2010; Prudham, 2009). While the mechanisms and some merits of green capitalism have been documented (Newell and Paterson, 2011), the question is, does this challenge the hegemonic political-economic system that some researchers have proposed is the fundamental cause of ecological destruction (e.g. Foster, 1988; Lynch, 2016).

Drawing on the work of scholars including Foster (2015), Foster et al. (2010) and Brand and Wissen (2015), I suggest that the manifestation of a new phase of capitalism that connects economic growth and the development of markets, and ecological sustainability, may be fundamentally incompatible with the preservation of the biosphere. The new strategy of climate capitalism is supported by an ideology that is penetrating

across countries (Sapinski, 2016; Wanner, 2015). It has begun to support a new phase of capitalism, by instigating the beginnings of a passive revolution that continues the motives of economic growth and capitalism, but without the same commitment to fossil fuels. However, this new phase of capitalism may not be enough to protect the biosphere because the dynamics of global capitalism have set the conditions for denial to manifest (McKibben, 1989, 2005). Instead, a new ecological historical bloc that does not necessarily serve the interests of sustaining economic growth may be the only way to address the ecological crisis (Foster et al., 2010).

I can only speculate how CCCM organisations may respond to climate capitalism. They may change tactics and avoid the historical denial of climate science. Instead, while, they may not appear opponents of climate science, they may promote solutions to climate change that support this new phase of capitalism that may partially be less reliant on fossil fuels, but still supports the profit-making, hegemonic global capitalist economic system (see also Sapinski, 2015, 2016).

Only time will tell which strategies the CCCM adopts in response to the growing consensus on climate science. As climate changes begin to impact different populations, especially in countries that have yet to experience severe repercussions from climate change unlike Syria (Gleick, 2014), Ethiopia and The Gambia (Warner and Geest, 2013), and Czech Republic (Hlavinka et al., 2009), international and domestic climate change politics still face a treacherous road. Therefore, it is imperative that our understanding of the CCCM continues.

It is important then, that research on the movement can be formulated in a way to challenge and find solutions to the behaviour of CCCM organisations. It should help promote a global form of collective action to challenge the anti-environmental agenda of those wishing to protect the current global hegemonic bloc that, in its current form, is incompatible with both ecological and human welfare. Without considerable effort to integrate both academic work on the CCCM, government, the non-profit sector, and individual action, we may face a time where we must deal with the consequences of

climate change and adapt, rather than mitigate to prevent future harm caused by human caused climate change.

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**Rebranding the Climate Change
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Examination of Counter Movement
Messaging through a Criminological
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Appendix A
Summary of Organisations

Table A.1. Coding For Tables A.2, A.3 And A.4

Column Name	Contents of Column.
Name	Name of Organisation
Summary	Background Information
Example	Example quote taken from data
Sponsor	Sponsorship of one or more heartland Institute International Conference on Climate Change: 0 = no, 1=yes
CHC	Member of the Cooler Heads Coalition: 0 = no, 1=yes
Link	Organisation derived from
Type	Category of Organisation: 1) Advocacy Organisation 2) Think Tank 3) Trade Association 4) Coalition 5) University Based Research Institute 6) Professional Association 7) Foundation 8) Other
Date	Date appeared to have first discussed Climate Change
Country	Country of Origin
DOR Time 1	Denial of Responsibility Time One: 0 = no, 1=yes, 99 = missing
DOI1 Time 1	Denial of Injury One Time One: 0 = no, 1=yes, 99 = missing
DOI2 Time 2	Denial of Injury Two Time Two: 0 = no, 1=yes, 99 = missing
DOV1 Time 1	Denial of Victim One Time One: 0 = no, 1=yes, 99 = missing
COC Time 1	Condemnation of the Condemner Time One: 0 = no, 1=yes, 99 = missing
AHL Time 1	Appeal to Higher Loyalties Time One: 0 = no, 1=yes, 99 = missing
DOR Time 2	Denial of Responsibility Time Two: 0 = no, 1=yes, 99 = missing
DOI1 Time 2	Denial of Injury One Time Two: 0 = no, 1=yes, 99 = missing
DOI2 Time 2	Denial of Injury Two Time Two: 0 = no, 1=yes, 99 = missing
DOV1 Time 2	Denial of Victim One Time One: 0 = no, 1=yes, 99 = missing
COC Time 2	Condemnations of Condemnation Time Two: 0 = no, 1=yes, 99 = missing
AHL Time 1	Appeal to Higher Loyalties Time Two: 0 = no, 1=yes, 99 = missing
Other Time 2	Other Time Two: 0 = no, 1=yes, 99 = missing
Economic Liberty	Promote the values of free markets, individual liberty, property rights
Traditional Values	Promote traditional values (i.e. American values)
Funding available	Freely provide financial information on website
Funded	Evidence of funding from fossil fuel industry
ICSC	Member of the organisation is signed to the International Climate Science Coalition Manhattan Declaration
Heartland	Organisation cites one or more of Heartland Institutes Climate Sceptics

Table A. 2: Summary Of Organisations

Name	Summary	Example Quote	Sponsor	CHC	Link	Type	Date	Country
Instituti Liberal Shqiptar (Albanian Liberal Institute)	Libertarian think tank. It was part of the Stockholm Network recognised as a climate sceptic organisation. It appears defunct since 2012. It promoted the work of climate sceptics including Indur Goklany.	<i>“attempts to plan national economies failed dismally, destroyed the environment and harmed millions of people. Climate control by global and national governments would likely have the same consequences”</i> (2005).	0	0	Independent Institute	2	2005	Albania
Fundacion Atlas	Foundation promoting the values of individual freedom, economic liberty and free enterprise (http://www.atlas.org.ar/index.php?m=seccion&s=4). It is linked with several people working for organisations that are also fellows at other CCCM organisations including Donald Boudreaux (George Mason University)	<i>“Skewed many times by ideological elements infiltrating those involved in ordinary of the ecological problems”</i> (2015).	0	0	Independent Institute	7	1998	Argentina
Centro de Investigaciones de Instituciones y Mercados de Argentina	Think tank that has previously co-sponsored and promoted the Heartland Institutes International Conference on Climate Change. It was a member of the CSCCC. The director general is climate sceptic Martin Krause.	<i>“An unfortunate example of a lack of scientific rigor and fanaticism bordering on fascist”</i> (2007).	1	0	Heartland Institute	2	2007	Argentina
Instituto Acton	Think tank connected to other CCCM organisations including the Acton Institute (USA), Fundacion Bases (Argentina), Libera (Belgium), and Andes Libre (Peru).	<i>“The world's poor will suffer with these [climate change] policies... These policies dooming hundreds of millions of our fellow human beings to continuous poverty”</i> (2015).	0	0	Acton Institute	2	2015	Argentina

Fundacion Bases	The organisation aims to influence university student attitudes, promoting values of economic freedom and individual liberty. It is connected to several other organisations identified as CCCM organisations (http://www.fundacionbases.org/cms/index.php?option=com_content&task=view&id=14&Itemid=30). They have cited the work of climate sceptics including Patrick Michaels.	<i>"Inconvenient truths of "Climategate" (2010).</i>	0	0	Relial	1	2010	Argentina
Libertad Progress (Argentina)	Think tank promoting the values of individual rights, limited government, private property and free enterprise. They reference several other CCCM organisation covering articles and issues on climate change including CIIMA (Argentina).	<i>"The fact is, CO₂ is not a pollutant" (2009).</i>	0	0	Fraser Institute	2	2009	Argentina
Bert Kelly Research Centre	Think tank that has hosted events attended and led by climate sceptics including Mark Steyn and Bob Carter. This included the book launch of Ian Plimer's climate sceptic book. It promotes the values of free markets and small government.	<i>"By questioning every precept, analysing every extravagant claim and insisting on the importance of empirical evidence – have helped to keep the IPCC honest and the spirit of true scientific enquiry alive" (2015).</i>	0	0	Australian Libertarian Society	2	99	Australia
Australian Privacy Foundation (APF)	The APF is an association dedicated to protecting the rights of home owners in Australia. It focuses on the political decision making of governments.	<i>"...tactics smack of political opportunism..." (2007).</i>	0	0	Australian Libertarian Society	8	2007	Australia

Australian Taxpayers Alliance	Advocacy organisation promoting the values of free markets and limited government. One of its research fellows is climate sceptic Patrick Michaels (http://www.taxpayers.org.au/about_us). It has co-sponsored one of the Heartland Institute's International Conference on Climate Change.	<i>"While the climate extremists and rent-seekers should be happy to see such a bloated government, hard-working productive people may not enjoy the fact that they are paying extra taxes to fund this never-ending growth of government spending"</i> (2012).	1	1	Heartland Institute	1	2012	Australia
Centre for Independent Studies (CIS)	Think tank that has produced the report <i>Global Warming Hypothesis</i> , criticising proposed action taken by the Australian government to address ACC. The organisation cites several climate sceptics on its website including Sallie Baliunas, Robert Baling and Patrick Michaels. Members of the organisations also previously supported the Leipzig Declaration.	<i>"Rhetoric leading up to the Kyoto Conference, have aroused widespread fears of global warming as a consequence of the build-up of greenhouse gases, primarily CO₂, caused by capitalism's voracious consumption of fossil fuel energy. Exploiting these anxieties, lobby groups and the media have put governments under strong pressures to cut consumption of fossil fuels with the objective of curbing greenhouse gas emissions"</i> (1998).	0	0	Fraser Institute	2	1998	Australia
Climate Sceptics Party	Australian based political party focused specifically on denying climate and promoting their political values around this issue. It has co-sponsored previous Heartland Institute's International Conference on Climate Change and is connected to several other CCCM organisations including ICSC (USA), ICECAP (USA) and ICEAGENOW (USA). It promotes the work of several climate sceptics.	<i>"The Sun has a greater correlation with CO₂...Others say global warming has negative impacts. In fact the reverse is true"</i> (2015).	1	0	Heartland Institute	8		Australia

The H.R. Nicholls Society	The H.R. Nicholls Society is a think tank that produces research and advocates on various policy issues. One of its co-founders was climate sceptic Ray Evans, who also co-founded the Lavoisier Group (Australia).	<i>"The Global warming scam and its accompanying anti-human rhetoric"</i> (2000).	0	0	Australian Libertarian Society	8	2000	Australia
The Galileo Movement	Australian advocacy organisation set up specifically to challenge climate change (http://www.galileomovement.com.au/). Several contrarian scientists are independent advisors to the organisation (http://www.galileomovement.com.au/who_we_are.php)	<i>"CO₂, like oxygen, is a naturally occurring colourless, odourless, tasteless, invisible gas, non-toxic, and essential for life. Unlike oxygen though, CO₂ is only a trace gas"</i> (2011).	0	0	Climate Realists, New Zealand	1	2011	Australia
Lavoisier Group	Australian based think tank set up specifically to criticise the consensus on climate change (http://www.lavoisier.com.au/articles/climate-change-most-downloaded.php). Useful links included several blogs and CCCM organisations including Friends of Science (Canada) (http://www.lavoisier.com.au/articles/climate-change-links.php). Several climate sceptics are members of the organisation.	<i>"Our economy is now at risk from the imposition of a carbon tax (a tax on burning fossil fuels) which will turn our cheap energy into expensive energy, with serious consequences for every Australian"</i> (2000).	1	1	Heartland Institute	2	2000	Australia
Carbon Sense Coalition	Advocacy organisation connected to CCCM organisations including CO ₂ Science, Australian Climate Science Coalition, and Friends of Science (https://carbon-sense.com/). The organisation was set up by Viv Forbes and committee members are related to	<i>"Man does not control these global events"</i> (2007).	1	0	Heartland Institute	4	2007	Australia

companies such as Northern Energy Corporation (<http://carbon-sense.com/wp-content/uploads/2007/06/carbon-coalition.pdf>). The organisation has previously co-sponsored the Heartland Institute's International Conference on Climate Change.

Mannkal Economic Education Foundation	Foundation promoting the values of free enterprise and limited governments. Contrarian scientists such as Vaclav Klaus and David Archibald produce documents for the organisation including full articles or op-eds, texts such as <i>Thank God for Carbon and Solar Cycle 24</i> . The organisation has previously co-sponsored the Heartland Institutes International Conference on Climate Change.	<i>"Man-made CO₂ emissions throughout human history constitute less than 0.00022 percent of the total naturally emitted from the mantle of the earth during geological history"</i> (2015).	1	0	Heartland Institute	7	2009	Australia
Australian Environmental Foundation (AEF)	Foundation that focuses on environmental issues. It promotes the work of climate sceptics including Ian Plimer and the Bob Carter. It has a section dedicated to climate news and produces regular reports on domestic and international environmental policy.	<i>"While it may be true to say that "We are all environmentalists now", the great majority of Australians have little or no say in the environmental policies being put to governments – federal, state or local. These policies are almost exclusively the domain of a tight network of conservation groups ensuring one view, and one view only, is put forward"</i> (2015).	0	0	Australian Libertarian Society	7	2007	Australia
Institute for Public Affairs (IPA)	Think tank promoting the values of free markets and economic and political freedoms. It has been linked with climate sceptics including Bob Carter	<i>"Knee-jerk government policies in response to activist campaigning can have far-reaching economic</i>	1	0	Fraser institute	2	1997	Australia

	with a department dedicated to food and the environment.	<i>implications while achieving no environmental benefit” (2015).</i>						
Australian Libertarian Society	Advocacy organisation promoting the principles of free markets, neoliberalism, and strands of libertarian thought (https://alsblog.wordpress.com/about-als/). It has previously co-sponsored the Heartland Institute's International Conference on Climate Change, and collaborated with other organisations including the IPA (Australia).	<i>“Is Kyoto another Iraq war - another huge government program based on fear where benefit-cost analysis is irrelevant?” (2003).</i>	1	0	Fraser institute	1	2003	Australia
Hayek Institute	Think tank that conducts research on several policy issues. It promotes the values of market based solutions to policy issues such as poverty and education. It has cited several CCCM contrarians including Patrick Michaels and has previously co-sponsored several of the Heartland Institute's International Conference on Climate Change.	<i>“It is the propaganda around the world produced fear of the "global climate", the "climate catastrophe" and "Climate change" (2015).</i>	1	0	Heartland Institute	2	2000	Austria
Austrian Economics Centre	Think tank promoting the values of economic freedom and individual liberty. Contrarian scientists Nigel Lawson sits on its board of directors and it is partnered with several other CCCM organisations including the US based Cato Institute, Americans for Tax Reform and the Fraser Institute (http://www.austriancenter.com/cooperation/). It has previously co-sponsored several Heartland Institute International Conference on Climate Change.	<i>“Climate control has become a major issue around the world as of late. Alarmist messages have been sent around the world about global warming, global climate change, and sometimes even global cooling” (2007).</i>	1	0	Hayek Institut	2	2007	Austria

The Nassau Institute	Think tank that promotes the values of free market economies, economic growth, limited government, and private property rights. It refers to several climate contrarians to support different points on climate change.	<i>"If we are to have a rational policy on the complex issue of global warming, it will require more than the current simple-minded government responses. Many important questions remain unanswered about the intricate science of climate change. These questions need to be presented clearly and in a more balanced way to the public before committing to any costly "solutions" (2003).</i>	0	0	James Madison Institute	2	2003	Bahamas
Thomas More Institute	Think tank that promotes the values of economic freedom and market economies (http://institut-thomas-more.org/a-propos/). It was originally identified by Plehwe (2014).	<i>"...A true ideology - whose sources are too little known to the public and often disturbing goals - has she not monopolised and sterilised every discourse on the environment...?" (2005).</i>	0	0	Plehwe	2	2005	Belgium
European Enterprise Institute	Free market think tank (http://www.european-enterprise.org/). It has published reports and articles on climate change and Kyoto (e.g. http://www.european-enterprise.org/items/whatwedo/policynotes/01_policy_note.pdf). The organisations director of external relations is climate sceptic Chris Horner. Several climate sceptics are cited or have produced reports for the organisation including Roger Bates and Margo Thorning.	<i>"The Kyoto Protocol and the much tighter emission reduction targets being discussed for the second commitment period for developed countries would slow economic growth globally and have no measurable impact on atmospheric concentrations of CO₂. The developing countries have no intention of slowing their economic development by curbing energy use, nor should they" (2005).</i>	0	0	Greenpeace	2	2005	Belgium

Instituti Economique Molinari	Think tank promoting values of economic freedom, less regulation and lower taxes. It co-operates with a several other think tanks including Timbro (Sweden), the Adam Smith Institute (UK), Montreal Economic Institute (Canada). It has a section based on European environmental policy. It has cited the work of climate sceptics including Bjorn Lomborg.	<i>"... The science and economics of global warming are far from settled... While the most recent warming phase coincides with a significant increase in man-made emission of greenhouse gases, the temperature increase in the first half of last century doesn't, suggesting that much climate change may not be man-made after all. Global temperatures have fluctuated dramatically over the past 1m years from purely natural causes, with changes in the earth's orbit leading to a series of eight glacial and interglacial cycles"</i> (2003).	0	0	Independent Institute	2	2003	Belgium
European Centre for International Political Economy	Think tank that promotes the liberalisation of the economy. It is connected to the CCCM organisation the Free Enterprise Foundation. The organisation was originally identified by Plehwe.	<i>"Green protectionism is not about environmental policy itself, but about adding non-environmental objectives that are discriminatory, or overly trade restrictive in intent and/or effect, to environmental policy"</i> (2009).	0	0	Plehwe	2	2009	Belgium
LIBERA	Think tank first identified by Plehwe (2014) as an actor in the European Network of CCCM organisations. It has previously co-sponsored the Heartland Institute's International Conference on Climate Change.	-	1	0	Plehwe	2	99	Belgium

Centre for New a Europe	Defunct Foundation that discussed policy making on various European policies. They cite the work of several contrarians including Fred Singer (https://web.archive.org/web/20031212022452/http://www.cne.org:80/publications2.htm). It had co-sponsored the Heartland Institute's International Conference on Climate Change.	<i>"The earth's climate, as measured in the atmosphere, is currently not warming"</i> (2000).	1	0	Greenpeace	7	2000	Belgium
Scientific Research Mises Centre	Think tank promoting private property rights, and capitalism as the most effective economic system. The organisation argues the "government , represented by politicians, bureaucrats and state-owned enterprises, the main source of depression, structural imbalances, unemployment, environmental disasters, inequality, discrimination, poverty and armed conflicts;" (http://liberty-belarus.info/kto-my)	<i>"The analysis of statistical data for the past 50 years shows that the heating effect of CO₂ has been greatly exaggerated. Consequently, the whole uproar green and their political supporters, has another goal - to clear the taxpayers' money under the highly controversial project, to intervene in the process of production of goods and services, distort the information field"</i> (1999).	0	0	Cato Institute	2	1999	Belarus
Instituto Liberdade	Think tank that has a dedicated section to climate change. It was a co-sponsor of the Heartland Institute's International Conference on Climate Change. It has promoted and used the work of contrarian scientists including James Delingpole.	<i>"Tackling poverty is likely to be a better way of addressing these problems than attempting to control the climate"</i> (2004).	1	0	Civil Society Coalition on Climate Change	2	2004	Brazil
Fake Climate.com	Fake Climate is a platform for a group of researchers depositing research dedicated to undermining climate science, scientists, environmentalists and presenting oppositional research to	<i>"anthropogenic is just a smokescreen to hide the true government intentions, led by the British, US and other European countries, to manage our natural resources, sell "green"</i>	0	0	Instituto Liberdade	8	2009	Brazil

	the public. It incorporates the work of climate sceptics including Willie Soon into its regular blog posts (e.g. https://realclimatescience.com/2016/10/climate-debate-at-rice-university/).	<i>products, impose political, economic and military sanctions, as well as orchestrating forms of energy production and management of underdeveloped countries and the richest resources” (2009).</i>						
The Plinio Correa De Oliveira Institute	Professional law association that claims to defend Christian interests and campaigns against socialist legislation (http://p.rlkpro.com/l/r84h4bABF1177). It has reported on the issue of climate change supporting research such as <i>global warming has stopped for 16 years</i> by climate sceptic Judith Curry.	<i>“The global warming scam, with the (literally) trillions of dollars that have corrupted many scientists, and led to APS as a rogue wave” (2011).</i>	0	0	Instituto Liberdade	6	2011	Brazil
Instituto Ordem Livre	Civil association promoting the ideas of individual freedom and free markets. The organisation uses sources and articles by contrarian scientist Indur Gokany and Donald Boudreaux (Chairman of the Department of Economics and George Mason University) (http://economics.gmu.edu/people/dboudreaux).	<i>“Some alarmists accept this irrefutable logic, but claim that the planet is on the route of destruction. For these eco-terrorists, the core problem is not the limit of the resource itself, but rather the consequence of economic growth.” (2008).</i>	0	0	Libre Afrique	8	2008	Brazil
Instituto Millenium	Think tank promoting the values of free markets, individual liberty and the market economy. It has drawn on some of the work of Bjorn Lomborg to present the issue of energy policy as a cost benefit analysis.	<i>“At the same time, there are sceptics, as the researcher and statistician Bjorn Lomborg, with arguments in favour of the cyclical behaviour of the global climate, no cause and effect with pollution. By the stated facts were researchers from the IPCC or the correct sceptics? The best option would be common sense” (2010).</i>	0	0	Fundacion Bases	2	2010	Brazil

Liberty Institute	Think Tank related to the Heartland Institute, the NIPCC and the CSCCC for many years	-	0	0	Plehwe	2	2002	Bulgaria
Institute for Market Economics	Think tank promoting the values of free markets and individual liberty. It was one of the original members of the CSCCC.	<i>"...more and more frequently the movement in question (proclaiming global warming) is being referred to as religious, since it is based not on facts but on the faith of its followers" (2007).</i>	0	0	Civil Society of Coalition on Climate Change	2	2007	Bulgaria
Centre for Human Affairs	Think Tank that was a member of the CSCCC.	-	0	0	Civil Society of Coalition on Climate Change	2	99	Burkina Faso
Foundation for Habitat Conservation	Foundation that makes contributions to conservation work. It was first identified by Greenpeace as a questionable organisation. More recently, it promotes action on climate change, putting in place education programmes and grants to more sustainable protection.	-	0	0	Polluter Watch	7	2001	Canada
Frontier Centre for Public Policy (FCPP)	Think tank that focuses on various policy issues (https://fcpp.org/about/). It has a section dedicated to research on climate change and other environmental and energy policies. It cites several climate sceptics including Paul Driessen, Patrick Moore, and Willie Soon.	<i>"Global temperature measurements remote from human habitation and activity show no evidence of a warming during the last century" (2001).</i>	1	0	Fraser Institute	2	2001	Canada

C.D Howe Institute	Think tank promoting the values of free markets and individual liberty. It covers a variety of policy issues including energy and natural resources. More recently, it appears to be more supportive of action to address climate change. (e.g. https://www.cdhowe.org/research-sub-categories/environmental-policies-and-norms).	<i>"In devising ways to reduce emissions of greenhouse gases (GHGs), Canada's policy toward climate change should neither cause unnecessary declines in Canadians' standard of living nor put Canada at an unfair disadvantage relative to other countries... there is as yet no scientific consensus on just how serious a problem heat-trapping GHGs caused by human activity might be and that predictions of climatic models are constantly being revised..." (1997).</i>	0	0	Fraser institute	2	1997	Canada
Macdonald Laurier Institute	Think tank that has a specific department dedicated to energy policy.	<i>"Similarly, some scientists now speculate the reason global temperatures have not risen nearly as fast as their models predicted is they neglected the impact of oceans acting as a carbon "sink" that trap greenhouse gas emissions...It is preposterously hubristic but entirely human to think we correctly modelled all the complexity of the climate in our first serious attempts at it" (2015).</i>	0	0	Fraser Institute	2	2010	Canada
Friends of Science (FOS)	Advocacy organisation specifically focusing on climate change and environmental policy. It has been at the centre of a scandal whereby they have received funding from known coal organisations in Canada https://www.desmog.ca/2016/06/20/canadian-climate-denial-group-friends-science-named-creditor-coal-giant-s	<i>"Climate Change is a normal aspect of earth history and predates any human influence... During the past million years the planet did not need human influences to get warmer!" (2002).</i>	0	0	Lavoisier Group	1	2002	Canada

	bankruptcy-files) Several climate sceptics work for the organisation.							
Coal Association of Canada	Canadian Trade Association working on behalf of the coal industry in Canada. Previously named the Western Coal Operators Association.	<i>"...it was necessary for the government to have a climate plan in place before attending COP21 in Paris last December, but points out that it has not provided any details since the November announcement. This leaves a lot of unanswered questions about the unintended consequences of the plan, such as how municipalities will replace their reduced tax bases and address increased operating costs, how workers will be retrained, and what steps will be put in place to ensure Albertans have reliable and affordable electricity"</i> (2015).	0	0	American Coal Foundation	3	1997	Canada
Ontario Petroleum Institute	Trade association for petroleum industry actors and geologists,. It advocates on behalf of its members disseminating research and working with government agencies to promote the interests of the industry.	<i>"The climate has changed constantly since the dawn of time"</i> (2015).	0	0	Independent Petroleum Association	3	2014	Canada
Manning Centre	Think tank working on various policy issues. They cite the work of numerous climate sceptics including Bjorn Lomborg, Richard Lindzen and Roy Spencer.	<i>"As the great Canadian physician Sir William Osler once noted, "the greater the ignorance, the greater the dogmatism." It is a useful adage for the climate debate...Consensus is a useful term in the political sphere, but less helpful when imported into science"</i> (2010).	0	0	Independent Institute	2	2010	Canada

Fraser Institute	Think tank producing research covering a wider variety of policy issues. It has a research area dedicated to the environment and numerous contrarian scientists such as Kenneth Green and Ross McKittrick work for the organisation (https://www.fraserinstitute.org/about/experts). In a 1992 booklet they provide seven chapters dedicated to different section of the 'climate change debate' written by various climate sceptics.	<i>"As global warming is a theory and not a fact, doing nothing about it might indeed be costless. But, even if global warming is occurring, many scientists agree that delaying action by 15 to 25 years would not impose serious additional costs"</i> (1992).	0	1	Cooler Heads Coalition	2	1992	Canada
Environment Probe International	Think tank that conducts research on environmental and other policy issues. It has different divisions including Probe International (advocacy group), Energy probe part of the organisation dedicated to research on climate change, and the Urban Renaissance Institute and the Environmental Bureau of Investigation.	<i>"Environment Probe works to expose government policies that harm not only Canada's forests, fisheries, waterways, and other natural resources but also the economy."</i> (2015).	0	0	Individual Centre for Research on Environmental Issues	2	1989	Canada
Atlantic Institute for Market Studies (AIMS)	Think tank conducting research on various policy issues. This includes a section dedicated to energy and the environment (http://www.aims.ca/energy-environment-publications/). It has quoted and used some of the work of climate sceptics such as Bjorn Lomborg.	<i>"Kyoto is the usual environmental activist's overreaction that has caused misery in the developed world as governments react to alarmist predictions of doom and gloom, most of which have no basis in fact and rarely because the problems predicted for them"</i> (2002).	0	0	Fraser Institute	2	2002	Canada

Montreal Economic Institute	The organisation has previously uploaded and provide documents to the public taken from Friends of Science such as http://www.iedm.org/uploaded/pdf/kyoto_news1105.pdf . It is linked to e other CCCM organisations in Canada (Frontier Centre for Public Policy and the Fraser Institute) and in the US (e.g. CEI, Heartland Institute, Heritage Foundation).	<i>“There is a certain fringe of the environmentalist movement whose members have almost nothing good to say about their fellow men and women. If not for humans, they sometimes explicitly argue, the Earth would be a wonderful place”</i> (2015).	0	0	Fraser Institute	2	2001	Canada
Natural Resources Stewardship Project (NRSP)	Defunct advocacy organisation that focused on promoting education on environmental stewardship. It had a specific section dedicated to understanding climate change criticising the role of NGOs and government in addressing climate change based on, what it claimed, was an ideological agenda (https://web.archive.org/web/20090501005456/http://nrsp.com/background.html).	<i>“CO₂ is very unlikely to be a substantial driver of climate change and is not a pollutant. Global climate change is primarily a natural phenomenon and so governments should focus on solving environmental problems over which we have influence (air, land and water pollution being obvious examples). NRSP will articulate a vision that also promotes assisting our most vulnerable citizens adapt to climate change while encouraging continued research in this exceptionally complex field”</i> (2006).	0	0	SPPI/Greenpeace	1	2006	Canada
Canadian Taxpayers Federation	Advocacy organisation promoting the values of small government and lower taxes. It focuses on various policy issues including carbon tax and the impacts of environmental regulation. They support some of their positions on climate change by using the work of climate contrarians including Richard Lindzen	<i>“The consequences of global warming are vastly overstated”</i> (2008).	0	0	Fraser Institute	1	2002	Canada

(<https://www.taxpayer.com/media/GlobeWarm11-15WEB.pdf>).

Ludwig Von Mises Institute Canada Branch	Canadian Branch of the Ludwig Von Mises Canadian branch. Its position on climate change does differ. It conducts research on several policy issues. It promotes the values of free markets, market economy, private property rights and laissez faire economies.	<i>"... it is getting cooler not warmer (and hence the change of the rhetoric to a vague concern over"</i> (2010).	0	0	Independent Institute	2	2010	Canada
Institute for Competitiveness and Prosperity	The Institute for Competitiveness of Prosperity is a Canadian think tank In general, they accept that climate change is real, but question proposed policies that would harm economic and social development.	<i>"The Plan is poorly designed, and targets high cost emissions reductions. Ontarians will indirectly be paying upwards of \$525 per tonne of carbon abated"</i> (2015).	0	0	Montreal Economic Institute	2	99	Canada
Democracy and Market Institute	Think tank that was originally part of the CSCCC. No other information is available.	-	0	0	Civil Society Coalition on Climate Change	2	2008	Chile
Instituto Libertad y Desarrollo (Chile)	Chilean based research institute promoting the values of a free society (http://lyd.org/quienes-somos/). It has a section department dedicated to regulation and the environment	<i>"There is no doubt that climate change has been installed in the global agenda as a concern matter... however, little has been said of the eventual costs of these actions. If we add the critical financial situation suffered by countries of the European Union and the USA, it is very likely that the availability of resources and the disposition to undertake commitments in climate change matters are reduced"</i> (2015).	0	0	Montreal Economic Institute	6	99	Chile

Cathay Institute for Public Affairs	Think tank that was a member of the Network for a Free Society, and the Atlas Network. The organisation was a former member of the CSCCC and has a specific research section dedicated to environmental issues including environmental protection. They cite the work of climate sceptics including Christopher Monckton. It has previously co-sponsored one of the Heartland Institutes International Conference on Climate Change and is connected to several other CCCM organisations including the Heartland Institute (USA), IDEAS (Malaysia), and the Cato Institute (USA).	<i>“Although global warming is really true, and is likely to cause problems, it has been distorted by alarmists who claim that unless drastic and urgent measures, otherwise catastrophic climate change will make human extinction”</i> (2008).	1	0	Heartland Institute	2	2008	China
Uni-rule Institute of Economics	Uni-rule is a research centre covering several policy issues. It produced policy reports including those based on the environment. Its partners include the Atlas Network Research Foundation and the Cato Institute. It appears to be inactive since 2016.	<i>“It is very difficult to tell whether actual increases in temperature are outside the usual range and, thus, hard to tell how much warming may have occurred”</i> (2015).	0	0	Institut Euro 92	2	1999	China
Centre for Economic Transition	The organisation was a member of the CSCCC. No other information is available.	-			Civil Society Coalition on Climate Change	99	99	China
IPENCIL Economic Research Institute	Think tank promoting the values of individual liberty, freedom and market economies. It has section of its website dedicated to environmentalism and problems with environmentalists. They promote the work of climate sceptics including Vaclav Klaus.	<i>“... Solar activity is the main cause of the twentieth century global warming. Human GHG’s do not matter much...”</i> (2011).	0	0	Libre Afrique	2	2011	China

China Centre for Economic Research	Think tank that was an original member of the CSCCC. The organisation appears to be inactive since 2016.	-	0	0	Civil Society Coalition on Climate Change	2	99	China
Institute for Liberty and Public Policy Analysis (ILPPA)	Think tank that was a member of the CSCCC. It has published work by other CCCM organisations including the Cato Institute (USA), and includes the work of contrarian scientists including Indur Gokany.	-	0	0	Civil Society Coalition on Climate Change	2	2002	Costa Rica
Association for Free Consumer	Advocacy association that works on behalf of individuals to promote the value of consumer rights and economic freedom. It has a programme dedicated to environmental issues.	<i>"[On Environmentalists] False Prophets and fear mongers"</i> (2004).	0	0	Independent Institute	1	2004	Costa Rica
CEVRO: Liberal Conservative Academy	Think tank connected to the Czechian Civil Democratic Party. Climate Sceptics including Bjorn Lomborg have been speakers at the institute. They cite the work of other contrarians such as Patrick Michaels.	<i>"Global Luke-warming"</i> (2015).	0	0	International Republican Institute	2	2011	Czech Republic
Prague Security Studies Institute	Think tank organisation dedicating policy issues on various policy issues which includes an Energy Security Program.	<i>"We cannot accuse China for using dirty coal which brings a lot of CO₂ emissions into the atmosphere...because, as we all know, the climate change issue is a historical issue. And it was the OECD countries which have emitted carbon into the atmosphere since the Industrial Revolution, and we cannot now ask developing countries to use</i>	0	0	Instituto Liberdade	2	2004	Czech Republic

		<i>more expensive resources during their developmental phase, which is an important aspect of their economic growth” (2015).</i>						
Civic Institute	Think tank focusing on various policy issues. It promotes the values of conservatism and a free society. Several contrarian scientists including Fred Singer have produced op-eds and blog posts for the organisation, Stephen McIntyre and Ross McKittrick.	<i>“The fact that the observed and predicted warming models do not match, it shows that the contribution of human greenhouse current changes the temperature is insignificant” (2008).</i>	0	0	Instituto Liberdade	2	2008	Czech Republic
Liberalni Institute	Free market think tank that promotes the values of free markets, property rights and individual liberty. They are connected to other CCCM organisations including the Atlas Economic Research Foundation and was a members of the CSCCC.	-	0	0	Civil Society Coalition on Climate Change	2	99	Czech Republic
Environmental Assessment Institute	The Environmental Assessment Institute was previously set up by Bjorn Lomborg, then became a department in the Danish Economic Council.	<i>“Climate change would allegedly threaten one million animal and plant species soon extinction. But how safe are the researchers? A group of internationally recognised experts concludes that, poses the greatest threat to the public health. Politicians need a better basis for prioritising efforts” (2007).</i>	0	0	Copenhagen Consensus Centre	2	2002	Denmark
Centre for Political Studies (CEPOS)	Think tank that promotes the values of personal freedom, less government, lower taxes. It was a member of the CSCCC.	<i>“We face huge manmade challenges in the coming generation. But climate change is not among the biggest problems...” (2013).</i>	0	0	Civil Society Coalition on Climate Change	2	2013	Denmark

The Copenhagen Institute	Libertarian free market based think tank. The organisation appears to be defunct from 2015. It was first identified by Plehwe (2014) as a climate sceptic organisation.	-	0	0	Plehwe	2	99	Denmark
Ecuadorian Institute of Political Economy (IEEP)	Think tank conducting research on several policy issues relating to markets and economics. It was founded with the support of the Atlas Economic Research Foundation. It promotes the values of a "moral capitalism" property rights and small government.	<i>"The globe has warmed and cooled many times in the past four thousand years. At certain times, our planet has been cooler and warmer at other times"</i> (2015).	0	0	Civil Society Coalition on Climate Change	2	1991	Ecuador
Institut Turgot	Think tank previously identified by Plehwe (2014). It uses some of the work of contrarians such as Fred Singer.	<i>"The popular imagination is captivated beliefs that have no scientific basis"</i> (2007).	0	0	Montreal Economic Institute	2	2007	France
Institut Coppet	Think tank based on principles of neo-liberalism (http://www.institutcoppet.org/linstitut-coppet). It promotes the work of climate sceptic actions including the release of Climate Hustle (http://www.institutcoppet.org/2015/11/11/vous-etes-invite-a-la-premiere-mondiale-du-nouveau-film-climate-hustle-lors-de-la-cop21), and is connected to other CCCM organisations including CFACT (USA & Europe).	<i>"A balance that favours large groups...green energies that increase pollution...impoverishment of the population"</i> (2014).	0	0	CFACT	2	2014	France

Institute for Research in Economic and Fiscal Issues	Think tank promoting the values of economic freedom. One of its areas of focus is the environment and energy policy (http://en.irefeurope.org/+Environment,m1011-+).	<i>“Some eminent agencies such as NASA have proven to be selective about the global warming science, which chooses to trumpet the data on the melting of Greenland, but doesn’t say a word on the data on Antarctic, which happen to show the opposite trend” (2009).</i>	0	0	Libre Afrique	2	2009	France
Institut Euro 92	Think tank first identified by Plehwe (2014) as an organisation questioning climate change policy. It has cited the work of climate sceptics such as Johnathan Adler to justify its opposition on climate change.	<i>“Even if one accepts the assumption that stabilise atmospheric pollution for the next hundred years reduces the risk of climate catastrophe, it is not at all certain that such a policy is however desirable.... Such a policy, because of the setback given to economic development, expose us to risks at least as great, if not even more important than those to which we are told that we expose the global warming, even in its variants of the most horrific scenarios” (2004).</i>	0	0	Plehwe	2	2004	France
Thomas More Institute (France)	Think tank working on a variety of policy issues. It promotes the values of freedom and responsibility and market economy. It is the French partner to the Belgian based Thomas More Institute	<i>“What is sure is that climate is complex and its modelling is fraught with uncertainties! On the other hand, numbers are too often chosen to impress, to score points in arguments rather to inform. Alarmists do not necessarily intend to present an objective climate situation, but rather to shock the people into taking action which serve their purpose” (2004).</i>	0	0	Plehwe	2	2004	France

Institute for Economic Studies	Think tank that promotes the values of individual liberty, protection of property rights, and free markets.	<i>“The current global warming debate is not about temperature or CO₂ levels. It is also not part of a scientific dispute inside climatology. It is an ideological clash between those who want to change us (rather than the climate) and those who believe in freedom, markets, human ingenuity, and technical progress” (2009).</i>	0	0	Institut Economique Molinari	2	2009	France
Contribuables Association	The French based Contribuables Association (Associated Taxpayers) is a professional association that lobbies at government level to pursue free market policies (http://www.contribuables.org/qui-sommes-nous-001/).	<i>“Contribuables Associates (2009) reported criticising a list of ENGOs that have received funding from the EU adding “Since 1998, 66 million euros that have come out of the pockets of European taxpayers to feed the coffers of 30 NGOs: European Environmental Bureau, Friends of the Earth, WWF, Climate Action Network ...” (2009).</i>	0	0	Libre Afrique	6	2009	France
Libres.org	Advocacy organisation promoting the values of economic freedom. It creates publications on various issues that it provides to its members. It has quoted the work of climate sceptics including Vaclav Klaus.	<i>“The ecological dogma back to the communist principle of private property that is the enemy. While planning has undergone its most cruel failure, we continue to want to plan the environment. Politicians, bureaucrats and corporations have an interest in conducting a struggle for the environment. Their actions are the cause of the environmental crisis...” (2000).</i>	0	0	Libre Afrique	1	2000	France
International Centre for Research on	Advocacy organisation connected to the Competitive Enterprise Institute (USA) and conducts research on a variety of issues related to the environment.	<i>“What lies behind the scepticism of market liberals regarding the propositions that the world is getting warmer at a rate that is unusually rapid</i>	0	0	Competitive Enterprise Institute	1	99	France

Environmental issues		<i>in climate history, if not altogether unprecedented... Are liberals correctly rejecting an inadequately grounded scientific fad? Or are they refusing to acknowledge facts for fear that doing so would upset their cherished beliefs?" (2015).</i>						
New Economic School	Free market think tank that was a member of the CSCCC. It promotes the ideas of free markets and libertarianism.	-	0	0	Civil Society Coalition on Climate Change	-	2006	Georgia
Die Familien Unternehmer	Think tank organisation that promotes the values of free markets, lower taxes, competition and personal responsibility. It conducts research on various topics with information related to climate change associated with the implementation of policy initiatives. They have also co-sponsored previous Heartland Institute's International Conferences on Climate Change	<i>"Germany is too small to be effective on the global climate policy. It remains only an example of how an industrialisation creates this transition ...The ecological objectives are not achieved and the economic framework deteriorates steadily... It would be a pity for Germany and quite devastating for to still achieve its global 'Climate policy' goals (2015).</i>	1	0	Heartland Institute	1	2011	Germany
Institute for Free Enterprise	Think tank that has previously co-sponsored the Heartland Institute's International Conference on Climate Change. The organisation has previously held its own conferences that host numerous climate sceptic speakers It also supports the CSCCC.	<i>"Promoting overpriced options for reducing greenhouse gas emissions implies renunciation cost-effective prevention measures and weakens economic development" (2007).</i>	1	0	Freedom to Trade	2	2007	Germany
Committee for a Constructive Tomorrow (European Branch)	Advocacy organisation specifically set up to challenge the consensus on climate change. It is the European Branch of CFACT. They hold conferences and events on climate	-	1	1		1	1985	Germany

change and other environmental issues. They have adapted some of the positions taken by the US branch placing these in a European context. Several climate contrarians are part of the organisation and contrarian research is regularly cited.

The Friedrich Naumann Foundation	Foundation that has several bases across countries including South Africa and Senegal (http://fnst.org/). It promotes publications such as <i>Addressing Climate Change in the Context of Other Problems</i> , and <i>Kyoto-Several Years After</i> (https://shop.freiheit.org/#Publikationen/)	<i>"...The favourite in the run-up to the Copenhagen climate summit climate policies are not an indication that the necessary conclusions were drawn from the previous dilemma between scientific uncertainty and political climate activism. Accordingly, a scientific debate of the scientific, economic and political controversy beyond the media and policy-oriented mainstream still urgently needed..." (2009).</i>	0	0	Liberty Institute	7	2009	Germany
European Institute for Climate and Energy (EIKE)	Organisation that was specifically set up to challenge the climate change consensus. The advisory board members include climate sceptics such as the deceased Robert Carter. It has co-sponsored the Heartland Institute's International Conference on Climate Change.	<i>"EIKE is an association of a growing number of natural sciences, humanities and economic scientists, engineers, journalists and politicians, the assertion of a "man-made climate change" is not justified as a science and therefore a fraud against the population" (2015).</i>	1	0	Heartland Institute	8	2007	Germany
Imani Centre for Policy and Education	Think tank headed by climate sceptic Franklin Cudjoe. It was also a member of the CSCCC and it has a centre dedicated to energy and the environment.	<i>"Rather than face up to climate change with reasoned technology, we are engaging in fear mongering and selling ourselves short in the face of limitless solutions our brains can bear" (2007).</i>	0	0	Civil Society Coalition on Climate Change	2	2007	Ghana

Centre for Economic and Social Studies	Think tank that was a member of the CSCCC on climate change. It promoted the ideas of individual liberty and property rights (https://cees.org.gt/). They have cited various climate contrarians that have also written op-eds and reports for the organisation including Richard Lindzen.	<i>"It seems that the alarm is necessary in order to maintain the financing of more than genuine scientific curiosity" (2007).</i>	0	0	Civil Society Coalition on Climate Change	2	2007	Guatemala
Centro De Investigación es Economicas Nacionales (CIEN)	Think tank promoting the values of economic freedom (http://www.cien.org.gt/index.php/areas-y-programas/). It has co-sponsored several of the Heartland Institutes International Conference on Climate change and was a member of the CSCCC.	<i>"An unfortunate example of lack of scientific rigor and fanaticism bordering on the fascist" (2007).</i>	0	0	Civil Society Coalition on Climate Change	2	2007	Guatemala
Universidad Francisco Marroquin	University based organisation that has a specific department working on issues in energy and the environment.	<i>"In the end, politicians queue to crow in unison about a "scientific consensus" (partly based on nearly all public funds going to support research with the same message). ... It is about providing a good cover story in the never-ending quest for more political power & more resources..." (2015).</i>	0	0	Fraser Institute	8	1997	Guatemala
Lion Rock Institute	Think tank promoting the values of free market ideas. It has previously co-sponsored the Heartland Institute's International Conference on Climate Change.	<i>"They manipulate data to hide the truth..." (2009).</i>	0	0	Minimal Government Thinkers	2	2009	Hong Kong

Centre for Civil Society	The Centre for Civil Society is an Indian think tank that promotes the value of deregulation of the private sector. More recently, they do not appear to offer a position or any articles on climate change	<i>“Scientists who can scare the public by showing a credible threat to our planet can get funding for their research. Contrast this with a person like Andrei, who shows us no threat, and if there isn't one, obviously he doesn't need funding and will not get it” (2002).</i>	0	0	Minimal Government Thinkers	2	2002	India
Liberty Institute	Think tank that promotes the values of a free society, individual rights and limited government. It has sponsored several of the Heartland Institutes International Conference on Climate Change and.	<i>“Climate change is natural and recurrent. The human factor is small compared to that of the sun and other natural forces. There has been no overall global warming since 1998, and most local and regional warming trends have been offset by nearby cooling.” (2007).</i>	1	1	Heartland Institute	2	2007	India
Jerusalem Institute for Market Studies	Think tank promoting the values of economic freedom and individual liberty. It was a member of the CSCCC.	<i>“Many claims are made about the scientific understanding of climate that are not backed up by the core literature that dominates the field. But as most people read only summary versions of the scientific literature, they're easily led astray by alarmist groups that exaggerate the concerns, while waving away the uncertainties that pervade climate science...” (2003).</i>	0	0	Civil Society Coalition on Climate Change	2	2003	Israel
Fondazione Respubblica Italy	Think tank first identified by Plehwe (2014). It promotes the ideas of freedom across political culture, and works with several other foundations and think tanks including the Cato Institute (USA) and the Institute for Economic Affairs (UK).	-	0	0	Plehwe	2	2006	Italy

Fondazione Magna Carta	Fondazione Magna Carta is a foundation dedicated to scientific research on major political issues. It promotes conservative liberalism. They promote articles and posts by climate sceptics including Bjorn Lomborg. They also cite the Oregon Petition that was signed by several climate sceptics to deny the severity and existence of climate change.	<i>“Despite those linked to global warming remain still very questionable concepts - and no one has yet explained why they should be considered as the conclusions of studies whose data cover a span of barely a century absolute maximum...the danger of climate change, the last of the progressive slogans sold to the public in the form of scientific certainty, is being touted and soaks in the social consciousness of the people and broke a critical view of the phenomenon” (2015).</i>	0	0	Stockholm Network	2	2009	Italy
Bruno Leoni Institute	Think tank that was originally a member of the Cooler Heads Coalition. It has previously organised a conference relating to the issue of climate change and other environmental policies. It has also co-sponsored the Heartland Institutes International Conference on Climate Change (http://www.brunoleoni.it/6th-international-conference-on-climate-change). Their website cites several contrarian sceptics including Christopher Monckton and Indur Gokany.	<i>“The hysteria over global warming is of the most dangerous threats to growth economic and technology that our civilisation It is facing today” (2004).</i>	1	1	Heartland Institute	2	2004	Italy
Lithuanian Free Market Institute	Think tank organisation conducting research on various policy issues. It promotes the values of individual freedom, free markets, and limited government. The organisation was also part of the CSCCC.	<i>“The world recognised and entire "climate" Army attacked Bjorn Lomborg and continued success shows why plans for taxpayers' money to promote renewable energy is a waste of money” (2015).</i>	0	0	Civil Society Coalition on Climate Change	2	99	Lithuania

Institute for Democracy and Economic Affairs (IDEAS)	Free market think tank based in Malaysia and was a member of the CSCCC.	<i>"The environmentalist movement claims to be working for the benefit of mankind, since, as we have all been told, the human race as a whole must ultimately suffer if we fail to look after our planet. What most people do not appreciate, however, is that the environmentalists' disdain for technological progress—and more generally, just about any carbon-emitting process—is itself a position incompatible with the wellbeing of human life"</i> (2007).	0	0	Civil Society Coalition on Climate Change	2	2007	Malaysia
Malaysia Think Tank	Malaysia think tank was a think tank originally signed to the CSCCC.	-	0	0	Civil Society Coalition on Climate Change	2	99	Malaysia
Red Liberal de American Latina	A network composed of several think tanks and political parties from across Latin America. It promotes the values of freedom and individual responsibility, property rights and limited government. The main document on the environment and environmental quality is written by the climate sceptic Martin Krause.	<i>"We encourage these good practices not only contribute to environmental care, but above all demonstrate that liberal proposals to mitigate climate change, for example, are the most relevant, sustainable and real; also showed that the liberal approach is not antagonistic to environmental concerns"</i> (2007).	0	0	CEDICE	8	2007	Mexico
Caminos de la Liberated	Advocacy group promoting the values of freedom both personally and economically. They cite several contrarian scientists on their website including Vaclav Klaus to promote their position on climate change.	<i>"Environmentalism ideology is a very dangerous trend"</i> (2015).	0	0	RELIAL	1	99	Mexico

Planck Foundation	Foundation that produces and supports research on the environment and environmental policy.	<i>"Climate change is of all times (Greenland used to be green, so climate change has driving factors other than man made CO₂)" (2015).</i>	0	0	Instituto Liberdade	7	1999	Netherlands
New Zealand Initiative	Formerly New Zealand Business Roundtable, a think tank that covers various policy issues including poverty, and protection from environmental problems. It has previously co-sponsored the Heartland Institute's International Conference on Climate Change.	<i>"Just as developing countries are not expected to do as much as developed countries to curb emissions, New Zealand's actions should be less ambitious than Australia's because it is a wealthier country. None of this argues against exploring the best policy options for reducing emissions. However, there is no point in New Zealand taking additional action in advance of major emitters" (2015).</i>	1	0	Heartland Institute	2	2007	New Zealand
Climate Realists (New Zealand)	Advocacy organisation dedicated to the topic of climate change. It provides a fact sheet, (http://www.climaterealists.org.nz/node/603) and sells numerous climate contrarian texts on its website (http://www.climaterealists.org.nz/node/352). It has previously co-sponsored the Heartland Institute's International Conference on Climate Change.	<i>"...Increasing the amount of CO₂ in the atmosphere increases plant growth rates, just as humans perform better in a high oxygen environment..." (2009).</i>	1	0	Heartland Institute	1	2009	New Zealand
New Zealand Centre for Political Research (NZCPR)	Think tank which has a specific section dedicated to the issue of climate change. It continues to promote the idea that there is no consensus on climate science citing work of contrarian scientists such as members of the Global Warming Petition Project, Patrick Moore, and Anthony Watts. It has	<i>"So, as is so often the case, the perception and reality are vastly different. In New Zealand this is not helped by a mainstream media that seldom publishes anything that examines the evidence and propounds a different view. Yet there is no doubt</i>	1	0	Heartland Institute	2	2006	New Zealand

	previously co-sponsored the Heartland Institutes International Conference on Climate Change.	<i>that the science is NOT settled and debate is needed” (2015).</i>						
The New Zealand Climate Science Coalition (NZCSC)	Coalition and a partner of the International Climate Science Coalition, Climate Science Coalition of America, and the Australia Climate Science Coalition. It is specifically designed to address climate change as an issue in New Zealand. It is linked with several climate sceptics including Bob Carter, David Bellemy, and Chris De Freitas	<i>“...The Coalition is committed to ensuring that New Zealanders receive balanced scientific opinions that reflect the truth about climate change and the exaggerated claims that have been made about anthropogenic global warming” (2015).</i>	1	0	Lavoisier Group	4	2006	USA
African Centre for Advocacy and Human Development	Think tank that has co-sponsored the Heartland Institutes International Conference on Climate Change. It does not have an associated website for further details.	-	1	0	Heartland Institute	2	2002	Nigeria
Initiative of Public Policy Analysis (IPPA)	Think tank originally founded in 2002, promoting the issues of free and open society (http://www.ippanigeria.org/about.html). It covers a wider variety of policy issues that includes energy and the environment. It has previously co-sponsored the Heartland Institute’s International Conference on Climate Change.	<i>“They mask their protectionist efforts under a cloak of environmental urgency, but the end result is the same — Europeans maintain their jobs and living standards while the poor countries are denied opportunity” (2001).</i>	1	0	Heartland Institute	2	2001	Nigeria
The Centre for Ethics and Technological Development	The Centre for Ethics and Technological Development is an organisation that formed part of the CSCCC. No other information is available	-	0	0	Civil Society Coalition on Climate Change	99	99	Nigeria

Centre for Business and Society Incorporated (CIVITAS)	Think tank promoting the values of economic freedom. It has reported on some of the work by climate sceptics including Bjorn Lomborg that promotes an alternative position on climate change	<i>"Policies being pursued to combat global warming are weakening the manufacturing sector, undermining our economic recovery and destroying jobs...The global-warming debate provokes strong feelings. But both sides should be able to agree that reducing carbon emissions should not take priority over job creation"</i> (2010).	0	0	Free the World	2	2007	Norway
Alternate Solutions Institute	Think tank promoting the values of limited government, individual liberty and property rights. It has a department dedicated to Energy and the Environment. It has reviewed work by climate contrarian Steve Goreham who is also associated with the CCCM organisation Climate Coalition of America. It has also co-sponsored several of the Heartland Institute's International Conference on Climate Change.	<i>"Global warming is not much in dispute...one puts together the lack of solid science and technology behind the claim that global warming is imminent and that human conduct significantly contributes to the probable global the attitude of scepticism is most reasonable. Or, to put it differently, how reasonable is it to trust politicians about their need for increased powers over the rest of us?"</i> (2008).	1	0	Heartland Institute	2	2008	Pakistan
Paraguayan Centre for the Promotion of Economic and Social Justice	The Paraguayan Centre was a think tank that was originally part of the CSCCC. It appears to now be inactive.	-	0	0	Civil Society Coalition on Climate Change	2	99	Paraguay
Instituto Libertad y Democracia (Peru)	Research institute promoting the values of a free society (http://lyd.org/quienes-somos/). It has a section of research dedicated to regulation and the environment	<i>"While climate change can lead to deterioration of many environmental and health indicators...What we want to know is: in richer scenarios but also warmer, will improve human health and environmental quality than in poorer but more colder This is mainly due to the fact that creation of wealth,</i>	0	0	Relial	2	2008	Peru

human capital and technologies often reduce the "evils" of human health and environmental phenomenon more than is exacerbated by increases in temperature" (2008).

Andes Libres	Think tank promoting the values of individual freedom, limited government, and a free market economy. It uses the work of Donald Boudreaux in some of its articles and op-eds on energy, environmentalism and environment.	<i>"The new global enemy of the Poor: Environmentalists" (2006).</i>	0	0	Instituto Liberdade	2	2007	Peru
Instituto De Libre Empresa	Peruvian research institute that promotes the values of free enterprise. It was a member of the CSCCC. It cites the work of other CCCM organisations including the Fraser Institute (Canada), and contrarian scientists including Ross McKittrick. It has previously co-sponsored several of the Heartland Institute's International Conference on Climate Change.	<i>"No evidence indicates that there are dangerous or unprecedented weather changes and less that are in progress.... The observed climate change cannot be attributed to a specific cause, such as atmospheric concentrations greenhouse gas increased. Studies that rely on simulations by computer do not consider the uncertainty inherent in climate models, nor adequately explain many potentially important influences such as aerosols, solar activity, and changes in land use" (2007).</i>	1	0	Civil Society Coalition on Climate Change	2	2007	Peru
The Inter-American Institute	Think tank that conducts research on various policy issues with climate change only a small section of their research agenda.	<i>"despite the last two winters being among the coldest in recent history and the recent evidence revealing pro-global warming scientists to have made fraudulent claims and suppressed contrary views" (2014).</i>	0	0	Instituto Liberdade	2	2014	Peru

The Institute for the Study of Humane Action	Think tank that promotes the principles of freedom, market economy and the promotion of a lesser state role in Peruvian politics. It is concerned with a variety of policy issues concerning all policies effecting Latin America. It was a member of the CSCCC.	-	0	0	Civil Society Coalition on Climate Change	2	99	Peru
Minimal Government Thinkers	Think tank that was a member of the CSCCC. It has previously co-sponsored the Heartland Institute's International Conference on Climate Change. It cites some of the work of climate sceptics including Willie Soon and sceptic books such as Climate Change Reconsidered.	<i>"Lie if they must, demonise a useful gas CO₂ (the gas that we humans exhale, the gas that plants and crops need)"</i> (2010).	1	0	Heartland Institute	2	2008	Philippines
Instytut Globalizacji	Think tank originally identified by Plehwe (2014). It has a dedicated set of activities to energy and the environment (http://globalizacja.org/node/205).	<i>"...The dogma of "decarbonisation" of energy, thus eliminating the emission of CO₂ will cause a sharp increase in energy prices, which can cause long-lasting recession in developed countries and increase of poverty and hunger in poor countries"</i> (2009).	0	0	Plehwe	2	2006	Poland
Romanian Centre for European Policies	Think tank that has a section of policy briefs and memos dedicated to energy and the environment.	<i>"the annual cost would be paid by developing countries could reach about 100 billion euros up In 2020"</i> (2009).	0	0	Plehwe	2	2009	Romania
Institute for Economic Analysis	Think tank that has produced reports by climate contrarian scientists Andrei Illarionov (Greenpeace, nd). He is a former economic advisor to the Russian president (Putin) and a research fellow. It was also a member of the CSCCC.	<i>"Suppressing economic growth and slowdown (if not termination) standard of living as a result of the recommended treatment policy is a real problem for billions of people on the planet, including the citizens of our country"</i> (2004).	0	0	Civil Society Coalition on Climate Change	2	2004	Russia

M.R Stefanik Conservative Institute	Think tank promoting conservative values including free markets, property rights, and individual liberty. It reports on various policy issues that has included climate change and environmental policy. It has hosted events attended by climate contrarians such as Patrick Michaels, Fred Singer, and Steven Hayward.	<i>“The indeterminacy of the existence, the causes and consequences of climatic change, as well as the worthless absurdity of the Kyoto Protocol are objects for many serious scientific studies that are published in the USA. Scientific disapproval is growing following an increase in the number of opponents who question the respective propositions of global warming as an issue: i.e. they ask whether global warming is a climatic phenomenon and whether it exists at all (for instance some aerial and satellite observations claim the opposite, and if yes: whether it is caused by activities of man, whether it is a negative phenomenon and whether civilisation is economically capable of reducing the phenomenon” (2005).</i>	0	0	Plehwe	2	2005	Slovakia
Institute of Economic and Social Studies (INESS)	Think tank that examines Slovakian and international tax, health and monetary systems. They cite the work of climate sceptics including Patrick Michaels and was a member of the CSCCC.	<i>“It seems that the alarm is necessary in order to maintain financing more than genuine scientific curiosity. Only the most renowned scientists may oppose the storm of alarmists and defy the iron triangle of climate scientists, advocates and policymakers” (2006).</i>	0	0	Civil Society Coalition on Climate Change.	2	2006	Slovakia

Africa Fighting Malaria	Africa Fighting Malaria operates in both the USA and South Africa. It has received funding from ExxonMobil (Exxonsecrets.com). , with their primary focus on fighting disease in Africa. They have produced reports and arguments using the work of contrarian scientists including Roger Bate.	<i>"How "Green" Politics Kills Children" (2000).</i>	0	0	Instituto Liberdade	1	2000	South Africa
Free Market Foundation South Africa	Advocacy organisations promoting the values of an open society, the rule of law, personal liberty, and economic and press freedom as fundamental components of human rights and democracy (http://www.freemarketfoundation.com/About-Us-Who-We-Are). It covers various policy issues, and some of its policy briefs and reports are supported by those other CCCM organisations including the Heritage Foundation and the National Centre for Policy Analysis (http://www.freemarketfoundation.com/article-view/imf-on-climate-change-we-want-to-play). The organisation was a member of the CSCCC. It promotes several articles by CCCM sceptics including Fred Singer, Sterling Burnett and Dennis Avery.	<i>"... the effects of post-war warming have been benign or beneficial" (2000).</i>	0	0	Alternate Solutions	1	2000	South Africa
Centre for Free Enterprise	Conservative think tank based in South Korea. It promotes the work of climate sceptics including Nicholas Loris, and is connected to several other think tanks	<i>"Energy is a key element in creating opportunities for economic activity. Therefore, energy-related policies should be rooted in free economic principles. Government</i>	0	0	Minimal Government Thinkers	2	99	South Korea

Strategic Studies Group	such as the Fraser Institute (Canada) and Cato Institute (USA). Think tank promoting the principles of free enterprise and free markets, limited state responsibility and individual freedom (http://www.gees.org/funciones-basicas). Articles on its website included those by climate contrarian scientists including Margo Thorning, Kenneth Green and Steven Hayward.	<i>ignoring these principles makes citizens suffer energy poverty” (2015). “a. Environment. Spain is the European country with the biggest increase in so-called GHG emissions since 1990; they increased by 40 percent. The hike in Spain is far greater than in other industrialised countries.” (2002).</i>	0	0	Independent Institute	2	2002	Spain
Juan de Mariana Institute	Think tank that promotes the values of individual freedom and liberty. It has referenced and promoted the work of climate sceptics including Bjorn Lomborg, Fred Singer and Patrick Michaels. It co-sponsored the Heartland Institute’s International Conference on Climate Change.	<i>“Kyoto is the first step to world government...It has created an alarm for any fire. We have been struck with fear into the body with the same basis as the existence of witches in the Middle Ages” (2005).</i>	1	0	Heartland Institute	2	2005	Spain
Timbro	Think tank first identified by Plehwe (2014). They have previously held events on environmental and climate change policies which include guest speakers including Richard Lindzen (2006)	<i>“Never before have had so many enjoyed so much. Of course, nothing is perfect: poverty and social and environmental problems still exist. But economic growth and technological and scientific progress have improved life for billions of people. And there are no insurmountable hindrances to further development. But progress doesn’t just happen. Continued advancement depends on social and political institutions’ acceptance of change in all areas from the environment to the Internet” (1998).</i>	0	0	Plehwe	2	1998	Sweden

Librerel Institut	Free market think tank that promotes the values of economic freedom and individual liberty. It has a section on environmental issues, and cites climate contrarians including Patrick Michaels. They were also members of the CSCCC.	<i>“Such protectionist advances are especially questionable if they affect the weaker trade partners, i.e., emerging and developing countries. This is particularly the case in the agricultural sector, since both the citizens and the exporting economies of emerging and developing countries are strongly dependent on agricultural production” (2015).</i>	0	0	Civil Society Coalition on Climate Change	2	2007	Switzerland
Institut Constant de Rebecque	The Institut Constant de Rebecque was first identified by Plehwe (2014). The organisation was part of the CSCCC and incorporates articles and op-eds written by climate sceptics including Richard Lindzen.	<i>“...environmental problems often seem endless, the solution is generally the same: the state should intervene. Yet the results of state intervention in the field of environmental protection is far from conclusive. The issues presented often take generations to be implemented and historically, states are the ones to blame when it comes to pollution and environmental destruction...” (2015).</i>	0	0	Civil Society Coalition on Climate Change	2	99	Switzerland
Economic Freedom Network Asia	This organisation is connected to the Economic Freedom Network, but has a specific tie to a coalition of organisations across parts of Asia. It has cited projects by the Heartland Institute and the CSCCC as part of its work to help examine climate change	<i>“... Science progresses through such rational criticism and objective discourse, and not through consensus invoked by any authority” (2015).</i>	0	0	Instituto Liberdade	4	99	Thailand

Association of Liberal Thinking	Think tank connected to other CCCM organisations. (http://www.liberal.org.tr/page/kat.php?kat=6&akat=15). It was a member of the CSCCC.	<i>“Our world is warming up for some time. It has cooled in some periods. One reason of this process can be said that a share of human activity” (2007).</i>	0	0	Civil Society Coalition on Climate Change	2	1997	Turkey
Open Europe	Think tank heavily critical of European policies to address climate change. It has also taken a critical role on other EU/UK environmental policies including the Common Agricultural Policy and the EU’s Climate Action and Renewable Energy Package (2008).	<i>“The climate agenda has been adopted as a means of establishing genuine EU ‘soft power’ in foreign policy” (2008).</i>	0	0	Plehwe	2	2006	UK
International Policy Network	Think tank that includes a coalition of several CCCM organisations. It has co-sponsored several of the Heartland Institutes International Conference on Climate Change. Several climate sceptics such as Roger Bates and Bjorn Lomborg were attached to and produced articles and reports for the organisation (https://web.archive.org/web/20020219151435/http://www.policynetwork.net:80/issues/sustainable_development.htm). While in its position statement it does not adopt contrarian positions on climate change it promotes several articles and reports that differ to the consensus.	<i>“Under the heading ‘sustainable development’, we address issues such as biodiversity and climate change, as well as offering constructive solutions to problems associated with resource use, such as land degradation, water pollution and over-abstraction, and over-fishing” (2000).</i>	1	0	Heartland Institute	2	2000	UK
Taxpayers Alliance UK	Advocacy organisation promoting the interests of tax payers with the values of limited and small government and lower taxes.	<i>“Reform climate change policy, abandon the wasteful 2020 renewables targets, and the EU Emissions Trading Scheme so that families aren’t hit with big rises in energy bills” (2007).</i>	0	0	GWPF	1	2007	UK

Sense about Science UK	Professional association that campaigns against the misrepresentation of science across several formats. It is connected to the Statistical Assessment Services and is tied to the US based Sense about Science.	<i>"In a few cases, man-made climate change appears to be causing more extremes – heat waves, for example. But it is too simple to blame every weather disaster on man-made change; there have been catastrophic floods and storms recorded throughout history. Some events, such as certain tornadoes, cannot be said to be increasing and indeed aren't predicted to change in a warmer world."</i> (2015).	0	0	The Statistical Assessment Service	6	2007	UK
Centre for Policy Studies (CPS)	Think tank promoting the values of free markets, privatisation and low tax governments. The organisation currently offers a variety of opinions and ideas on how to address climate change. In 2010 they held a debate which involved opposing positions on a green economy for the UK. This was based on debates between Tim Yeo (MP) and known sceptic Lord Nigel Lawson (http://www.cps.org.uk/get-involved/debate/q/ref-5/)	<i>"...Will the public accept the alarmist rhetoric and support additional taxes and costs?"</i> (1997).	0	0	Frontiers of Freedom	2	2006	UK
Adam Smith Institute	Think tank that promotes the values of free markets, economic freedom, and privatisation. It does not have a section dedicated to energy and the environment but this is incorporated into issues such as environmental tax issues.	<i>"Redefining the meaning of 'Green' - public perception and government policy are today defined more by environmental spin rather than science"</i> (2002).	0	0	Frontiers of Freedom	2	2002	UK

Institute for the Study of Civil Society (CIVITAS)	Think tank promoting the values of limited government, personal freedoms and free enterprise. Its focus is on the reduction of EU environmental regulations and other environmental strategies that may harm the economy. They have published and supported op-eds by climate sceptics including Bjorn Lomborg.	<i>“Policies being pursued to combat global warming are weakening the manufacturing sector, undermining our economic recovery and destroying jobs... Imposing costs on high-energy users will drive them overseas where they will continue to produce carbon emissions.... But both sides should be able to agree that reducing carbon emissions should not take priority over job creation”</i> (2010).	0	0	Institute for Public Affairs	2	2010	UK
The Social Affairs Unit	Think tank that focuses on several policy issues. It has a specific section dedicated to the G8, Africa and Global Warming.	<i>“...there seems little serious alarm that they cannot adjust to and thrive alongside a warmer world... (2005).</i>	0	0	Institute for Free Enterprise	8	2005	UK
World Energy Council	The organisation was first identified by Polluter watch as taking a role in the anti-environmental route. It has been identified as one of the original members of the wise use movement	<i>“The green idea is dangerous precisely because it appeals so strongly to deep longings shared by many people. Ideologies are messy... They tend to associate disparate ideas in unexpected ways”</i> (1990).	0	0	Polluter Watch	8	1990	UK
The Scientific Alliance	Professional association, which has previously held conferences led by well know climate sceptics including David Bellamy, Fred Singer and Richard Lindzen.	<i>“However, a changing climate is the norm and meteorologists accept that we will never fully understand the complex interactions and feedback mechanisms which determine these changes”</i> (2001).	0	0	Lavoisier Group	6	2001	UK
Clexit	Advocacy organisation. The play on words in the name suggests it emerged within the opportunities emerging from the Brexit debate in the UK. Several contrarian scientists founded the organisation. Founded by contrarian	<i>“For developing countries, the Paris Treaty would deny them the benefits of reliable low-cost hydrocarbon energy, compelling them to rely on biomass heating and costly weather-dependent and unreliable power supplies, thus</i>	0	0	GWPF	1	2015	UK

	scientists including Willie Soon, Christopher Monckton and Marc Morano.	<i>prolonging and increasing their dependency on international handouts. They will soon resent being told to remain forever in an energy-deprived wind/solar/wood/bicycle economy” (2015).</i>						
Libre Afrique	Libre Afrique is a think tank that promotes the values of freedom, property rights and capitalism across various aspects of African countries It is a partner organisation to the Cato Institute (USA).	<i>“The correlation between temperature and CO₂ from 1998 to 2007 is 0.02 (really) is no statistical” (2009).</i>	0	0	Montreal Economic Institute	2	2009	UK
Freedom to Trade Campaign	Coalition made up of several free market think tanks from across the world. It has a section dedicated to policy issues including petitions against 'green protectionism.' It appears to has been inactive since late 2015.	<i>“If we were to listen to Europe's energy Cassandras and implement the Kyoto protocol, any reduction in greenhouse-gas emissions would simply be offset by an increase in poor countries' emissions. The cost in terms of reduced economic output will mean reduced consumption everywhere — leading to global impoverishment, unemployment, and misery” (2001).</i>	0	0	Alternate Solutions	4	2001	UK
Institute for Economic Affairs (IEA)	Think tank that produces research on a variety of issues. It promotes and uses research by contrarian scientists including Robert Balling and Fred Singer, and other CCCM organisations including SEPP	<i>“Nowhere is it recognised that the models of development that are criticised have led to rapidly falling rates of poverty, global inequality and deaths from natural disasters whilst access to education and healthcare has improved. Furthermore, nowhere is it acknowledged that the natural resource intensity of production falls dramatically as countries develop” (2015).</i>	0	0	Fraser institute	2	1996	UK

Global Warming Policy Foundation (GWPF)	The GWPF is led by well-known contrarian scientists including Christopher Monckton, Nigel Lawson and Benny Piesner. It actively lobbies and advocates against environmental regulation as well as deny some of the science behind climate change. The organisation has co-sponsored several Heartland Institute's International Conference on Climate Change.	<i>"The GWPF does not have an official or shared view about the science of global warming – although we are of course aware that this issue is not yet settled.... Our main focus is to analyse global warming policies and their economic and other implications. Our aim is to provide the most robust and reliable economic analysis and advice. We regard observational evidence and understanding the present as more important and more reliable than computer modelling or predicting the distant future. Above all we seek to inform the media, politicians and the public, in a newsworthy way, on the subject in general and on the misinformation..."</i> (2015).	0	0	Instituto Liberdade	2	2009	UK
The Statistical Assessments Service	Research organisation with its partner organisation George Mason University and connected to the organisation Sense of about Science. It covers several major scientific and policy issues. A former member of the organisation is climate sceptic Sallie Baliunas.	<i>"Yes, most scientists are sceptics. We do not accept claims lightly, we expect proof, and we try to understand our subject before we speak publicly and admonish others"</i> (1997).	0	0	Atlantic Institute for Market Studies	2	1997	UK
Network for a Free Society	Group of organisations promoting the values of individual freedom, limited government, protection of private property rights and free markets. There are several CCCM organisations such as alternate solutions India connected to the organisation. It is also related to the CSCCC	-	0	0	Civil Society Coalition on Climate Change	8	2010	UK

Centre for Human Development	This organisation was originally a member of the CSCCC. It now appears to be inactive and no other forms of data are available.	-	0	0	Civil Society Coalition on Climate Change	8	99	Uruguay
Michigan Agribusiness Association	Trade association that advocates on behalf of the agricultural industry in the US. It covers legislative issues relating to environmental issues including climate change	<i>"We fear that efforts to help certain sectors minimise burdens will significantly impact the cost structure of one of the most critical sectors of the national economy: that sector which provides the most basic human necessity – food" (2012).</i>	0	0	Agricultural Retailers Association	3	2010	USA
The Rutherford Institute	Civil Liberties organisation promoting the values of free speech, religious and educational freedom. They cover several policy issues and climate change is only a small section.	<i>"Like the Medieval Warm Period, leaders and scientists supporting the Climate Change movement suppress the facts that do not support their views by keeping them out of the media, official reports, and scientific journals" (2006).</i>	0	0	Frontiers of freedom	8	2006	USA
Independent Petroleum Association of America (IPAA)	Trade association working on behalf of oil and gas producers in the US. It covers issues including climate change. It has reportedly received funding from ExxonMobil and regularly resists senate and federal environmental regulations.	<i>"Blasted the Clinton Administration for ignoring its own internal study of the costs of implementing the Kyoto global climate change treaty... Repeating figures iterated by an industry group known as the Global Climate Coalition, Enzi said the increases estimated by EIA would raise average household energy costs by as much as \$1,740 annually in a worst-case scenario, compared to the White House estimate of \$100. Independent economists have consistently put the costs of the treaty</i>	0	0	Brulle	3	1998	USA

as high as \$2,100 per household per year...” (1998).

Rocky Mountain Agri-Business	Trade association working on behalf of agricultural industry actors. It has a section dedicated to environmental concerns but refers to issues of climate change and policy as part of a wider discussion on the implication of environmental tax.	<i>“The direct cost of allowances for entities that emit more than 25,000 tons of CO₂ will be directly added to the operating cost of each facility. One can safely assume that firms would seek to cover added costs by passing them forward or backward in the supply chain. This will inevitably impact costs for consumers, returns for producers, or a mix of both. Without a reallocation of these costs, processing firms would not remain viable” (2009).</i>	0	0	Agricultural Retailers Association	3	2009	USA
Small Business Survival Committee (SBSC)	Advocacy organisation was originally identified by Greenpeace. It was a member of the Cooler Heads Coalition, and has previously been identified as an organisation amongst the Wise Use movement that also worked on the tobacco industry lobby.	<i>“Climate science is less and less about science, and more and more about a political and ideological attack on economic development and growth. If the global warming zealots ever get their way and try to impose drastic reductions in carbon-dioxide emissions, there will be no substantive environmental cause for doing so, while the necessary increase in energy costs will cripple businesses, entrepreneurship and job creation, and hike prices for consumers. Indeed, there is no disagreement about the economics of global warming” (1998).</i>	0	0	Greenpeace	1	1998	USA

Traditional Values Coalition	Coalition that promotes values religious, liberty, and conservativisms. Its main areas of focus are child protection, traditional marriage, Iranian deals, and other military issues. However it has also addressed the climate change. The President of the organisation Lou Sheldon has participated and signed the CCCM organisation Cornwall Alliance's "An Evangelical Declaration on Global Warming" that promotes various forms of scepticism about climate change (see Appendix D).	<i>"Much of the hysteria generated by Gore and his cronies in Hollywood about global warming causing melting icecaps or the flooding of coastal cities, is unsupported by scientific data, according to meteorologists and climatologists who were interviewed for Asman's special. In fact, many of the same environmentalists in the 1970s who were screaming about pollution bringing about a new ice age, are now claiming just the opposite with their dire warnings about global warming. They were wrong then; they are wrong now"</i> (2006).	0	0	Edmund Burke Foundation	4	2006	USA
Maine Heritage Policy Centre	Think tank promoting the principles of free enterprise, individual freedom and traditional American values (http://mainepolicy.org/about-mhpc/). The organisation has reportedly received funding from Koch industries (https://www.mainepeoplesalliance.org/sites/default/files/imce/Why_the_Koch_Bros%20_Want_to_Dismantle_ME_Renewable_Energy_Policy1.pdf).	-	0	0	Greenpeace	2	2005	USA
National Taxpayers Union (Foundation) (NTUF)	The organisation is the connected foundation to the NTU. It conducts lobbying activities on behalf of its members and delivers funds for organisations to conduct political lobbying and research on several policy issues. The organisations main focus is on tax including environmental taxes.	<i>"The US has entered other binding international environment agreements that have not seriously eroded our sovereignty"</i> (2015).	0	0	Foundation for Teaching Economics	7	2009	USA

Atlantic Legal Foundation	Foundation that promotes the values of individual liberty, free enterprise, property rights, limited government, sound science and school choice. It works on cases across a variety of policy issues that have included environmental regulations that would prevent climate change. Greenpeace report its role in the Wise Use Movement, and documented its financial ties with Koch industries.	<i>“Sometimes scientists recommend that society take action before there is firm evidence of an effect, because there is, in their view, a compelling public need. This is the case with the possibility that increasing CO₂ concentrations, caused by fossil fuel emissions, will produce enough changes in the earth’s atmosphere to cause global warming on an undesirable scale. Although most scientists agree that there is no definitive evidence that such warming is actually happening...”</i> (1995).	0	0	Greenpeace	7	1995	USA
Goldwater Institute	Think tank that advocates on behalf of American groups to promote the principles of freedom. A previous fellow at the institute was Robert Balling.	<i>“...its levels have fluctuated enormously over the history of the Earth, and the ecosystems of the planet have adjusted to cope with these variations...”</i> (2006).	0	0	Independent Institute	2	2006	USA
Institute for the Study of Earth and Man (ISEM)	University based research centre connected to the SMU Dedman College of Humanities and Sciences. The organisation has received funding from ExxonMobil (http://www.exxonsecrets.org/html/orgfactsheet.php?id=47) and has sponsors from corporate oil industries. Climate sceptic Leighton Steward was a chairman at the organisation. Rather than criticise environmental policies, they focus and promote the role that natural gas should play as a clean alternative to other energy sources.	<i>“Energy research should be supported in conjunction with industry. Areas for consideration should include CO₂ sequestration and hydrogen generation, storage, and utilisation. Clean coal technology should gain a high priority because of our dependence on coal for electrical generation now and in the foreseeable future”</i> (2003).	0	0	Brulle	5	2003	USA

Centre for Consumer Freedom	Think tank that specifically criticises environmental groups and other social movements. In particular, animal rights activists.	<i>“Animal rights activists and other advocates of strict vegetarianism are working overtime trying to hitch their cause to the global warming bandwagon. But the facts just aren’t on their side” (2007).</i>	0	0	Cascade Policy Institute	2	2007	USA
Alabama Forest Owners Association (AFOA)	Trade association that advocates on behalf of forest owners and the ability for these property owners to manage their land without or with minimal government intervention. It was first identified by Polluter Watch.	<i>“CO₂-Inspired Growth Spurts” (1999).</i>	0	0	Polluter Watch	3	1999	USA
American Gas Association (AGA)	Trade association acting on behalf of industry members and individuals in the natural gas industries. It promotes the use of natural gas as an alternative to other energy sources as a source of clean energy. Brulle (2014) reports that it has previously received funding from Koch related foundations.	<i>“The American Gas Association believes strongly in the value of energy conservation measures and technologies, and supports research into high-efficiency, low-emission natural gas technologies. AGA has watched carefully the proposals presented by the Clinton Administration during the Kyoto conference, and will address the issues involved once we know the substance of the protocol. The association will continue to promote market-based options that advocate both environmental protection and economic growth, while encouraging recognition of the attributes and beneficial contributions of natural gas” (1997).</i>	0	0	Brulle	3	1997	USA

Council for Agricultural Science and Technology (CAST)	Trade association comprised of several organisations from scientific societies, commercial companies and non-profit organisations (https://www.cast-science.org/about/)	<i>"Enriching the atmosphere with CO₂ is not all bad. In fact, CO₂ is the stuff of photosynthesis and raising its concentration speeds photosynthesis"</i> (1995).	0	0	American Farm Bureau	3	1995	USA
Discovery Institute	Think tank that focuses its research on science and culture. It advocates for scientific research education and advocating for academic freedom and free speech. It provided public policy advice for schools, colleges and universities while it works with other organisations (http://www.discovery.org/id/about/). Previous and current fellows include climate sceptics Mark Plummer and Benny Peisner.	<i>"What we argue about when we argue about global warming probably in fact has little to do with the weather. It is not surprising that traditionally religious people would turn away from an environmental issue like global warming, especially when the science behind the theory remains ambiguous at best, and distrust a political party committed to panicking unreservedly about it"</i> (1998).	0	0	Independent Institute	2	1998	USA
American Recreation Coalition	Brulle (2014) have previously identified the organisation as a member of the denial community. It produces articles and reports on policy issues related to the environment and conservation activities and sites.	-	0	0	Brulle	4	2001	USA
Allegheny Institute of Public Policy	Conservative think tank that has produced one of its first reports on climate change " <i>Economic Impact Analysis of Global Climate Change Policy on Pennsylvania.</i> "	<i>"...The combination of higher prices and lower employment levels would cause an erosion in the US living standards..."</i> (1998).	0	0	Frontiers of Freedom	2	1998	USA

Citizens for Affordable Energy	Advocacy organisation dedicated specifically to energy issues. It promotes resources such as books which include climate sceptic books including Red Hot lies by Chris Horner. The organisation has reportedly received funding from fossil fuel based industries.	<i>"Pending enormous sums of money on a non-solution to a problem that may not be a problem makes no sense. Placing mandatory caps on industries for greenhouse gas emissions will drive up the cost of living for Americans with no environmental benefit to anyone"</i> (2007).	0	0	Brulle	1	2008	USA
Centre for Strategic and International Studies	US think tank dedicated to research on foreign policy, military and international issues.	<i>"It commits the nation to making economy-devastating cuts in our energy use – while China and India continue to increase their polluting emissions for years to come. Oh, and we get to transfer billions of dollars to them and other countries to boot"</i> (2015).	0	0	Greenpeace	2	1998	USA
Foundation for Defence of Democracies (FDD)	Think tank that conducts research on foreign policy and national security issues. They cite the work of other CCCM organisations including the Copenhagen Centre and climate sceptics including Bjorn Lomborg.	-	0	0	Instituto Liberdade	2	2009	USA
Global Climate Coalition	An advocacy group set up by industry groups to specifically counter actions on climate change. It emerged between the years 1989-2001. It was connected with US based CCCM organisations including the National Association of Manufacturers, American Petroleum Institute, Exxon, US Chamber of Commerce and the American Forest and Paper Association.	<i>"The Global Climate Coalition believes that climate change is a long-term, global issue, and therefore policies to address climate concerns must also be designed for the long-term by all nations. The GCC believes that it is imperative that climate policies focus on responsible voluntary actions, including further research, innovation and deployment of current and potential future technologies in developed and developing nations to address concerns about the climate."</i>	0	0	Centre For Environmental Law	1	1989	USA

American Natural Gas Alliance (ANGA)	Coalition organisation made up of 21 oil and gas production organisations in the USA. It has previously been identified by Greenpeace and Polluterwatch and actively lobby's in the political sphere on behalf of its members. Brulle (2014) reports that the organisation has received funding from fossil fuel based industries. Importantly, it promotes the use and exploration of natural gas as a clean energy alternative.	<i>Unrealistic targets and timetables, such as those called for under the Kyoto Protocol, are not achievable without severely harming the US. economy and all American families, workers, seniors and children. A new approach to climate policy is needed” (1989).</i>	-	0	0	Brulle	4	2009	USA
Capitol Resource Institute	Think tank stating its mission is to educate and strengthen families promoting traditional American values (http://capitolresource.org/about-us/).	<i>“The institute maintains that higher CO₂ concentrations and rising temperatures are causing quote “no harm to the global environment or to human health” (2015).</i>	0	0	Frontiers of Freedom	2	2008	USA	
Consumer Energy Alliance	Trade association that was identified by Brulle (2014) having received funding from fossil fuel industry actors. It advocates on behalf of members that are from a range of sectors in the energy industry, small businesses and academia.	<i>“Failure to do so is costing this country millions of jobs and putting us as significant competitive disadvantage relative to other countries that more effectively utilise their natural resources” (2015).</i>	0	0	Brulle	3	2006	USA	

Lindenwood University: The Hammond Institute: Centre for Economics and the Environment	Lindenwood is a university based research department. It was first identified by Greenpeace as an actor within the CCCM. The organisation has previously received funds from Koch industries and has previously employed climate sceptics including Indur Goklany. It has previously held events along with other CCCM organisations which has hosted lectures with climate sceptics including Roy Spencer.	<i>“But even if predictions of strong global warming are correct, it is not clear what policies to employ to avoid this eventuality. Inexpensive energy is necessary for human health and well-being. Punishing the use of fossil fuel through CO₂ emission caps or taxation will be unpopular and relatively ineffective”</i> (2003).	0	0	Greenpeace	5	2003	USA
Property and Environment Research Centre (PERC)	Think tank first identified as a CCCM organisations by Greenpeace. It has played an active role in the CCCM and has published materials contrary to the scientific consensus on climate change. It promotes the ideas of free market environmentalism and property rights. It promotes the work of climate sceptics including Jonathan Adler and Myron Ebell.	<i>“The push toward national control has been bolstered by the view that all things in the environment are interconnected. If the environment is one giant web of interconnections, then local action is too narrow and must be inferior to centralized coordination. Indeed, environmental activists have shifted focus again, seeking international, not just national, regulations to deal with global issues such as endangered species, climate change, or ozone depletion. The result has been treaties such as the Basel Convention on the Control of Transboundary Movements of Hazardous Materials and Their Disposal, the Convention on Trade in Endangered Species, and the Montreal Protocol that phased out CFCs (chlorofluorocarbons)”</i> (1996).	0	0	Fraser Institute	2	1998	USA

Fed up at the Pump	Small local advocacy organisation based in California. It is also connected to the CCCM organisation the California Drivers Alliance.	<i>"Climate change policy comes with economic risks for California"</i> (2014).	0	0	Western Fuels Association	1	2014	USA
Institute for Energy Research	Think tank that conducts research on energy and environmental issues for the government. It covers several policy areas including a section on climate change. It is based on principles of free markets, objective science, and public policy trade-offs when it comes to environmental policy (http://instituteforenergyresearch.org/about/). It was originally founded by contrarian scientists Robert Bradley. It has reportedly been funded by Koch industries (http://www.greenpeace.org/usa/global-warming/climate-deniers/front-groups/institute-for-energy-research-ier-american-energy-alliance-aea/).	<i>"Responsibly addressing our energy and climate issues presents a serious challenge not only because of the complex and huge economic, technological and scientific aspects involved but also because of the enormous volume of sensationalized, simplistic and often plain wrong information interjected into the discussion. If we are to develop responsible policies then they must be anchored in hard facts — not hype. However rhetorically appealing to politicians, pundits and those promoting an agenda, the fact is that there is no magic energy bullet and that certainly applies to wind, solar and ethanol."</i> (2015).	0	0	American Energy Alliance	2	1997	USA
Pennsylvania Landowners Association (PLA)	Trade association acting on behalf of Pennsylvanian citizen's property rights and are specifically critical of the role of environmentalism and its impact on US environmental legislation (https://palandowners.org/Property_Rights/mission.html).	<i>"We believe that our national zeal to protect the environment has resulted in hastily drawn, reactionary legislation that fails to adequately protect our human resources, particularly our constitutionally guaranteed right to be secure in the ownership of private property"</i> (2003).	0	0	American Land Rights Association	1	2003	USA

Tax Foundation	Think tank that provides research on various policy issues that will impact US taxation legislation. This includes the impacts of state level, federal, and international level tax policies. This includes the proposals to implement a cap and trade system to address climate change.	<i>“Contrary to this perception, economic theory teaches that cap and trade and carbon taxes impose nearly identical economic burdens on households.³ Both policies increase consumer prices for carbon-intensive products and lower real household income in an economically equivalent way. The popular view that cap and trade offers a “tax free” way to address climate change is therefore based on a misconception of how the economic burdens of climate policy—both cap and trade and carbon taxes—will ultimately be borne by American households”</i> (2009).	0	0	Foundation for Teaching Economics	7	2009	USA
American Enterprise Institute (AEI)	Think tank promoting the values of free enterprise, individual liberty and American values. They cover various policy sectors. It has a track record of being funded by the Koch industries although Greenpeace in 2015 speculated the organisation may be moving away from this contrarian position on climate change having being criticised by several other CCCM organisations (http://www.greenpeace.org/usa/global-warming/climate-deniers/front-groups/american-enterprise-institute-aei/). It has co-sponsored several of the Heartland Institute’s International Conference on Climate Change.	<i>“...assessing the merits of the proposed “global warming...”</i> (1997).	1	0	Heartland Institute	2	1997	USA

Pennsylvania Coal Alliance	Trade association "committed to promoting and advancing the Pennsylvania coal industry and the economic and social benefit to the employees, businesses, communities, and consumers who depend on affordable, reliable, and increasingly clean energy from coal." (http://www.betterwithcoal.com/about-). It promotes the ideas that coal based energy has made a small contribution to environmental problems compared to other emissions.	<i>"Last year global coal use grew by 3 percent, faster than other fossil fuel, an obvious indication that other countries are embracing, not turning away from coal. In the US the destruction of the coal industry has been targeted as the silver bullet to climate change, but combined, carbon emissions from US coal-fired power plants account for less than 3 percent globally, forced to divest from coal and electric rates increase, jobs in energy intensive trade-exposed industries such as steel... We will essentially be moving the emissions globally, losing the economic benefit and adding more carbon emissions to the same air" (2015).</i>	0	0	American Coal Foundation	3	2012	USA
California Association of Business and Property and Resource Owners (CABPRO)	Advocacy organisation based specifically in Nevada County, California acting on behalf of the local community. It promotes the values of property rights and personal freedoms along with small government (http://cabpro.net/). They focus on various issues including energy and the use of resources. Its main focus has been on Agenda 21 and criticising the impacts of global governance.	<i>"We have been loudly warned of the World Communism Movement since the 1940's, and we were more subtly warned even before that. And here it is. Agenda 21 is a U.N. document which describes the global New World Order plans to control every single aspect of our lives, from where we live, how and if we travel, what we eat, how we worship, what we can say, etc. You will hear about 'sustainable development' anywhere you go in the world today. Sustainable development is the concept which is being used to end private property ownership, motorised vehicle ownership, small appliance ownership, the use of air</i>	0	0	Greenpeace	1	1993	USA

conditioning, the consumption of meat” (1993).

Collegians for a Constructive Tomorrow	A product of the CCCM CFACT (USA). Its purpose is to travel around college campus and present their position and research on environmental issues including climate science (http://www.cfactcampus.org/?page_id=2). Like CFACT it promotes the work of contrarian scientists including Fred Singer.	<i>“The primary focus of the Keep Calm Climate Changes campaign is educating students about the facts behind the current climate change debate. This campaign seeks to show students the real facts about climate change, and empower them to bring the discussion to their campus. Issues like the Medieval warm period, different possible causes of climate change (such as solar activity, or even the nature of our climate), studies indicating the last interglacial period was warmer than today, and the failure of recent dire predictions about the climate all show the debate on climate change is not nearly as settled as many global warming proponents would have us believe...Some scientists are even saying we are nearing the beginning of a new period of global cooling...” (2015).</i>	0	0	Brulle	2	2007	USA
Commonwealth Foundation	Free market think tank (https://www.commonwealthfoundation.org/about/) that has a dedicated section to energy and the environment (https://www.commonwealthfoundation.org/research/topic/energy--environment). Climate contrarian Paul Chesser is regularly cited in their articles.	<i>“The Commonwealth Foundation supports sound environmental policies based on factual evidence. We believe that regulators must clearly demonstrate that the environmental benefits such policies will produce will outweigh the costs they impose on businesses, property owners, and other taxpayers before imposing them” (1998).</i>	0	0	Independent Institute	2	1998	USA

Edison Electric Institute	Trade association for members of the electricity sector. It has a department committed to issues on the environment. It has been funded by ExxonMobil (Brulle, 2014). They have played an active role in lobbying in the US government to promote voluntary mechanisms to address climate change and reduce government intervention.	<i>“In short, the protocol is currently deficient and would do little to address global concentrations of greenhouse gases, and yet implementing its targets would cost Americans hundreds of billions of dollars annually, undermine the strength and competitiveness of the US economy, and cost American jobs. The protocol also raises serious questions about the degree to which international agencies under the auspices of the UN, in the name of reducing greenhouse gas emissions, will unfairly constrain the decisions of American business and the Congress about the economy, jobs and public policy”</i> (1998).	0	0	Brulle	3	1998	USA
Institute for 21st Century Energy	The Institute for 21st Century Energy was set up by the US Chamber of Commerce to address American energy and environmental policy. Several climate sceptics work for the organisation including Tom Donohue.	<i>“The price of energy and nearly all consumer goods would skyrocket. Companies could decide to move to a different country that does not regulate CO₂ emissions. For instance, if the US were to regulate carbon emissions, an American company may decide to shut down its domestic operations and instead relocate to a country like China or India that does not regulate emissions.”</i> (2015).	0	0	US Chamber of Commerce	2	2007	USA
American Farm Bureau	Advocacy organisation acting on behalf of individuals in the US that work in the farming and agricultural industry. It has reportedly been funded by fossil fuel industry actors.	<i>“Farm Bureau recognises there may be an increase in occurrences of extreme weather. Even if GHGs are a factor, it is not clear if this is due to natural global climate cycles or other factors, such as GHGs. We do not believe unilateral action by the US can</i>	0	0	Brulle	1	1997	USA

make a difference on global temperatures or stop devastating weather events. Additionally, we do not support regulations that will increase costs for all Americans while not having a significant effect on the climate” (2015).

Family Research Council (FRC)	Think tank that lobbies on behalf of the Republican party. Its main issues are based on life, marriage and family, and religious liberty, although it has focused on other policy issues including climate change. It has included the work of climate sceptics such as Fred Singer to support its core positions and arguments on climate change.	<i>“Though the existence of global warming is still not conclusively proven, the Kyoto treaty would force participating nations to reduce their output of CO₂ and other GHGs. The treaty would require developed nations like the US to cut back, but would place no requirements on “developing” (i.e., poorer) nations” (1997).</i>	0	0	Edmund Burke Institute	2	1998	USA
American Land Rights Association (ARLA)	Advocacy organisation that acts on behalf of members in the same way as a trade association. It promotes the values of private property rights, and resists environmental protection legislation.	<i>“The science is still uncertain. Scientists cannot tell us how much and where temperatures will increase or, for certain, whether they will increase at all. It will be very costly to American families. Fuel and electricity costs will go up and jobs at energy-intensive industries are likely to be lost. It will export American jobs. While economic growth and job creation will be severely impacted in the US, other nations will be free to continue emitting, growing their economies, and competing for jobs. By 2015, greenhouse gas emission from developing countries will exceed those of the US and other countries impacted</i>	0	0	American land Rights Association	1	1997	USA

by the treaty. Overall, global emissions will continue to grow. If global warming is real, the Kyoto Treaty is not a solution” (1997).

National Centre for Public Policy Research (NCPPR)	Research foundation that focuses on various policy issues. It has its sister organisation the Environment and Enterprise Institute that conducts research on climate change and global warming.	<i>“In 1976, when the earth had been cooling for some three decades, “mainstream scientists” believed that we were sliding into a new ice age. There has been significant improvement in modelling the ocean and atmosphere since then, but the predictions of these models still do not form a sound basis for public policy decisions. As put by Ahilleas Maurellis of the Space Research Organisation Netherlands, “Until we understand the full picture, perhaps the best reaction to global warming is for everybody to just keep their cool” (2015).</i>	1	1	Heartland Institute	7	-	USA
National Coal Council (NCC)	Federal advisory committee on energy security issues. It provides advice and recommendations to the US Secretary of Energy relating to the coal industry (http://www.nationalcoalcouncil.org/page-About-Us.html). Climate sceptics such as Fred Palmer were previously employed at the organisation. Several CCCM organisations including EEI, ACCCE and the NAM are connected with the organisation.	<i>“...fossil fuels will be used in coming decades to a greater extent than today to fuel a more populous, developed, urban world. Those who deny these facts in the name of addressing climate change not only harm fossil fuels and ambitions for improved health and quality of life, but diminish the likelihood of meaningful CO₂ emission reductions” (2015).</i>	0	0	American Coal Foundation	8	1997	USA
Pacific Research Institute (PRI)	Think tank that has played a historic role in the CCCM. It previously held one of the earliest conferences that brought together several climate sceptics at an	<i>“While politicians, economists, and environmentalists squabble over the details of Clinton’s global warming proposal for the upcoming summit this</i>	0	1	Cooler Heads Coalition	2	1992	USA

	event which discussed various policy issues.	<i>December in Kyoto, Japan, everyone seems to have lost the forest for the trees. The debate should not centre over how strict the Kyoto Treaty should be, but should emphasise that fact that the Kyoto Treaty is a sham: it will not prevent global warming and is a poor way to reduce greenhouse gas emissions” (1998).</i>						
The California Drivers Alliance	The organisation has reportedly been funded as a fake grassroots groups to help reduced Californian based emissions laws (https://www.bloomberg.com/news/articles/2014-09-04/californias-carbon-laws-oil-companies-fund-grass-roots-revolt).	<i>“Don’t give control to CARB Bureaucrats” (2015).</i>	0	0	Western Fuels Association	3	2014	USA
Free to Choose Network	Non-profit media organisation. They promote the to use accessible and entertaining media to build popular support for personal, economic and political freedom thus advancing human well-being and has co-sponsored several of the Heartland Institute’s International Conference on Climate Change.	<i>“Sure, we should reduce greenhouse gases, but if our climate policies hurt our ability to create more wealth and bring power to the world’s poor, then we are ridding the patient of the disease, but only by killing him” (2015).</i>	1	0	Heartland Institute	8	2010	USA

Americas Future Foundation (AFF)	Foundation organisation aiming to promote the values of individual liberty and freedom across younger populations. The organisation includes op-eds and cite climate change sceptics including Johnathon Adler and John Rust.	<i>“Divestment is a pernicious idea that reflects a deep misunderstanding of the relationship between science and public policy, the role of the corporation, and the idea of the university. Concerned alumni should unambiguously reject the movement’s attempts to de-legitimate an industry that literally keeps your lights on and which makes possible a standard of living that tens of millions around the world still yearn to achieve”</i> (2015).	0	1	Cooler Heads Coalition	7	1998	USA
National Association of Home Builders (NAHB)	Trade association promoting the interests of professionals and individuals in the housing industry. It conducts research on environmental issues that are associated with the issue of climate change, claiming climate change legislation puts in place barriers to effective home building and business development (https://www.nahb.org/en/research/nahb-priorities/climate-change.aspx)	<i>“Climate change regulations have the potential not only to exacerbate the challenges home builders already face but can also change where and how communities grow. NAHB’s climate change policy calls on the administration to refrain from using existing statutes to regulate climate change emissions, because of the unintended consequences that are likely to result from trying to make it fit this new issue, including the imposition of onerous permitting requirements for many builders and developers”</i> (2015).	0	0	American Land Rights Association	3	2007	USA
National Association of Regulatory Utility Commissioners (NARUC)	Trade association operating on behalf of the public service commissions involved with state run resources.	<i>“costs of mitigating rising greenhouse gas emissions could be substantial and will necessarily be borne in large part by each State”</i> (1995).	0	0	American Gas Association	3	1995	USA

Chamber of Commerce of the US of America	The US Chamber of Commerce represents over 3 million business, advocating and promoting legislative ideals for economic growth. It covers several policy issues including energy and the environment investigating how they will affect economic growth. They cite and reference the work of climate sceptics including Bjorn Lomborg.	<i>“The Chamber has in its public documents, Hill letters and testimony, supported efforts to reduce greenhouse gas emissions in the atmosphere. Our position is simple: There should be a comprehensive legislative solution that does not harm the economy, recognises that the problem is international in scope, and aggressively promotes new technologies and efficiency. Protecting our economy and the environment for future generations are mutually achievable goals”</i> (1998).	0	0	Brulle	1	1998	USA
Rightchange.com	Advocacy organisation focusing on various policy issues including energy and the environment. It promotes the values of free enterprise, individual freedom and traditional values. The organisation appears to be inactive since 2016.	<i>“Lower-income and fixed-income elderly will be hit hardest as a disproportionate amount of their income is spent on energy costs”</i> (2010).	0	0	Instituto Liberdade	1	2010	USA
American Coal Council	Advocates on behalf of the American coal industry concerned with policy issues that are likely to affect the coal industry. These include climate change, cap and trade programmes, bio and alternative fuels.	<i>“The characterisations of research and researchers quickly devolves into ad hominem, making it tiring to wade through pages of political ideology, climate change activism, broken or outdated links, as well as vitriolic personal attacks to pull out the specific calculations”</i> (2015).	0	0	American Coal Foundation	8	1997	USA

Agricultural Retailers Association (ARADC)	Trade association acting on behalf of agricultural retailers. It has put forth several US senate proposals with the corporation of organisations including Friends of Coal, Independent Petroleum Association of America (http://www.aradc.org/HigherLogic/System/DownloadDocumentFile.ashx?DocumentFileKey=14005e26-edf8-4f74-b703-8162de0e148f&forceDialog=0) opposing climate change legislation One of their key proposals to reconsider the US climate bill emerged with supporting data from climate sceptic James Inhofe.	<i>“ARADC is concerned that a cap and trade regime will result in a significant input cost for American agricultural suppliers, farmers and ultimately an increase in food price for consumers” (2010).</i>	0	0	American Farm Bureau	3	2010	USA
National Petroleum Council (NPC)	Trade association that has taken a historical role in the CCCM (Centre for Environmental Law, 2016). It covers several policy issues including issues relating to climate change.	<i>“CO₂ concentrations do appear to be increasing for reasons not well understood...As far as global implications are concerned; it seems a justifiable conclusion that there will be no possibility of establishing whether or not a serious problem exists until at least the turn of the century” (1972).</i>	0	0	Brulle	3	1972	USA
International Organisation of Motor Vehicle Manufacturers (OICA)	Trade association that works on behalf of manufacturing owners. It has a section dedicated to climate change and the environment on its website. It has reportedly previously received funding from ExxonMobil (Brulle, 2014).	<i>“Man-made emissions of CO₂ represent less than 5% of the total, including CO₂ emissions from natural sources, but even this relatively small increase can shift the Earth’s natural balance” (2015).</i>	0	0	Brulle	3	2008	USA
Pulp and Paper-workers Resource Council (PPRC)	Coalition of organisations working to promote and influence legislation for natural based resources.	<i>“Irresponsible legislative action would destroy the forest products and manufacturing industries in America</i>	0	0	Polluterwatch	4	2010	USA

and cause the loss of millions of jobs nationwide” (2010).

American Legislative Exchange Council (ALEC)	ALEC created the Interstate Research Commission on Climate Change Act in 1998 as legislative act for individual’s states to respond and reject government legislation (https://www.alec.org/model-policy/interstate-research-commission-on-climatic-change-act/). It has played a historic role in the Wise Use Movement.	<i>“The scientific theory used by the Rio Climate Treaty to measure Global Warming is out of date. Though still not fully understood, there has been no statistically significant warming since 1978” (2015).</i>	0	1	Cooler Heads Coalition	1	1995	USA
Louisiana Oil and Gas Association (LOGA)	Trade association working on behalf of the oil and gas industry in the US	<i>“We don’t believe in global warming, period...We are fighting for our right to exist” (2009).</i>	0	0	Independent Petroleum Association of America	3	2009	USA
Industrial Energy Consumers of America (IECA)	Trade association operating on behalf of US energy consumers. It is founded on the principles of a robust, diverse and affordable supply of energy is required to sustain economic growth, quality of life for our citizens, and the competitiveness of industry. It has six committees dedicated to different areas one of which is dedicated solely to climate change (http://www.ieca-us.com/about-ieca/)	<i>“To address the threat of climate change and GHG emissions, CAR must recognise and account for the significant GHG emissions that are being imported in manufactured goods, especially from countries like China, whose carbon intensity is four times that of Washington manufacturers. Imported industrial emissions dwarf the emissions that are emitted by the manufacturing sector.” (2015).</i>	0	0	Greenpeace	3	2001	USA

Interstate National Gas Association	Trade association is a tertiary organisation that acts on behalf of the natural gas industry in the US. One of its main areas of interest is the Environment promoting natural gas as a tool to reduce GHG emissions.	<i>"In any climate change position adopted, the US should incorporate principles that recognise the environmental advantages of natural gas in reducing greenhouse gas emissions. The Interstate Natural Gas Association of America (INGAA), the trade association for natural gas pipelines, is recommending seven principles to ensure that any international agreement adopted by the US be broad-based, scientifically supported, provide maximum flexibility and use market-based mechanisms."</i> (1997).	0	0	Natural Gas Supply Association	3	1997	USA
World Affairs Council of America	Research organisation that conduct research on domestic and international policy issues. It was first identified by Greenpeace as an organisation that advocated against and played a role in undermining environmentalism. More recently however they have shown increased support for resolving various environmental problems.	-	0	0	Greenpeace	2	1997	USA
Alliance for Energy and Economic Growth (AEEG)	A coalition of organisation between the US Chamber of Commerce and the National Association of Manufacturers to conduct research on environmental and energy related issues.	<i>"As we move forward, satisfying our national energy appetite will require new policies to help stimulate the development of a more modern energy infrastructure. Current policies that stifle innovation, discourage the application of new technologies, and slow the transmission of energy ultimately threaten our quality of life."</i> (2001)	0	0	National Association of Manufacturers	4	2001	USA

ICEAGENOW	ICEAGENOW is the website and non-profit connected to the climate sceptic works of Robert Felix. The website advocates on behalf of other researchers and works by climate sceptics including Ian Plimer and Timothy Ball. It has received funding from Koch related foundations (Brulle, 2014).	<i>“Global warming is a myth. Most of the things we see happening to our weather lately have nothing to do with global warming. They’re part of a natural cycle. The fact is that ice ages recur in a dependable, predictable cycle that’s about to repeat itself. The next ice age could begin in our lifetimes” (2015).</i>	0	0	Brulle	8	1997	USA
Lignite Energy Council	An organisation acting on behalf of the coal industry in the US. It focuses on various issues relating to the coal industry including environmental and energy policy.	<i>“Climate changes must be judged against the natural climatic variability that occurs on a comparable time scale. The Little Ice Age, Medieval Warm Period, and similar events are part of this natural variability. These events correspond to global changes of 1-2°C” (1999).</i>	0	0	American Coal Foundation	8	1999	USA
National Stripper Well Association (NSWA)	Trade association operating on behalf of small business and independent owners of oil and gas wells.	<i>“NSWA is working with industry allies and congressional supporters in Washington to continue to influence the EPA rulemaking to protect or exempt small producers from the costs and burdens of this rulemaking” (2015)</i>	0	0	Domestic Energy Producers Alliance	3	2010	USA
Smithsonian Astrophysical Observatory	University based research organisation where several climate sceptics are based. It has produced various contrarian scientific reports. They were recently part of the scandal with worker and climate sceptic Willie Soon producing contrarian science funded by fossil fuel industry actors.	<i>“Sun-like Stars Hold Clues to Earth’s Climate” (1995).</i>	0	0	Greenpeace	5	1995	USA

Charles Koch Institute	Think tank directly connected to the Koch industry. The think tank focuses on various policy issues. The issue of climate change itself is on the outskirts of the organisation, and is not mentioned frequently on its website	-	0	0	Greenpeace	2	2009	USA
Harvard Centre for Risk Analysis	University based research centre connected to Harvard University. There are several climate contrarians connected to the organisation although more recently it appears to have shifted away from the contrarian position on climate change (see http://environment.harvard.edu/news/huce-headlines/climate-change-risk-assessment). It was also linked to the big tobacco lobby.	-	0	0	Greenpeace	5	1992	USA
Pioneer Institute	Think tank that looks at various policy issues. It promotes the values of free markets, individual liberty, limited, and accountable governments.	<i>"CO₂ increases as well, but primarily as an effect, not a cause of warming. The warming ocean releases CO₂ just as a warm bottle of soda pop goes flat"</i> (2009).	0	0	Montreal Economics Institute	2	2009	USA
Show-me Institute	Think tank that promotes the values of individual liberty, economic freedom and limited government. It conducts research on several policy issues and has a specific section dedicated to energy.	<i>"New research suggests that solar output has a much larger impact on global temperatures than previously thought. Not that one year of data discredits global warming enthusiasts, but if these records can be trusted, the past year's temperature drop is enough to wipe out nearly 100 years of warming "trends" (2008).</i>	0	0	Cascade Policy Institute	2	2008	USA

Alaska Forest Association	Trade association protecting the timber industry in Alaska. It has been identified as early as 2003 as a CCCM organisations and continues to promote contrarian ideas.	<i>"Global Warming is an exaggerated"</i> (2015).	0	0	Polluter Watch	3	2003	USA
American Exploration Production Council	Trade association made up of 33 independent natural gas and oil companies (http://www.axpc.us/). It has a section dedicated to the issue of environment.	<i>"the inevitable increase in natural gas demand can be met by exploration and production companies, in a stable investment environment that includes access to North America's large natural gas resources, both offshore and onshore; any climate change policies are economically transparent and rely on market forces to efficiently encourage conservation by consumers, development of alternative energy sources, and use of carbon capture and sequestration"</i> (2015).	0	0	Independent Petroleum Association of America	3	2007	USA
Centre for Competitive Politics	Think tank focusing on several policy issues. They have worked alongside and cited the references of several other CCCM organisations including US Chamber of Commerce, and National Association of Manufacturers	<i>"Another example of this phenomenon is the effort by activists, attorneys general, and politicians to curb the speech of climate change "denialists" whom they view as hampering efforts to prevent impending global disaster"</i> (2015).	0	0	Instituto Liberdade	2	2007	USA
Junkscience.com	Website dedicated to contrary scientific knowledge and led by climate sceptic Steven Milloy. Readers can donate to the organisation and it has co-sponsored several Heartland Institute's on Climate Change Conferences and was a member of the Cooler Heads Coalition.	<i>"Social and political activists may use junk science to achieve social and political change"</i> (2015).	1	1	Cooler Heads Coalition	8	1996	USA

American Gas Foundation	Conducts research on a variety of policy issues. It conducts research on a variety of issues related to the natural gas industry which includes climate change	<i>"Many energy and environmental regulations are flawed and even counterproductive because they are not comprehensive enough" (2000).</i>	0	0	American Gas Association	2	2000	USA
Global Carbon Project	The Global Carbon Project was established specifically to identify and promote the ideas of natural carbon cycles.	<i>"The hypothesis that human activity will result in catastrophic disruptions to the earth's climate is an unproven theory without a scientific basis — and one that has many learned critics supplying facts on a sound scientific basis" (2001).</i>	0	0	Brulle	8	2001	USA
US Grains Council	Private non-profit corporation working on behalf of producers in the agricultural industries across 50 countries. More recently it recognises the implications of climate change and how the industry can effectively address the problems associated with a changing climate on the industry.	<i>"Climate change: The term can refer to all forms of climatic inconsistency, but because the Earth's climate is never static, the term is more properly used to imply a significant change from one climatic condition to another. "Global warming" which is often used interchangeably with this term refers to the question as to whether a build-up of greenhouse gases in the atmosphere will result in catastrophic changes to the Earth's climate patterns" (2007).</i>	0	0	American Farm Bureau	8	2007	USA
Leadership Institute	Free market conservative think tank, encouraging young people to join the conservative movement. It promotes activism and campaigns, and takes an active role in developing conservative college and university campus groups.	<i>"Radical environmentalists continue to preach the theory of man-made "global warming" as an absolute fact. Leftists insist that the debate is over and that the science is settled. However, nothing could be farther from the truth. Over 30,000 scientists have signed a petition, publicly voicing their dissent over the consensus regarding climate</i>	1	0	Heartland Institute	2	2002	USA

change. The environmentalists and their liberal allies have chosen to ignore this. Instead, they appear more interested in utilising the opportunity as a call to grow government and increase taxes on businesses and consumers” (2002).

National Corn Growers Association (NCGA)	Trade association that works on behalf of corn growers in the US. It covers various policy issues related to crop growth including environmental issues. One of their main opposition points to climate change and climate change legislation is "Oppose a climate change bill if it does not support long-term corn grower opportunity for profitability."	<i>"...Any climate legislation passed should not restrict private property rights nor penalize or impede producers” (2015).</i>	0	0	American Farm Bureau	3	2003	USA
Natural Gas Supply Association	Trade association working on behalf of the gas industry to advocate and lobby on its behalf. It is connected to US based organisations American Gas Association, IPA, the Interstate Natural Gas Association and the Natural Gas Council to promote the interests of natural gas extraction as a clean fuel combatting climate change.	<i>"If Congress enacts a clean energy standard or other mandate that includes particular fuels or technologies for generating electricity, it should avoid creating a power mandate that overlooks the benefits of increased natural gas generation. Natural gas should be appropriately credited as an eligible resource in a clean electricity standard” (2015).</i>	0	0	American Gas Association	3	2000	USA
National Gas Supply Association (NGSA)	Trade association that advocates on behalf of the natural gas industry. It is concerned with the impacts of climate change but also questions governmental and policy methods that are used to address the problem. It has been connected to the CCCM Plants need CO ₂ and have provided information from this organisation	<i>"Another environmental concern in recent years has been global warming. Some scientists think that the Earth is getting slightly hotter because of gasses and other wastes that are being emitted into the atmosphere -- trapping the sun's heat close to the Earth...While methane has been identified as a possible secondary</i>	0	0	National Petroleum Council	3	1998	USA

	(http://rosemarieberger.com/tag/natural-gas-supply-association/).	<i>contributor to global warming, its significantly lower emission rates have prevented it from having any significant impact on the environment. The IPCC estimated that the entire natural gas industry was only responsible for 2 to 3 percent of total man-made methane emissions” (1998).</i>						
South-eastern Legal Foundation	Advocacy organisation that has a specific section connected to global warming. It promotes ideas of American traditional values, property rights and free speech. They have pushed forward several litigation suits against EPA regulations.	<i>“We have developed the SLF Global Warming Litigation Project to challenge the climate change alarmists and the Obama Administration’s agenda for radical, costly regulation - based, as we maintain, on flawed science, political agendas, and the multi-billion dollar carbon trading giants waiting in the wings... At stake are hundreds of billions of dollars that will come from your 401(k), show up in your energy bills, and will result in the loss of tens of thousands of American jobs. Al Gore’s profit-making enterprise – the selling of billions of dollars in so-called “carbon credits” – is based on fraudulent science and a politically driven environmental extremist agenda bent on destroying the American economy” (2015).</i>	0	0	Mountain States Legal Foundation	1	2006	USA
World Coal Association	Trade association promoting the interests of coal industry leaders. They promote the importance of coal in achieving a low carbon future and a sustainable energy economy (https://www.worldcoal.org/about-wca-	<i>“The balance of evidence suggests that there is a discernible human influence on global climate” (1999).</i>	0	0	Brulle	3	1999	USA

0/what-wca-does). In fact, it promotes the idea that Coal could be the technology that could help meet climate objectives (<https://www.worldcoal.org/coal-and-climate-change>). CEO Benjamin Sporton has played a vocal role in advocating against and the reduction of regulatory strategies to address climate change and is identified as one of NGO Avaaz' climate criminals (https://avaazmedia.s3.amazonaws.com/Climate_Criminals_Report.pdf).

energytomorrow.org	Energy Tomorrow is a part of the American Petroleum Association that advocates on a separate basis on behalf of oil and gas investors.	<i>"Oil and natural gas take us down the street and around the world. They warm and cool our homes and businesses. They provide the ingredients for medicines, fertilisers, fabrics, plastics and other products that make life safer, easier and better. While we rely on them for most of our energy and will likely do so for years to come"</i> (2007).	0	0	American Petroleum Institute	3	2007	USA
The Intercollegiate Studies Institute	Conservative think tank promoting the ideas of limited government, traditional, Christian values, and individual liberty (https://home.isi.org/about/about-isi).	<i>"There are however many examples of climate change occurring long before large amounts of CO₂ were emitted into the atmosphere by human beings. Some communities that have flourished for centuries have been destroyed by climate change"</i> (2009).	0	0	Alternate Solutions	4	2009	USA

National Policy Institute	Far-right think tank. Its position on climate change is tied in with its political ideology emerging from the far right. It now runs the website 'altright.com'	professors know that their chances of getting tenure will be close to zero if they publish politically incorrect findings on climate change (2012)	0	0		2	2012	USA
National Rural Electric Cooperative Association (NRECA)	Trade association that was identified by Brulle (2014) as funded by fossil fuel industry actors.	<i>"The burden of paying off the remaining debt on those plants and paying for electricity from other sources would fall to our member-consumers, not shareholders"</i> (2002).	0	0	Brulle	3	2002	USA
Sense About Science USA	This is the US branch of the UK based Sense About Science and directly connected to the Statistical Assessment Service.	<i>"Mankind has never been able to control the weather or climate but has, historically, been able to adapt to changes, surviving ice ages and desertification"</i> (2007).	0	0	The Statistical Assessment Service	5	2007	USA
Centre for Urban Renewal and Education (CURE)	Think tank adopting a Judaeo-Christian perspective promoting traditional conservative values including limited government, individual liberty and free market. It covers various policy issues drawing attention to racial injustices.	<i>"Research has shown time after time that anthropomorphic climate change is a myth..."</i> (2015).	0	0	Edmund Burke Institute	2	2014	USA
Property Rights Alliance	Advocacy organisation that is affiliated with Americans for Tax Reform. Environmental legislation is one of its core areas of interest where they heavily criticise the role of environmental groups in the establishment of any policy.	<i>"Forsaking IP protections would limit the possibility of future invention and improvement in exchange for trivial short-term benefits. This would be a grave and unfortunate error and detrimental to the long-term economic health of the US"</i> (2009).	0	0	Minimal Government Thinkers	1	2009	USA
American Petroleum Institute (API)	Leading actor in the CCCM (Centre for Environmental Law, 2016). In as early as 1950 it had recognised some	<i>"Oil and natural gas take us down the street and around the world. They warm and cool our homes and</i>	0	0	Brulle	3	1950	USA

influence of human's use of fossil fuels on climate change and has been funded by several corporate actors that wish to benefit from the prevention of environmental policies.

businesses. They provide the ingredients for medicines, fertilisers, fabrics, plastics and other products that make life safer, easier and better....While the world relies on oil and gas for most of its energy and is likely to do so for years to come, emissions from their production and use have raised concerns. These emissions may be helping to warm our planet by enhancing the natural greenhouse effect of our atmosphere. The contribution of possible man-made warming is uncertain as are the extent and timing of potential future impacts..." (2015).

Colderside.com	Non-profit website that can receive donations from individuals. Individuals can upload scientific documents and blog posts about climate science.	<i>"as any acceleration of Global Warming counter intuitively short circuits the present warming cycle, it will get colder sooner rather than later, with no appreciable additional Greenland/Iceland/Antarctic ice melt" (2015).</i>	0	0	Fraser Institute	8	2008	USA
Blue Ribbon Coalition (BRC)	Coalition organisation that focus on several policy issues associated with responsible land and resource use. They have written op-eds and articles using supporting evidence from climate contrarians including Sallie Baliunas and Bjorn Lomborg.	<i>"That the Blue Ribbon Coalition stands with the Administration in opposition to the Kyoto Protocol, and urges the Administration and Congress to actively oppose any such treaty that would result in serious economic harm to the US...The Blue Ribbon Coalition urges the Administration and Congress to establish a national energy strategy that ensures an adequate, affordable</i>	0	0	Brulle	4	2001	USA

		<i>supply of energy for all Americans” (2001).</i>							
Federation for American Coal, Energy and Security (FACES)	Advocacy organisation and industry front group that supports the interests of the oil and gas industry. It has reportedly received funding from fossil fuel industry actors (Brulle, 2014).	<i>“Thousands of jobs and the stability of our communities are at risk because the government and outside organisations want to stop coal mining” (2015).</i>	0	0	Brulle	3	2009	USA	
Institute for Liberty	Think tank that focuses on various policy issues. This includes a section dedicated to Man-Made Weather Control, otherwise known as "Anthropogenic Climate Change" or "Global Warming" The organisation has received funding from fossil fuel related industries (Brulle, 2014) and cites the work of CCCM organisations such as the CEI and contrarians such as Myron Ebell. It has previously co-sponsored several Heartland Institute's International Conference on Climate Change.	<i>“There is significant scientific uncertainty over the cause, extent and effects of climate change; and Regulation would be inappropriate given the President’s policies on-going policies to address global climate change and would undermine international negotiations on the issue” (2008).</i>	1	0	Brulle	2	2008	USA	
American Friends of the Institute of Economic Affairs	Think tank directly related to the UK based IEA. It promotes the same messages as the UK based organisation and was also identified by Brulle (2014) as having received financial donations from the fossil fuel industry.	-	0	0	Greenpeace	2	1998	USA	

National Consumer Coalition (NCC)	Defunct Coalition with members including several CCCM organisations including the Heartland Institute, 60 Plus Association, and Frontiers of Freedom. It originally operated the group Consumer Alert before creating the Cooler Heads Coalition	<i>“the Kyoto Global warming treaty map pose a looming threat to the US economy, but it has spawned a cottage industry based in the nation’s capital, courtesy of US taxpayers” (1995).</i>	0	1	Greenpeace	4	99	USA
US Chamber of Commerce Foundation	Foundation connected to the US Chamber of Commerce that conducts and funds research on various policy issues related to the expansion of business.	<i>“Efforts by environmental extremists to over-regulate the marketplace and put huge new mandates on businesses will be opposed. A new radical environmental movement has started at the grassroots level pushing for regulations based on race and socio-economic status. The US. Chamber leads the opposition to these groups. In addition, the Chamber is pushing for common sense regulatory reform to make it easier and less costly for businesses to do business” (1997).</i>	0	0	Greenpeace	7	1997	USA
American Association of Petroleum Geologists	Professional association operating with many factions in other parts of the world. It conducts research on several policy issues related to the environment and earth systems.	<i>“Geologists study the history of the Earth and realise climate has changed often in the past due to natural causes. The Earth’s climate naturally varies constantly, in both directions, at varying rates and on many scales. In recent decades global temperatures have risen. Yet, our planet has been far warmer and cooler than today many times in the geologic past, including the past 10,000 years...” (2015).</i>	0	0	National Petroleum Coalition	6	2012	USA

Media Institute	Formally the Business and Media Institute. Think tank that focuses specifically on the media as a form of watchdog. It was first identified as an anti-environmental organisation by Greenpeace and has historical produced research criticising the medias role in presenting and supporting the consensus on climate change. The organisation has also reportedly received funds from fossil fuel based industries (http://www.exxonsecrets.org/html/orgfactsheet.php?id=52).	-	1	0	Heartland Institute	2	1997	USA
Centre for the Defence of Free Enterprise (CDFE)	One of the founding members of the CCCM. Some of their positions have been taken and adopted from the work of climate contrarians including Ron Arnold. It was one of the original members of the Wise Use Movement and has received funding from ExxonMobil. It has co-sponsored several of the Heartland Institute's International Conference on Climate Change.	<i>"Environmentalism is the new paganism, trees are worshipped and humans sacrificed at its altar...It is evil...And we intend to destroy-it"</i> (1992).	1	0	Heartland Institute	2	1992	USA
West Virginia Coal Association	Trade association dedicated to coal mining operations. It focuses on policy issues that directly affect the coal mining industry from climate regulations. They cite the work of climate sceptics including John Coleman (https://www.wvcoal.com/latest/john-coleman-founder-on-the-weather-channel-on-qmanmade-global-warmingq)	<i>"Anti-coal, climate change and a strong EPA...these are core party principles supported by unrelenting political agendas!"</i> (2015).	0	0	Information Council on the Environment	3	1991	USA

Institute on Religion and Public Life	Think tank that promotes the principles of economic and religious freedom, and traditional values. It produces an online journal as its main source of messaging to the public on various policy issues.	<i>“Orthodox environmentalism resents human sovereignty over the earth we inhabit. It begrudges ingenuity in the transactions we invent with nature and with each other” (2015).</i>	0	0	Frontier of Freedom	2	2008	USA
The Environmental Conservation Organisation	Think tank based on the principles of traditional values, property rights and small government. They created an oppositional UN Agenda 21 which includes a section dedicated to the science of global warming. They cite evidence from contrarian scientists including John Christy and Richard Lindzen (appears defunct since 2017)	<i>“...CO₂ is a limiting factor to plant growth throughout the world. The addition of this gas to any environment causes plants to grow faster and more robust, increasing both their productivity and growth...If global CO₂ does increase, the crops will grow even faster and healthier” (2001).</i>	0	0	Instituto Liberdade (Brazil)	2	2001	USA
Consumer Alert Inc	Consumer Alert Inc was originally founded in 1996. It has previously been identified as one of the core actors in the early formation of the CCCM (Greenpeace). Numerous contrarian climate scientists made up its advisory council such as Jonathan Adler. It has links with other US based CCCM including the Hoover Institution, Hudson Institute, and American Council on Science and Health. It received funding from organisations from fossil fuel vested industry groups (Brulle, 2014).	<i>“Larger quantities of CO₂ in the atmosphere and warmer climates would likely lead to an increase in vegetation” (2000).</i>	0	1	Greenpeace	1	1997	USA

Property Rights Research	Advocacy organisation discussing various policy issue including the environment and energy policy.	<i>"It is interesting to note that the environmental left purports to advocate policies based on their alleged good for humanity, especially for the most vulnerable... Yet Kyoto, and Kyoto-like policies developed here in this body, would cause the greatest harm to the poorest among us. Environmental alarmists, as an article of faith, peddle the notion that climate change is, as Greenpeace put it, "the biggest environmental threat facing ... developing countries." (2004).</i>	0	0	American Farm Bureau	1	2004	USA
Competitive Enterprise Institute (CEI)	Think tank that has reportedly received \$2,005,000 from ExxonMobil between the years 1998-2014 (Greenpeace, 2014) and has supported several Heartland Institute International Conference's on Climate Change (http://climateconference.heartland.org/sponsors-2/).	<i>"There is little evidence that human activity is having more than a marginal impact on the Earth's climate and even less that moderate climate shifts will be disastrous for either human civilisation or the environment" (1997).</i>	1	1	Heartland Institute	2	1991	USA
Citizens Against Government Waste (CAGW)	Advocacy organisation that promotes action on a variety of policy issues. It has worked alongside other US based CCCM organisations including the National Association of Manufacturers, Freedom Works, American Conservative Union and Americans for Tax Reform.	<i>"The Kyoto Protocol is not global, so it has no impact on non-signatory countries. Thus, these countries could continue producing high levels of greenhouse gases, nullifying the reductions made by the signatory countries.... The US could make a huge economic sacrifice only to see the problem worsen" (1998).</i>	0	1	Cooler Heads Coalition	1	1998	USA

Civil Society of Coalition on Climate Change (CSCCC)	Coalition organisation made up of 62 think tank organisations from across the world. It produced its overarching documents based on the work of contrarian scientists. This document had been used by other CCCM organisation as primers for their own position.	<i>“The Civil Society of Coalition on Climate Change seeks to educate the public about the science and economics of climate change in an impartial manner. It was established as a response to the many biased and alarmist claims about human-induced climate change, which are being used to justify calls for intervention and regulation” (2007).</i>	0	0	Greenpeace	4	2007	USA
National Association of Manufacturers (NAM)	Trade association in historical role of CCCM. It has played an active role in the movement, and has a specific section dedicated to energy and environmental issues (see Dunlap and McCright, 2013).	<i>“Accompany climate policy with policies that expand the production and use of reliable affordable and environmentally sound domestic energy supplies” (2015).</i>	0	0	Brulle	3	1989	USA
Progress and Freedom Foundation (PPF)	Think tank organisation that covers various policy issues including energy. It has a Centre for Global Innovation which focuses on issues including climate change.	<i>“The “old vision” that shaped the past quarter-century of environmental policies offered lofty images of Mother Nature and a better world. Its language of poetry - and sometimes fear - captivated the imagination of the American public...The rest of the story - high costs and growing conflict - are the driving forces behind appeals for environmental policy reform” (1996).</i>	0	0	Independent Institute	2	1996	USA
Mackinac Centre for Public Policy	Think tank which has centre for issues on the environment (https://www.mackinac.org/environmental-policy-initiative). It cites numerous works from climate contrarians including Indur Goklany, Fred Singer, and Craig Idso. It has been criticised by Greenpeace, Desmogblog, and has	<i>“What is really at work on the global warming issue is more than just an honest disagreement within the scientific community. Radical environmentalism--which seeks to impose ever bigger government on society--has become the last refuge of many of the world's socialists. It's this</i>	0	0	Independent Institute	2	1991	USA

	received funding from Koch Foundations (Brulle, 2014)	<i>hidden agenda cloaked in supposed concern for the planet...</i> (1992).						
Western States Petroleum Association (WSPA)	Trade association that has a dedicated section to research on climate change. The organisation plays an active role in lobbying US congress on issues such as climate change (Desmogblog, 2015, UNCSC, nd).	<i>“On the Climate Change Cap and Trade system in California... While the costs of compliance with AB 32 will ultimately be borne by all Californians, the immediate burden falls on energy producers and energy-intensive industries such as electric utilities, oil producers and refiners, agriculture, and manufacturers”</i> (2015).	0	0	American Land Rights Coalition	3	1998	USA
Northern Virginia Chapter of SEEE	An organisation focused specifically on energy and the environment. Its predominant focus on the issue of climate change and is headed by climate sceptic Fred Singer. it still plays an active role in the CCCM including co-sponsoring the 2015 Heartland Institute’s International Conference on Climate Change.	<i>“It’s a well-known fact that CO₂ is plant food and essential to the growth of crops and trees—and ultimately essential to the well-being of animals and humans”</i> (2008).	1	0	Heartland Institute	2	2009	USA
Advancement of Sound Science (TASSC)	Think tank that was originally created in 1993 as part of the Tobacco lobby (Oreskes and Conway, 2010) and led by several contrarian climate sceptics.	-	0	0	Greenpeace	2	1993	USA
American Council for Capital Formation	Think tank that has a section dedicated to research on energy and climate. Its position focuses on a strategic approach to addressing climate change and other environmental challenges.	<i>“Strong measures taken in the near future to reduce emissions will cause lost jobs and exit of energy-intensive companies from the US with no overall cutback in worldwide CO₂ emissions. Capital and industries are mobile</i>	0	0	American Land Rights Association	2	1995	USA

		<i>worldwide and energy-intensive industries will tend to "migrate" to where CO₂ emissions are not restricted" (1995).</i>						
American Energy Alliance	Advocacy organisation set up directly to address environmental and energy policies (http://americanenergyalliance.org/about/). It is one arm of the Institute for Energy Research. It is a member of the Cooler Heads Coalition and has co-sponsored some of the Heartland Institutes International Conference on Climate Change.	<i>"In its work on global climate change issues, AEA will urge that public policy, particularly in the environmental arena, be based upon objective science, not emotion or improbable scenarios that invite wealth-reducing government activism, which often impairs society's resilience to change. Irrational anxiety on the part of policymakers could lead to poor outcomes, such as an increased tax burden and a decline in America's international commercial competitiveness" (2008).</i>	0	1	Cooler Heads Coalition	1	2008	USA
CO ₂ Coalition	CO ₂ Coalition is dedicated to promoting the positives of CO ₂ . It criticises those attempting to put in place regulations that prevent or reduce emissions. Coalition members are made up of several climate contrarians (http://co2coalition.org/about/).	<i>"The debate about global warming and climate change has shifted from genuine scientific exploration to a campaign demonising CO₂. The use of energy, the primary source of human CO₂ emissions, have played an essential role in the economic progress and improved standard of living that has been experienced in many nations since the Industrial Revolution" (2015).</i>	0	0	George C Marshall Institute	4	2015	USA

American Conservative Union Foundation (ACU)	Conservative advocacy organisation that focuses on issues such as traditional values, economic freedom and liberty. It plays an active role in US politics, and has a firm belief that capitalism is the only economic system that prescribes these values. It has its own section on a policy sector which hosts a variety of issues. It is a member of the Cooler Heads Coalition and has also co-sponsored the Heartland Institute's International Conference on Climate Change.	<i>"In the process, the greens will have accomplished what they've been seeking...a complete change in the way Americans live, work and relate to their government. The treaty would require yet another assault on the passenger car as well as on any and all industries that utilise energy. The cost of food would skyrocket and ultimately, as one scientist told a Senate committee recently, we'll have to look more seriously at policies designed to reduce the population of the planet so that we will be better able to live in harmony with nature"</i> (1997).	1	1	Heartland Institute	1	1997	USA
Eagle Forum	Advocacy organisation promoting conservative values and neoliberal policies (http://eagleforum.org/misc/descript.html) and plays an active role in supporting Republican candidates (http://eagleforum.org/election/endorse.html). In 2016 they held a presentation event on climate change which included Christopher Monkton (http://eagleforum.org/state-news/climate-change-presentation.html). It has a dedicated section to its website and department on climate change (http://eagleforum.org/topics/global-warming/).	<i>"There must be an agenda behind this irrational plan. Let's try a multiple-choice question. Is the hidden agenda of the Kyoto treaty (a) to promote the presidential candidacy of Al Gore, who has staked his political future on a platform of prioritising the planet above people, or (b) to redistribute US wealth and jobs to foreign countries because the Clintonian liberals support income redistribution, or (c) to con the American people into accepting increased federal taxes, regulations and even rationing?"</i> (1997).	0	0	The American society for the defence of tradition, family and prosperity	1	1997	USA

Freedom Foundation of Minnesota	Think tank that promotes the work of for example the Heartland Institute. It conducts research on several policy issues, and hosts rallies and events for discussions on issues such as climate change.	<i>"There are uncertainties about whether warming will really be bad (think longer growing seasons)..."</i> (2006).	1	0	Heartland Institute	2	2006	USA
Resource Development Council	Trade association operating on behalf of resource producing industries (http://www.akrdc.org/). It has promoted some of the work of climate sceptics including Bjorn Lomborg and Sallie Baliunas	<i>"The draft policy's reference of climate change projections lacks adequate scientific evidence and is flawed relying on modelling that cannot meaningfully predict how climate change will impact species and habitat in specific areas the current state of the science and modelling of climate change impacts cannot provide reliable predictions of how a particular species may respond to climate change and how mitigation efforts might benefit species affected by climate change"</i> (2001).	0	0	Polluterwatch	3	2001	USA
Federalist Society for Law and Policy Studies	Think tank that has hosted several events about climate change, it co-sponsored the 9th Heartland Institute's Conference on Climate Change and has provided information on book links as well as op-eds and papers by climate sceptics such as Fred Singer on their website.	<i>"It is a socialistic dream come true... It is madness"</i> (2001).	1	0	Heartland Institute	2	2001	USA
Capital Research Centre	Advocacy organisation that specifically study unions, environmentalist groups and several other policy actors. They promote the values of individual liberty and free markets (https://capitalresearch.org/about/). It	<i>"When businesses try to absorb the costs of complying with complex environmental rules and permits, they are likely to pass on the cost to consumers by raising the price of their products. And when they are</i>	1	0	Heartland Institute	1	1997	USA

operated a separate project called Greenwatch, dedicated to criticising the environmentalist movement. It has been sponsored by ExxonMobil since 1998 and Koch-related foundations. It is also reported to have received money from the Tobacco Industry leader Phillip Morris as part of the tobacco lobbying industry. It has cited several climate contrarians including Fred Singer and Richard Lindzen (<https://capitalresearch.org/article/wont-always-have-paris-climate-treaty-reveals-global-elites-dishonesty-extremism-lack-of-intelligence/>).

confronted by the uncertainties of statutory interpretation and the regulatory enforcement of environmental law they may decide to slow the development and application of new technologies.... Environmental regulation is increasingly expensive and, many argue, less effective in achieving its goals” (1997).

Environmental Literacy Council

The Environmental Literacy Council is a non-profit group that is made up and contributed to by scientists, economists and educators to produce science based information on environmental issues. It covers several environmental topics producing plans and education programmes that help inform the public on these environmental issues. Brulle (2014) identified that it had been funded by fossil fuel industry actors.

“Climate change also reveals how difficult it is to separate environmental science from environmental politics. This is not simply to say that people use science for political reasons. ... A troubling question fuels international climate policy discussions: Are enough facts established about global climate change to justify undertaking far-reaching action to limit GHG emissions? The consequences, however we answer that question, might be very great.” (1998).

0 0 Brulle 2 1998 USA

American Society of Mechanical Engineers

The organisation produced research connected to the National Petroleum Council. More recently the organisation has appeared to shift from its contrarian position and support climate action.

“As a part of the debate on the Kyoto Protocol, it must be noted that any new tax proposal is unpopular and its final fate is uncertain at this time” (1998).

0 0 National Petroleum Coalition 6 1998 USA

Cato Institute	Think tank organisation at the heart of the CCCM. One of its research areas is energy and the environment including climate change. Climate contrarians are fellows, and produce research used by the organisation to support its position on climate change.	<i>“Global warming is indeed real, and human activity has been a contributor since 1975. But global warming is also a very complicated and difficult issue that can provoke very unwise policy in response to political pressure. Although there are many different legislative proposals for substantial reductions in CO₂ emissions, there is no operational or tested suite of technologies that can accomplish the goals of such legislation. Fortunately, and contrary to much of the rhetoric surrounding climate change, there is ample time to develop such technologies, which will require substantial capital investment by individuals”</i> (1992).	0	0	Fraser Institute	2	1992	USA
The Conservative Caucus Inc	Advocacy organisation that is linked with the Conservative Caucus Foundation. It cover issues on a variety of policies and has a section dedicated to environmental and energy policies.	<i>“...Let us resist the politicisation of science and oppose the term “scientific consensus”, which is always achieved only by a loud minority, never by a silent majority”</i> (2007).	0	0	Frontiers of Freedom	1	2007	USA

Frontiers of Freedom	Well known climate sceptic Myron Ebell has produced research on behalf of the organisation. The centre was founded by Malcolm Wallop former (now deceased) Republican Senator who believed 'global warming was a contrived crisis' (CEI, 2011, np, https://cei.org/blog/malcolm-wallop-stand-guy-rip). It has previously co-sponsored the Heartland Institute's International Conference on Climate Change.	<i>"...Water vapour is the main greenhouse gas, but trace gases such as CO₂ and methane also play a part"</i> (1998).	1	1	Heartland Institute	7	1998	USA
Independent Petroleum Association of New Mexico (IPANM)	Trade association operating on behaviour of New Mexico oil and petroleum industries.	<i>[On the recent IPCC reports] "IPANM would contend that these whitepapers were obviously rushed, had a limited and biased selection of studies and we question the efficacy of the peer review process"</i> (2015).	0	0	Independent Petroleum Association	3	2002	USA
Science and Public Policy Institute (SPPI)	Think tank specifically set up to address scientific and public policy issues. Contrarian scientists Christopher Monckton is one of its chief policy advisors (http://scienceandpublicpolicy.org/personnel) along with sceptics Craig Idso, Joe D' Aleo, and David Legates. It has previously co-sponsored several of the Heartland Institute's International Conference on Climate Change.	<i>"SPPI provides research and educational materials dedicated to sound public policy based on sound science. We support the advancement of sensible public policies rooted in rational science and economics. Only through science and factual information, separating reality from rhetoric, can legislators develop beneficial policies without unintended consequences that might threaten the life, liberty, and prosperity of the citizenry. Proposals demanding prodigious economic or political sacrifices for the sake of negligible benefits should be rejected in favour</i>	1	0	Heartland Institute	2	2007	USA

		<i>of policies to address graver, more immediate concerns” (2015).</i>						
Americans for Tax Reform (ATR)	Advocacy organisation that has previously co-sponsored the Heartland Institute’s International Conference on Climate Change. According to Greenpeace ATR has received at least \$110,000 from Koch foundations between 2003 and 2012 (http://www.greenpeace.org/usa/global-warming/climate-deniers/front-groups/americans-for-tax-reform-atr/).	<i>“As the left has shifted gears over the last thirty years, it has become clear: they are not interested in any particular type of energy--they are against all energy. Their hysteria has changed its focus from "global cooling" to "global warming", but their end is the same--a taxation of energy and the suppression of its production.” (2008).</i>	1	1	Heartland Institute	1	1997	USA
Beacon Hill Institute	Free market think tank that produces reports and articles on various policy issues. It has a section dedicated to energy economics and produced reports with other CCCM organisations (See Chapter Two, Volume One). It has previously co-sponsored the Heartland Institute’s International Conference on Climate Change.	<i>“Governor Ritter and others buy into the “indisputable science” side of the global warming discussion, which says the world is on a collision course with climate calamity. Even if that were true, can they demonstrate that these initiatives will do anything to improve the situation and not compromise Colorado’s economy? Research reveals the answer is no” (2008).</i>	1	0	Heartland Institute	2	2008	USA

Committee for a Constructive Tomorrow (USA Branch)	Advocacy organisation at the heart of the CCCM. Several CCCM organisations are connected with the organisation whilst several climate sceptics are part of and lead the organisation. It has supported the release of the film Climate Hustle. It writes regular op-eds, videos and press releases with members of its staff working for several other CCCM organisations (http://www.cfact.org/about/cfact-board-of-advisors/).	<i>“Even drastic reductions in US. CO₂ emissions will mean nothing globally, because China, India and other developing nations are now emitting far more CO₂ than the US could eliminate even by shutting down its economy” (2015).</i>	1	1	Heartland Institute	1	1985	USA
Council for National Policy	The organisation promotes the values and principles of limited government, traditional values and strong national defence. It reports some of the work of climate sceptics including Vaclav Klaus.	<i>“The available empirical evidence is not alarming. The arguments of global warming alarmists rely exclusively upon very speculative forecasts, not upon past experience. Their forecasts are based on experimental simulations of very large forecasting models that have not been found very reliable when explaining past developments” (2008).</i>	0	0	Polluter Watch	8	2007	USA
Citizen Outreach	Advocacy organisation that promotes the values of limited government, individual freedom, and promotes free market capitalism. It covers several policy issues, and climate change was only a small component of the organisation.	<i>“Any type of cap and trade system essentially amounts to a regressive tax on consumers, one that, if implemented here, would cost Americans an estimated \$300 to \$400 billion per year. This type of plan is especially hard on facilities utilising coal, a fuel that accounts for over 50% of all US electricity generation. If the US were to adopt an emissions trading scheme, small businesses, low-income families, seniors – all consumers –</i>	0	0	United for Jobs	1	2006	USA

		<i>would see their utility bills skyrocket” (2006).</i>						
Doctors for Disaster Preparedness (DDP)	Advocacy organisation. In 2016, Doctors for Disaster Preparedness held their annual agenda meeting which included keynote speeches from climate sceptics Willie Soon, Fred Singer and Howard Hayden (http://www.ddponline.org/). It also contributed and promoted the Heartland Institute’s 4 th International Conference on Climate Change.	<i>“Climate Change: Censorship and Fraud” (2005).</i>	1	0	Independent Institute	1	2005	USA
American Energy Freedom Centre	Advocacy organisation that is connected to climate sceptic Sandy Liddy Bourne, who was a former executive director of the organisation. Although more recently it appears to be more supportive of environmental protection stating recently that Trump’s decision to leave the Paris accord as it is “useless and costly.”	<i>“These cost increases make the economy less efficient domestically and it makes the US less economically competitive internationally. Higher energy prices harms America’s ability to grow its economy at home and it means more American jobs will be shipped overseas...Americans need an efficient economy to reverse the recession and improve the lives of American workers. Carbon taxes and cap and trade will just make it more difficult to reverse the recession” (2009).</i>	1	0	Greenpeace	1	2010	USA
Independent Institute	Free market think tank that has a dedicated centre to Health and Environment. Data reveals it has received funding from ExxonMobil, and previous funding from the tobacco industry leader Phillip Morris. Climate sceptic Donald Boudreaux, Depak Lal,	<i>“An environmental goal was established: reduction of CO₂ emissions into the atmosphere. No evidence was presented that human welfare had ever been impaired by CO₂ emissions (Michaels 1992). Further, the global warming</i>	1	1	Heartland Institute	2	1997	USA

	and David Legates are employed as research fellows at the institute. It cites the work and articles made by other climate sceptic including Fred Singer.	<i>hypothesis-that at some unspecified future date such emissions will harm humans-has been accepted by only a small minority of atmospheric scientists” (1997).</i>						
Institute for Policy Innovation (IPI)	Think tank that promotes the principles of free markets, minimal government, and economic liberty (http://www.ipi.org/about_ipi/). It has a section dedicated to energy and the environment. They have also held conferences along with the Manhattan Institute and Americans Enterprise Institute on energy and environmental issues. It has reportedly received funding from Koch Industries and other corporate foundations.	<i>“The actual science of climate change is caught up in this tug-of-war. There is distrust on one side and a suspicious rush to prematurely close off discussion on the other side. Yet there is a low-level consensus that the climate IS changing and that human activity probably plays some role. Given this low-level consensus, what policies, if any, should the US adopt related to climate change?” (2000).</i>	0	0	Atlantic Institute for Market Studies	2	2000	USA
Independent Women's Forum (IWF)	Conservative think tank promoting the values of personal liberty and free markets. It covers various policy issues. It has reportedly been funding by ExxonMobil and Koch industries (https://www.desmogblog.com/independent-women-s-forum). It cites several climate contrarians including Fred Singer and Dennis Avery. It has co-sponsored the Heartland Institute's International Conference on Climate Change.	<i>“Environmentalists want Americans to use less electricity and water. Washing machines use a lot of both, but a front-loading washer uses less water than a top-loading machine. The manufacturers of washing machines, who are often foes of ridiculous environmental regulations, see a cash opportunity here” (2000).</i>	1	0	Heartland Institute	2	2000	USA

Kansas Independent Oil and Gas Association	The Kansas Independent Oil and Gas Association is a secondary trade association representing the welfare of the oil and gas industries in the State of Kansas (https://www.kioga.org/about-kioga). It produces regular documents proposing energy policy recommendations which focuses on the issue of climate change.	<i>"Because fossil fuels provide about 85% of the energy used in the US economy, any program that constrains CO₂ emissions will effectively constrain US energy use and result in higher prices and less economic output"</i> (2009).	0	0	Independent Petroleum Association of America	3	2009	USA
Kriebler Foundation	The Vernon Kriebler Foundation provides support to various organisations. It has a specific issue area dedicated to the environment.	<i>"Conservation is a high priority for most Americans, and the US has done more to improve the environment than any society in world history. Yet our national debate on environmental issues has also become so partisan and litigious that conservation itself is often thwarted... Government agencies charged with administering environmental laws more often spend their time and budgets defending themselves from lawsuits, congressional hearings, and news media criticism"</i> (2008).	0	0	Hayek Institute	7	2008	USA
Maine Woods Coalition	Maine Woods Coalition is a coalition organisation representing several organisations on issues with the Maine Woods region in the US.	<i>"There is the Climate Change Convention of the UN, acting through the fabricated vehicle of Global Warming that will control your use of all forms of energy, represented here in Maine by the Climate Change Task Force in the State Planning Office; there is the Sustainable Development Program created by the Clinton Administration, the object of which is to control community growth, otherwise known as "urban sprawl", again</i>	0	0	American Land Rights Coalition	4	1999	USA

		<i>represented here in Maine through the SPO and the ECO/ECO Forum” (1999).</i>							
National Black Chamber of Commerce (NBCC)	The organisation has reportedly received over \$1000000 from ExxonMobil since 1998 (https://www.desmogblog.com/national-black-chamber-commerce). It has quoted climate contrarians including Christopher Monckton (http://www.nationalbcc.org/news/beyond-the-rhetoric/2533-global-warming-the-myth-is-exposed)	<i>“Why should we exempt developing nations from participating in any commitment? It is ludicrous for the US to offer itself as a heavy participant in the reduction of "greenhouse gases" while nations such as China, India, Pakistan, Brazil, etc. can continue with "business as usual". The effort to reduce the environmental dangers must be shared by all and in a fair manner” (1998).</i>	0	0	Greenpeace	3	1998	USA	
Environment and Enterprise Institute (EEI)	Research centre connected to the National Centre for Policy Research. It focuses specifically on environmental issues including global warming and climate change. It cites several climate sceptics including Fred Singer.	<i>“Even if scientists haven't developed a consensus on global warming, the scientific data has: Global warming is not occurring” (1997).</i>	0	0	National Centre for Public Policy	2	1997	USA	
National Taxpayers Union Foundation (NTUF)	NTUF is directly connected to the National Taxpayers Unions and lobbies to reduce or minimise increases in taxes. It conducts research on various issues related to the impacted of policy on tax changes	<i>“By shelving the Kyoto Protocol, our leaders will be doing American citizens -- and citizens of the world -- a great service” (1999).</i>	0	0	Foundation for Teaching Economics	1	1999	USA	

Oregon Institute on Science and Medicine	Think tank that created the Global Warming Petition Project. It has co-sponsored several of the Heartland Institutes International Conference on Climate Change	<i>"A review of the research literature concerning the environmental consequences of increased levels of atmospheric CO₂ leads to the conclusion that increases during the 20th Century have produced no deleterious effects upon global weather, climate, or temperature. Increased CO₂ has, however, markedly increased plant growth rate"</i> (1997).	1	0	Heartland Institute	2	1997	USA
Resources for the Future	Think tank dedicated to research on natural resources, energy and the environment. They have cited the work of several contrarian scientists including Fred Singer, Although more recently, the organisation has undergone a shift towards supporting climate change.	<i>"The accumulation of large amounts of greenhouse gases in the Earth's atmosphere is slowly raising the global temperature and disrupting climate patterns, with implications for economic stability worldwide. Research and analysis at RFF supports informed policy design and negotiations to address climate change on national and international levels"</i> (2015).	0	0	ExxonMobil	2	1992	USA
Seniors Coalition	Advocacy organisation working on behalf of senior citizens. It was a member of the Cooler Heads Coalition.	<i>"...Dispel the myths of global warming by exposing flawed economic, scientific, and risk analysis..."</i> (1997).	0	1	Cooler Heads Coalition	1	1997	USA
Thomas Jefferson Institute	Think tank promoting the ideas of limited government, free markets and individual responsibility (http://www.thomasjeffersoninst.org/mision.php). It has a <i>Centre for Environmental Stewardship</i> which covers a variety of environmental issues. It has hosted events with speakers such as contrarian scientist	<i>"It is incumbent upon the members of the Governor's Commission on Climate Change to look beyond the everyday rhetoric and seek realistic solutions that will enhance, not harm, our economic future"</i> (2015).	0	0	Frontier of Freedom	2	1999	USA

	David Schnare, director of its environment centre.							
United for Jobs 2004	Advocacy group that is a project of other CCCM organisations National Black Chamber of Commerce, Small Business Survival Committee and United Seniors Association. Key people that work for the organisation include climate sceptics Willie Soon and Steven Milloy.	<i>“Nevertheless, the fact remains that sources of non-CO₂ greenhouse gases are responsible for virtually all the global warming we’re seeing, and all the global warming we are going to see for the next fifty years. If we wish to curb global warming over the coming half century, we must look at strategies to address non-CO₂ emissions” (2004).</i>	0	0	National Association of Neighbourhoods	1	2004	USA
Virginia Public Policy Institute (VPPI)	Think tank organisations. Two of its scholars and supporting fellows include climate sceptics Donald J. Boudreaux and Patrick Michaels (http://www.virginia institute.org/scholars.php).	<i>“The “Greenhouse Effect” is a very real thing. Certain natural constituents in the atmosphere, namely water vapour, CO₂, and methane, absorb the radiation emitted by the earth in response to the warming rays of the sun. If these molecules did not exist, the radiation would pass directly into space...Climate change has occurred in the past and it will occur again in the future” (1999).</i>	0	0	Frontiers of Freedom	2	1999	USA
Atlas Society	Research organisation built on the economic and political values derived from Ayn Rand. It promotes the values of freedom and individualism. It has a specific section dedicated to energy and the environment. It includes some of the work of contrarian scientists such as Robert Bradley to inform its perspective on climate change.	<i>“One issue environmentalists agitate for is strong intervention in the market to restrict the production of CO₂, methane, and other gasses that could contribute to global warming. Objectivists and free-marketers have been suspicious of these claims, noting that there always seems to be some chorus demanding, for pseudo-scientific reasons, that industrial</i>	0	0	Institute for Free Enterprise	2	1993	USA

civilisation be rejected and that the government should have more power” (2015).

Concerned Women of America (CWA)	Think tank that promotes conservative and Christian principles (https://concernedwomen.org/about/). The organisations promotes information made by climate sceptics, and offers the sale of books and films such as <i>Global Warming: A Scientific and Biblical Expose of Climate Change</i>	<i>“Global warming rhetoric continues from radical environmentalists and even from our White House. But is the information we're getting based on facts, or is it just a lot of hot air? Why should you be concerned? How will this policy affect you and your family... These measures could cost our economy hundreds of billions of dollars per year in lost jobs and economic activity” (1997).</i>	0	0	Virginia Public Policy Institute	1	1997	USA
Ethan Allen Institute	Think tank promoting the values of free markets, and individual liberty. It has a section dedicated to environmental policies. They have discussed the important role of climate sceptics such as Myron Ebell to help support their postions on climate change	<i>“...if global warming does occur, it is likely to be beneficial to crops and animal life...” (1998)</i>	0	0	Montreal Economic Institute	2	1998	USA

Americans for a Limited Government	Think tank that claims to be "leaders in identifying and exposing unique issues from the limited government perspective, and working with Congress and state legislatures to prevent the continued expansion of government. - See more at: https://getliberty.org/about-alg/#sthash.aPzBxo3c.dpuf ." It focuses on several policy issues. It has adopted its attitude and values towards climate change based on the work of several other CCCM organisations including CO ₂ Science and they reference the work of climate sceptics including Paul Driessen, and Willie Soon.	<i>"The Earth has warmed – and cooled – over the past 50 years. We've also experienced periods of "unusual" weather and "normal" weather, more frequent and intense storms and droughts, less frequent and less severe storms and droughts. That's natural and cyclical. However, we don't agree that humans are responsible, or that climate change is becoming dangerous or catastrophic. CO₂ is a trace gas, but without it life on earth would be impossible"</i> (2005).	0	0	Minimal Government Thinkers	2	2005	USA
Clare Booth Luce Policy Institute	Think tank based on the principles of American values and conservatism. It is specifically considered with expanding the conservative cause within young female Americans (http://cblpi.org/our-mission/).	<i>"There are still over one billion people in the world who do not have access to electricity. Their lives are difficult—and short. None of us would want to live under the conditions these people live under...Since it is only the affluent countries of the world that can afford the research to develop the new energy technologies that all of humanity needs, it is critical that economic progress be encouraged—not stifled. Unfortunately, all currently proposed approaches to attacking global warming will punish economic growth, and for very little environmental gain"</i> (2015).	0	0	Frontiers of Freedom	2	2001	USA

Foundation for Economic Education (FEE)	Report on several issues including Global Warming that have referred to contrarian scientists such as Richard Lindzen and Judith Curry.	<i>"Anthropogenic global warming might be beneficial on net"</i> (2015).	1	0	Fraser Institute	7	1990	USA
Heartland Institute	Think tank that has been at the heart of the CCCM. It is the host of the Heartland Institutes Conference on Climate Change held yearly promoting climate contrarian work. It is connected to several other higher profile CCCM organisation. The organisation has also created a list of what they label Global Warming Experts. This list covers various scientists from across countries that are sceptical of climate change and/or proposed policies. They provide and promote educational materials and books on climate change and representatives of the organisation are often found on television.	<i>"The evidence is overwhelming that rising atmospheric CO₂ levels will continue to help plants thrive, leading to greater biodiversity, shrinking deserts, expanded habitat for wildlife, and more food for a growing human population..."</i> (2015).	1	1	Heartland Institute	2	1996	USA
Kansas Policy Institute	Free market think tank that covers various policy issues that concern the Kansas population. This includes environmental and energy policy.	-	0	0	Greenpeace	2	1998	USA
Colorado Mining Association	Trade association that works on behalf of several mining and minerals industry members (https://www.coloradomining.org/about-us/). Climate Change is one of its important legislative issues. They have cited climate sceptics including Bjorn Lomborg, Dennis Avery and Fred Singer in reports and op-eds.	<i>"[On CO₂] 1) Powerful Nutrient, (2) Key to Photosynthesis, (3) Key to Habitable Climate, (4) Valuable Industrial/Manufacturing Component, (5) Not a Pollutant"</i> (2006).	0	0	American Coal Foundation	3	2006	USA

Lincoln Institution of Public Opinion Research	A think tank conducting surveys on oil investment such as the Keystone Pipeline. Chairman of the organisation Lowman Henry also writes articles for the online newspaper, connected to the institute, Townhall.com. This newspaper covers academic papers and reports related to several policy issues that also include climate change.	<i>"We'd all be dead without the greenhouse effect. The average surface temperature of the Earth, approximately 60 degrees, would plunge to about zero degrees Fahrenheit without the naturally occurring greenhouse gases that trap the sun's warmth in the lowest layers of the atmosphere"</i> (1998).	0	0	Frontiers of Freedom	2	1998	USA
American Council on Science and Health (ACSH)	Think tank that has received funding from Koch industries and was one of the earliest organisations producing contrarian research on climate change. Members of its scientific and advisory board include climate sceptics including Dennis Avery and Patrick Michaels. It has also been connected to the Tobacco industry lobby with financial ties to the tobacco corporation Phillip Morris.	<i>"Implementation of proposed fossil-fuel restrictions may disrupt the economies of developed nations, impoverish developing nations, and hamper international-aid and public health programs"</i> (1997).	0	0	Independent Institute	2	1997	USA
Annapolis Centre for Science	Defunct think tank organisation which had reportedly received funds from ExxonMobil to support some of its work on climate change. The organisation was a member of the Advancement of Sound Science Coalition organisation and was also reportedly linked with the Tobacco lobby industry in particular the company Phillip Morris (https://www.desmogblog.com/annapolis-center-science-based-public-policy).	<i>"Any policy that seriously attempts to limit fossil fuel emissions and to slow climate change will by necessity incur substantial economic costs and will show no measurable effects on climate for at least several decades"</i> (1997).	0	0	Greenpeace	2	1997	USA

Congress of Racial Equality (CORE)	Think tank that promotes the strategies to reduce racism. It has previously co-sponsored several of the Heartland Institutes International Conference on Climate Change. It uses the work of climate sceptics including Roy Innis to promote its neglect to act on climate change over other policy issues.	<i>"Misdirected global warming proposals, proposals to limit public access to public lands and policies that restrict access to America's abundant energy "are driving up the cost of energy and consumer goods" (2008).</i>	1	0	Heartland Institute	2	2008	USA
Foundation for Teaching Economics (FTE)	Foundation built on the principles of educating young people about free market economic principles. It provides courses and materials for teachers to distribute materials that include subjects including energy and the environment (http://www.fte.org/teacher-programs/environment-the-economy/).	<i>"Production occurs in response to human wants and needs. All choices involve trade-offs. Choices to preserve the environment impose costs as well as conferring benefits" (1999).</i>	0	0	Fraser Institute	7	1999	USA
Greening Earth Society (GES)	Advocacy organisation set up by the Western Fuels Association to promote contrarian positions on climate change.	<i>"Empirical evidence suggests that these expected negative results of fossil fuel combustion are unfounded. Instead, evidence of very modest night time winter warming, robust plant growth, rejuvenating forests and ample harvests abounds" (1997).</i>	0	0	Brulle	1	1997	USA
The Heritage Foundation	Think tank that has been at the heart of the CCCM and cited by several researchers (e.g. McCright and Dunlap, 2000). It promotes the values of conservatism, free enterprise, limited government, individual freedom, traditional American values, and strong national defence. (http://www.heritage.org/about-heritage/mission). Several climate	<i>"The economic costs could be especially dramatic. Consider one proposal a "carbon tax" of \$100 per ton, designed to reduce industry's carbon emissions to 1990 levels by the year 2000. The Congressional Budget Office estimates this tax would reduce America's gross national product by two percent. Put another way, the loss would be \$100 billion per</i>	1	1	Heartland Institute	2	1996	USA

	sceptics are cited on their website including Patrick Michaels. It has co-sponsored the Heartland Institute's International Conference on Climate Change, was a member of the Cooler Heads Coalition, and has received funding from Exxon Mobil (Brulle, 2014).	<i>year, or more than \$1,000 per family" (1996).</i>						
Physicians for Civil Defence	Think tank connected to the organisation Doctors for Disaster Preparedness. It promotes the work of sceptics such as Fred Singer promoting conferences Heartland Institute International Conference on Climate Change.	<i>"The proposed response to this hypothetical threat: stabilizing the concentration of greenhouse gases at current levels, which requires cutting emissions of CO₂ by 60 to 80%...Should the functional equivalent of a death sentence for millions of Americans have to be based on proof beyond a reasonable doubt? The extremity of the sacrifice is seldom admitted by its advocates, and the weakness of the evidence in the much ballyhooed report from the Intergovernmental Panel on Climate Change (IPPC) is conceded only in scientific journals" (1996).</i>	1	0	Heartland Institute	2	1996	USA
Citizens Alliance for a Responsible Energy (CARE)	Advocacy organisation that works on a variety of policy issues, promoting the values of individual liberty, free markets, and Christian values. It appears to have ceased operation from 2016. Global warming and climate change is an issue area and advocates reading materials made by several contrarian scientists (http://web.archive.org/web/20161030011727/http://responsiblenergy.org/reading.asp)	<i>"Pending enormous sums of money on a non-solution to a problem that may not be a problem makes no sense. Placing mandatory caps on industries for greenhouse gas emissions will drive up the cost of living for Americans with no environmental benefit to anyone." (2007).</i>	1	0	Heartland Institute	2	2007	USA

Weidenbaum Centre on the Economy, Government and Public Policy	The Weidenbaum Centre on the Economy, Government and Public Policy is a research institute/think tank that focuses on various policy issues. It was originally called the Centre for the Study of American Business. It produces research on various policy issues including reports by climate sceptics including Indur Goklany.	<i>“Atmospheric CO₂ concentrations will most likely continue to rise. All else being equal, higher CO₂ concentrations mean greater productivity for agriculture, if not vegetation in general. And greater agricultural productivity means more food, which leads to better nutrition, which, in turn, ought to result in better health, less disease, and lower mortality”</i> (2000).	0	0	Virginia Land Rights Coalition	2	2000	USA
John Locke Foundation	Think tank. Several climate sceptics including Roy Cortado have written posts and op-eds for the organisation promoting climate sceptic positions.	<i>“First, it should be noted that the global warming hypothesis is controversial. Nearly every aspect of the theory is part of an ongoing debate in the scientific literature a point almost never recognised in the media. But assuming that the hypothesis is correct and that it implies that public policy action at some level should be taken to correct for global warming, should our state unilaterally force restrictions of CO₂ emissions? All evidence suggests that the answer is no”</i> (2001).	1	1	Heartland Institute	2	2001	USA
George C Marshall Institute	Key think tank in the CCCM. It publishes work on scientific issues and has published work by climate sceptics including Roger Bate, Willie Soon and Margo Thorning. The organisation has received funding by ExxonMobil (http://www.exxonsecrets.org/html/orgfactsheet.php?id=36).	<i>“Human activity, such as the burning of fossil fuels...undoubtedly affect the global environment... There is a sufficient basis for action because the climate change risk is real. Yet it is equally true that actions must not be predicated on speculative images of an apocalyptic vision of life in the near future”</i> (1990).	1	1	Heartland Institute	2	1990	USA

Centre for Security Policy	Think tank predominantly focusing on issues of national security such as terrorism but makes comparisons to other policy issues such as climate change.	<i>"The Centre for Security Policy urges the President to serve the public interest by having a real dialogue on global warming, not a dialogue of the deaf or the one-way non-dialogue of a master propagandist."</i> (2015).	0	0	Greenpeace	2	1997	USA
CO ₂ Science	CO ₂ Science is the name for the Centre for the Study of CO ₂ and Global Change. The think tank was specifically set up to promote oppositional information on climate change. Its chairman is climate sceptic Craig Idso and it reports on scientific papers written by several other climate sceptics.	<i>"Atmospheric CO₂ enrichment brings growth and prosperity to man and nature alike"</i> (2015).	1	0	Heartland Institute	2	1998	USA
Georgia Public Policy Foundation (GPPF)	Think tank that covers various policy issues including the environment. It cites the work of other CCCM organisations the work of climate sceptics such as James Taylor of the Heartland Institute.	<i>"The Environmental Defence Fund (EDF) raises money by scaring Americans about global warming"</i> (2015).	0	0	Frontier of Freedom	2	1995	USA
Hudson Institute	Think tank that has been at the heart of the CCCM. Several researchers have identified the organisation as a denial organisation looking at the organisational messages they produce (e.g. Dunlap and Jacques, 2013). Well known sceptics such as Dennis Avery have previously worked for the institute. The organisation has also received funding from ExxonMobil foundations in the past (Brulle, 2014)	<i>"Environmental activists have overstated the immediacy of most environmental problems...recent discoveries about cloud cover indicate that global warming is proceeding only half as fast as the Greens first claimed..."</i> (1992).	0	0	Fraser Institute	2	1992	USA

National Centre for Policy Analysis (NCPA)	Think tank that has received funding from donors between the years 2003-2010 (Brulle, 2014).	<i>"...In the scientific community, the debate over climate change is between those who argue there will be a large catastrophic increase in global temperatures and those who believe that any climate change will be quite small, generally beneficial and possibly indistinguishable from normal climate variability."</i> (1991).	1	1	Heartland Institute	2	1997	USA
National Mining Association (NAM)	Trade association that supports members of the mining industry. It has a dedicated section to energy, and environmental issues. It is connected to other organisations associated with the CCCM such as Lignite Energy Council and American Coal Foundation (http://nma.org/about-nma/resources/mining-associations-and-organisation/).	<i>"CO₂ is also a naturally occurring "GHG." The earth has a natural "greenhouse effect" in which heat from the sun is trapped below the earth's atmosphere and is partially prevented from re-radiating back into space. The GHG that cause this effect appear in trace amounts in the atmosphere and include water vapour (by far the most significant GHG), CO₂, methane, nitrous oxides and stratospheric ozone"</i> (1997).	0	0	American Land Rights Association	3	1997	USA
Science and Environmental Policy Project (SEPP)	Advocacy organisation led by Fred Singer and other contrarian scientists. It includes science editorials and research on both climate change science and policy and on second hand tobacco smoke (http://www.sepp.org/science-editorials.cfm?whiCoolerHeadsCoalitionat=Health%20Issues&whichsubcat=Second%20Hand%20Smoke)	<i>"Computer models forecast rapidly rising global temperatures, but data from weather satellites and balloon instruments show no warming whatsoever"</i> (1998).	1	0	Heartland Institute	1	1998	USA

American Policy Centre (APC)	Think tank at the centre of the CCCM. The organisation promotes the values of traditional American values, property rights, and sovereignty. It has played a historical role in the dissemination of contrarian support for climate change. It has a section dedicated to environmental issues and have co-sponsored the Heartland Institutes International Conference on Climate Change. They also promote the work of climate sceptics including the Global Warming Policy Petition, and the Leipzig Declaration.	<i>“Changes in global temperatures are natural. There is no proof that temperature is affected by anything that man has done” (1998).</i>	1	0	Heartland Institute	7	1998	USA
American Policy Roundtable	Conservative research group that focuses on a variety of policy issues. This includes an entire section dedicated to work on Global Warming (http://www.aproundtable.org/issues.cfm?issuecode=warming). It promotes the work of climate sceptics including Chris Horner and Fred Singer.	<i>“Our most reliable sources of temperature data show no global warming trend” (2007).</i>	0	0	Frontiers of Freedom	2	2007	USA
National Legal and Policy Centre (NLPC)	Think tank promoting the reduction in US governmental rule. Climate sceptics including Paul Chesser regularly blogs and is associate fellow at the organisation disseminating oppositional messaging on climate change.	<i>“The planet is in a nearly two-decade global warming standstill; an Arctic research expedition to study warm was halted due to too much ice; polar bear habitat is healthy; another quiet hurricane season is expected; and a paper on sea level rise by climate alarmism founder Dr. James Hansen has been</i>	0	0	Frontier of Freedom	2	2009	USA

Freedom Works Foundation (FWF)	Originally the CCCM advocacy group Citizens for a Sound Economy. It promotes principles of neoliberalism (http://www.freedomworks.org/about/about-freedomworks) and has a section dedicated to energy and the environment (http://www.freedomworks.org/issue/energy-environment). It has previously co-sponsored the Heartland Institute's International Conference on Climate Change.	<i>dismissed by his fear-mongering colleagues as "flimsy" (2015).</i>							
		<i>"The US EPA is responsible for some of the most costly regulations on individuals and businesses. There is virtually no limit to what the unelected bureaucrats at the EPA can do, without congressional oversight or approval" (2015).</i>	1	1	Cooler Heads Coalition	1	1997	USA	
Grassroots Institute of Hawaii	Think tank covers a variety of policy issues that includes energy, environmental and climate change policy. It has supported the Heartland Institutes International Conference on Climate Change. It has received funding from Donors Trust and Donors Capital Fund that have played a role in funding CCCM organisation.	<i>"As one can surmise from the documentaries, the global warming issue is well on its way to intellectual bankruptcy and self-destruction, just like what happened to many of the earlier scare stories" (2007).</i>	1	0	Heartland Institute	2	2007	USA	
American Dream Coalition (ADC)	Coalition organisation working on behalf of its members promoting the rights of homeownership, freedom and mobility. They recommend the work of climate sceptics including Randal O Toole and Chris Horner for information on climate change.	<i>"You have heard most of the global warming arguments before, but the city is raising some novel ones (at least novel in that I had not heard them before)" (2006).</i>	0	0	Virginia Land Rights Coalition	4	2006	USA	

Centre for Military Readiness	Think tank organisation focused on issues of national security. Climate Change is only a minor issue although it is used comparatively with other policy issues.	<i>"...Obama uses the word 'climate' more often than Al Qaeda, nuclear proliferation, radical Islam, or weapons of mass destruction. The phrase 'global war on terror' does not appear at all, and has been purposely avoided and changed by his Administration to 'overseas contingency operations'" (2012).</i>	0	0	Frontiers of Freedom	2	2012	USA
Domestic Energy Producers Alliance (DEPA)	Advocacy organisation operating on behalf of oil and natural gas producers. It promotes the values of fewer taxes, small government, and power of the market. Its focus on climate change and any policy implications are taken from their research on tax reform.	<i>"Cap-And-Trade (HR 2454): A more serious threat than budget/tax proposals? Who Cares About the Details, like the "Global" in Global Warming...No safeguards on Job loss, electricity/gasoline price increases" (2015).</i>	0	0	Independent Petroleum Association	1	2009	USA
Energy and Environmental Legal Institute (E&E Legal)	Think tank formally known as American Tradition Institute. The treasurer is climate sceptic David Schnare and the organisation was originally identified as part of the movement by Greenpeace. It has previously co-sponsored the Heartland Institute's International Conference on Climate Change.	<i>"E&E Legal is a 501(c) (3) organisation engaged in strategic litigation, policy research, and public education on important energy and environmental issues. Primarily through its petition litigation and transparency practice areas, E&E Legal seeks to correct onerous federal and state policies that hinder the economy, increase the cost of energy, eliminate jobs, and do little or nothing to improve the environment" (2015).</i>	1	0	Greenpeace	2	2009	USA
Energy Citizens	Advocacy organisation is a creation of the American Petroleum Institute. They promote the continued use of fossil fuel based energy produce including natural gas.	<i>"The Need for a Balanced Strategy: Wind, solar, biomass, and other forms of energy will play an increasingly important role in helping us meet our energy needs and reducing GHG emissions, but oil and natural gas will be part of our energy mix for decades</i>	0	0	Brulle	1	2009	USA

		<i>to come. A national energy strategy that balances our energy needs, economy, and environment will benefit us all” (2009).</i>						
Americans for Competitive Enterprise	Think tank and sister organisation to the Competitive Enterprise Institute. It is also a member of the Cooler Heads Coalition.	<i>“Clamouring alarmists can and will spin this until they’re dizzy. The ever-clueless mainstream media can and will ignore this until it’s forced upon them as front-page news, and then most will join the alarmists on the denial merry-go-round” (2009).</i>	0	1	Cooler Heads Coalition	2	2009	USA
Locke-Smith Institute	University based research centre dedicated to various policy issues. They have cited some of the work of climate sceptics such as Patrick Michaels and Bjorn Lomborg, criticising environmental policy and political events such as Climategate	<i>“Science has become so specialised that the referee can no longer tell when there are dirty tricks. And when that information asymmetry exists between the public and scientists, it becomes easy to make claims based on authority, not evidence...So that when the “scientific consensus” claim that gives legitimacy in the public eye (and thus a claim on scarce resources) is threatened, the response is to kneecap the scientists who exist as proof that there is no consensus. To label them “deniers,” so that they become easily dismissed as a category, and one need not consider or rebut their arguments or their evidence” (2009).</i>	0	0	Australian Libertarian Society	5	2009	USA

(Ludwig) Mises Institute	Think tank promoting the value so economic freedom and individual liberty. It is founded on the principles of the Austrian School of economics. It cites and uses the work of climate sceptics including Richard Lindzen to support its position on climate change.	<i>“So, the question that Americans must ask is this: “Do environmental problems exist?” The answer is yes, they do—but anthropogenic global warming is not one of them”</i> (2000).	0	0	Ludwig Institute	2	2000	USA
Accuracy in Academia	Think tank promoting the prevention of "The use of classroom and/or university resources to indoctrinate students; Discrimination against students, faculty or administrators based on political or academic beliefs; and Campus violations of free speech." (2016). It has included posts on climate change using climate sceptic researchers including Craig Idso and Fred Singer and has held conference events with guest speakers including Fred Singer.	<i>“So entrenched is the belief in global warming in academia that even when critiquing its adherents, academics still feel compelled to pay it homage”</i> (1998).	1	0	Heartland Institute	2	1998	USA
Ayn Rand Institute	Think tank based on the political ideology of Ayn Rand. This includes ideas of liberalism, economic freedom and capitalism. One of its topics of interests is climate change. Greenpeace report it has been funded by Koch foundations (https://www.desmogblog.com/ayn-rand-institute). It has co-sponsored the Heartland Institute’s International Conference on Climate Change.	<i>“There is a grave danger facing mankind. The danger is not from acid rain, global warming, smog, or the logging of rain forests, as environmentalists would have us believe. The danger to mankind is from environmentalism”</i> (1997).	1	0	Heartland Institute	2	1996	USA

Independence Institute	Think tank that promotes the principles of economic freedom, property rights etcetera (https://www.i2i.org/about/). The organisation has an Energy Policy Centre promoting free markets as a way to influence energy production reducing government regulation and protections. Climate sceptic James Taylor has provided commentary on the economics on climate change as part of the organisations news department	<i>“ On the other hand, scientists seeking notoriety or research grants, while little or no date to back up their claims, are hailed as heroes as they expound their cataclysmic projections regarding human health and the environment” (1997).</i>	0	0	Montreal Economic Institute	2	1997	USA
Illinois Policy Institute	Think tank that covers several policy areas. It promotes the values of limited and transparent government and limited taxation. They cite climate sceptics including Chris Horner, and have held events where guest speakers have included climate sceptics.	<i>“Perhaps these are deliberate misrepresentations – in the global warming science” (2015).</i>	1	0	Heartland Institute	2	2008	USA
Mountain States Legal Foundation	The Mountain States Legal Foundation has been traced to the actions of the wise use movement and has received funding from ExxonMobil (http://www.exxonsecrets.org/html/orgfactsheet.php?id=54). It works on various cases that wish to prevent climate action.	<i>“MSLF argued that the lawsuit’s demand for a heretofore unknown use of the public trust doctrine to limit emissions of CO₂ will adversely affect the ability of its Colorado members to engage in economic activities such as development of minerals, oil and gas, timber, livestock, and crops as well as recreational pursuits” (2015).</i>	0	0	American Land Rights Association	1	1993	USA
Foundation for Individual Rights in Education	The organisation focuses on policy issues related to the freedom of education and rights. It promotes the principles of individual liberty, religious freedom and free speech. Also calls for climate sceptic work to be delivered into	<i>“There was a time in America when the Left could be counted on to defend free speech. But as countless examples today demonstrate, those days are long gone. From campus speech codes to campaign finance to</i>	0	0	Frontiers of Freedom	1	2007	USA

	education institutes. Climate Sceptic Roy Innis is one of their directors	<i>prosecutorial threats against climate change critics and more, the evidence is as fresh as this morning's newspapers" (2015).</i>						
Illinois Coal Association	Not for profit corporation working on behalf of coal industry actors to influence legislation. They have co-sponsored Heartland Institutes International Conference on Climate Change	-	1	0	Heartland Institute	8		USA
Illinois Mining Institute	Think tank that research's and advocates on issues relating to mining issues.	<i>"The drum beats are familiar on this subject. A lot of the same folks who pushed the acid rain controls in the 1980s are crusading louder and louder for a governmental crackdown on something that is yet to even be proven as a viable issue, so-called global warming. Now, this is of course a national issue—one affecting the coal industry across the country, unlike the acid rain matter which essentially struck at the coal industry only in the Mid-west" (1995).</i>	0	0	Illinois Coal Association	2	1995	USA
Lexington Institute	Conservative think tank promoting the values of freedom and opportunity. It cover several policy sectors including reports on energy and the environment.	<i>"Global warming is a real thing. It is caused by the accretion of chemicals in the atmosphere that trap solar energy, increasing surface temperatures. This process has been ebbing and flowing for hundreds of millions of years in a phenomenon scientist's call the "carbon cycle." Today the Earth is gradually warming, and if that trend were to continue</i>	0	0	Frontiers of Freedom	2	2009	USA

Manhattan Libertarian Party (MLP)	Small political campaign group for limited government to control various policy issues. It was identified by Brulle as receiving funding from fossil fuel based industries.	<i>indefinitely it could eventually become uninhabitable (as it was for much of its geological history)" (2009). "What global warming? It's freezing here" (2007).</i>	0	0	Brulle	8	2007	USA
Property Rights Foundation of America (PRFA)	Think tank organisation promoting the interests of private property rights. It has promoted the work of climate sceptics including Bjorn Lomborg.	<i>"The Craze of Environmental Irrationality" (1994).</i>	0	0	Virginia Land Rights Coalition	2	1994	USA
Reason Foundation	Historic CCCM organisations. It has a department/section dedicated to climate change, environment and energy research. It has published op-eds and reports from global warming sceptics including Fred Singer. Julian Morris a contrarian climate scientists is the Vice president of Research at Reason. He previously ran the Environmental and technology programme and CCCM organisation the Institute for Economic Affairs (http://reason.org/staff/show/julian-morris). The organisation has co-sponsored the Heartland Institute's International Conference on Climate Change.	<i>"The only rationale for a strategy aimed at direct and aggressive reductions of GHG emissions would be the presence of clear indications that global temperatures are rising and that they will cause massive economic, environmental, and political upheavals. On the other hand, both the no-regrets and no-regrets-plus strategies articulate a set of goals that make sense given the high degree of uncertainty of global warming risks and the large potential costs of any strategy aimed directly at reducing GHG emissions" (1993).</i>	1	0	Heartland Institute	2	1993	USA
Surface Stations.org	Set up as a repository for climate data by climate sceptic Anthony Watts. Individuals can send in and publish their papers leading to various contributions	<i>"The 1997 Conference on the World Climate Research Programme to the Third Conference of the Parties of the United Nations Framework Convention</i>	0	0	Brulle	8	2007	USA

of research providing contrary positions on climate change.

on Climate Change concluded that the ability to monitor the global climate was inadequate and deteriorating" (2007).

The Acton Institute for the Study of Religion and Liberty

Free market, religiously influenced think tank (<https://acton.org/about/mission>). Some of its helpful links include other CCCM organisations including the Cato Institute, Heartland Institute and the Heritage Foundation. It has co-sponsored the Heartland Institute's International Conference on Climate Change.

"Now, more than ever, it is important to recognise the critical crossroads that we are at. The rhetoric and emotionalism of environmentalism can lead us further down the path of regulatory control. This path, however, not only poses tremendous restrictions on liberty, it also overlooks the ability of incentives to guide people towards environmental stewardship. If, instead, we pursue the property rights ethic, we can learn more about ways to protect the environment and voluntarily incorporate such actions into our daily lives" (1992).

1 0 Heartland Institute 2 1992 USA

Alabama Policy Institute

Think tank that promotes the values and principles of free enterprise, limited government, and traditional values. It conduct research on various policy issues, and information on climate change and global warming is drawn from their sections on budgeting, taxes, and constitutional issues.

"The aim of the Left to shut down the fossil-fuel industry is also exacerbating energy poverty—and every other form of poverty—stemming from joblessness. The Left's enchantment with producing government-subsidised green jobs is second only to its desire to wage war on coal and make life difficult for the oil and gas industry" (2015).

0 0 Greenpeace 2 1996 USA

Beacon Centre of Tennessee	Think tank organisation that promotes the principles of property rights, and traditional American values. They conduct research on various topics. It was a member of the CSCCC.	<i>"Climate Change "Cures" are Worse than the Illness"</i> (2007).	0	0	Civil Society Coalition on Climate Change	2	2007	USA
Centre for Individual Freedom	Advocacy organisation promoting the values of individual liberty and free markets. It has a section dedicated to energy and the environment. It refers to several contrarian scientists including Bjorn Lomborg as part of its issue section and regular produces op-eds and blog posts.	<i>"Climate Change is a Natural Occurrence"</i> (2006).	0	0	Independent Institute	1	2006	USA
The Claremont Institute	Conservative think tank that heavily criticises environmentalism, including labelling it 'the church of environmentalism' (http://www.claremont.org/crb/article/the-church-of-environmentalism/). The organisations has collaborated with the CCCM organisations George C Marshall Institute to produce the document "Ozone & Global Warming: Are the Problems Real" (http://www.documentcloud.org/documents/1349525-claremontinsti00252.html).	<i>"Perhaps the real crisis is within environmentalism itself. Over the last two decades, it has lost contact with ordinary Americans' concerns about human health and scenic vistas. Environmentalists have, instead, recast their entire mission around global warming. For 18 years, however, global temperatures have held steady, widening the gap between computer-model predictions and observations"</i> (1997).	0	0	Frontiers of Freedom	2	1997	USA

Climate Science Coalition of America (CSCA)	Coalition connected to the ICSC, and New Zealand Climate Science Coalition. It is headed by several climate sceptics. It has previously co-sponsored the Heartland Institute's International Conference on Climate Change.	<i>"CSCA strives to assure that climate science is properly done, fairly reported, and well understood by the American people. The mission of the Climate Science Coalition of America is to serve as a US-based source for credible, accurate, non-prejudiced facts" (2015).</i>	1	0	Heartland Institute	4	2009	USA
International Climate Science Coalition (ICSC)	Coalition connected to the Climate Science Coalition of America New Zealand Climate Science Coalition, Australia Climate Science Coalition. These organisations are connected to other CCCM organisations including the Heartland Institute, Lavoisier Group, and blogs. There are consistent actors across these organisations including Tom Harris, Fred Singer, David Archibald and Bob Carter.	<i>"So-called "new renewable energy technologies" are extremely expensive and rely on huge subsidies. To use such intermittent and diffuse power sources requires that the consumer pays between three and ten times the price of power from conventional sources (coal, oil, natural gas, hydro and nuclear)" (2015).</i>	1	0	Heartland Institute	4	2007	USA
Far West Agribusiness Association	Trade association. One of its hot topic areas is climate change and global warming although it does not have a dedicated department to research on the issue.	<i>"FWAA does not support any existing climate change bill. With increased indirect costs of energy, "fuel switching" to natural gas will cause the feed stock for fertiliser to increase and thereby driving up the cost of inputs and food" (2010).</i>	0	0	Agricultural Retailers Association	3	2010	USA
The James Madison Institute	Think tank promoting the principles of individual liberty, property rights and personal freedoms. It has a section dedicated to energy and the environment. James Taylor is one of its experts.	<i>"There is only one constant about the climate and that it's always changing" (1998).</i>	0	0	Nassau Institute	2	1998	USA

Media Research Centre (MRC)	Think tank and media watchdog that claims to expose the propaganda of the left (http://www.mrc.org/about). It has previously co-sponsored several of the Heartland Institute's International Conference on Climate Change.	<i>"That the most recent month and/or year and/or decade has been the warmest on record is a common claim in media reports.... But that's only the case if one looks exclusively at surface-based temperature readings. Atmospheric physicist S. Fred Singer noted in a July 25, 1997 Wall Street Journal op-ed that "weather satellite observations, independently backed by balloon-borne sensors, have shown no global warming whatsoever in the past 20 years." This is a heated debate in the scientific community, but it would be news to those who get their news from the networks"</i> (1998).	1	0	Heartland Institute	2	1998	USA
Oklahoma Council of Public Affair	Think tank that focuses on state level policy issues and promotes the values of limited government, individual freedom and a free market-economy. It quotes climate contrarians such as John Christy in reports and op-eds by the organisation. Funding reports reveal it has been funded by the Cato Institute, and Donors Trust and Donors Capital.	<i>"Day after day, year after year, the hole that climate scientists have buried themselves in gets deeper and deeper. The longer that they wait to admit their overheated forecasts were wrong, the more they are going to harm all of science"</i> (2015).	0	0	Frontier of Freedom	2	2006	USA

Pacific Legal Foundation	Foundation that promotes the rights of free enterprise, economic and individual liberty, and limited government (https://www.pacificlegal.org/about). One of its main areas of interest is environmental regulations. It has put forward several litigation cases criticising proposed environmental regulations including those on climate change. The organisation has received funds from the ExxonMobil Foundation and cites several climate sceptics including Bjorn Lomborg.	<i>"We take no position on the scientific side of the climate change debate, but we do strongly believe that climate change should not be used as a pretext to foist bigger government on, and to undercut the property rights of, the American people. Yet these ulterior motives seem precisely the point of this Assessment"</i> (1999).	0	0	Mountain States Legal Foundation	1	1999	USA
Plants need CO ₂	Think tank focused specifically on the issue of climate change and environmental change. It is led by climate sceptic Leighton Steward. http://www.plantsneedco2.org/default.aspx/MenuItem/294/MenuGroup/Home.htm) and publishes information taken from other climate contrarian scientists including videos and podcasts (http://plantsneedco2.org/default.aspx/MenuItem/105/MenuGroup/StayInformed.htm).	<i>"Educate the public on the positive effects of additional atmospheric CO₂ and help prevent the inadvertent negative impact to human, plant and animal life if we reduce CO₂."</i> (2015).	0	0	Brulle	2	2009	USA
Rocky Mountain Coal Mining Institute (RMCMI)	Members group that conducts research and advocates on behalf of coal mining industry actors. It has a global warming quiz, where the predominant cause of global warming is in fact non-human related. (http://www.geocraft.com/WVFossils/GlobWarmTest/A3c.html).	<i>"Climate Change is nothing new"</i> (2009).	0	0	Friends of Coal	8	2009	USA

Texas Public Policy Foundation (TPPF)	Conservative think tank that has a research area dedicated to energy and environmental issues. It has received funding from Koch Industries, ExxonMobil, Chevron and cola companies including Luminant (http://www.greenpeace.org/usa/global-warming/climate-deniers/front-groups/texas-public-policy-foundation-tppf/).	<i>“Forgetting for a moment the serious scientific disputes surrounding climate change, there is little reason to believe that a proper solution entails handing over more control and authority to the federal government when it comes to the lives of urban Texans” (2000).</i>	1	0	Fraser Institute	2	2000	USA
The American Society for the Defence of Tradition, family and prosperity (TFP)	Advocacy organisation that promotes the conservatism and Christianity. It campaigns on various policy issues, but climate change only makes up a small section of their discussions and campaigns.	<i>“Speak out for the poor and disadvantaged of the world who need affordable and reliable energy to escape grinding poverty” (2015).</i>	0	0	Frontiers of Freedom	1	2008	USA
Ashbrook Centre	Conservative based university research institute. It promotes the ideas of constitutional self-governance in academia. Leading climate sceptic Steven Hayward was a research fellow at the organisation.	<i>“...The centrepiece of this tactic is a claim, widely popularised by Robert Nelson, that environmentalism is a kind of religion...Sometimes environmentalism is overtly pantheistic. Even where this extreme has not been reached, the attachment to nature is held with an irrational fervour that is tantamount to religious belief” (1996).</i>	0	0	Edmund Burke Foundation	5	1996	USA

Young America's Foundation (YAF)	Conservative foundation promoting the values of individual freedom and traditional values for young conservatives in the US. It runs university and college campus events discussing issues on a variety of subjects. It has supported and promoted activists look at the work of climate sceptics including Chris Horner to promote support for climate change opposition. It has also co-sponsored the Heartland Institute's International Conference on Climate Change.	<i>"It certainly didn't take a historic snowfall in Washington, D.C. to make many question the validity of global warming and climate change. Climategate, which is just one instance, has the environmental movement reeling"</i> (2010).	1	0	Heartland Institute	7	2010	USA
World Climate Report/ /Institute for Biospheric Research	Since 1992 it had produced a regular report with developments within the literature on climate change from various sources to 'inform' citizens about the issue. These are often written by contrarian scientists such as Patrick Michaels.	<i>"What would happen, though is that the growing season would get longer, making the planet greener, and that the severity of the great cold outbreaks of winter would be attenuated. In other words, the "Siberian Express"—the most obnoxious air mass known in the Northern Hemisphere — would be tamed"</i> (1992).	0	0	Brulle	1	1992	USA
Foundation for Research on Economics and the Environment (FREE-ECO)	One of the earliest CCCM organisations originally identified in some of the work of McCright and Dunlap. It cites the work of several contrarian scientists such as Robert Balling to support its oppositional positions on climate change.	<i>"Today, environmentalism is in crisis. Many early environmentalists came out of the radical movements of the late 1960s. They were largely innocent of basic economic principles, hostile to business and the market process, and highly optimistic regarding the potential of federal command-and-control regulation. Some, especially the deep ecologists, advocated a halt to</i>	0	0	McCright and Dunlap	2	1996	USA

economic progress and a return to simpler, more primal living. This approach, however romantic, has important economic, ecological, social, and ethical flaws” (1996).

International Society for Individual Liberty	The International Society for Individual Liberty advocates individual rights, free markets, and liberty around the world.	<i>“CO₂ is a welcome fertiliser” (2004).</i>	0	0	Alternate Solutions	2	2004	USA
Bluegrass Institute	Think tank promoting the values of limited government and protection of personal liberties. They have cited the work of Patrick Moore to support their positions that climate change and environmentalism are left wing political tactics (http://www.bipps.org/killing-coal-just-left-wing-politics/). It has held speaking events where climate sceptics including Paul Chesser have come to speak on environmental liberties (http://www.bipps.org/bipps-take-environmental-liberty-to-the-airwaves/).	<i>“Thanks to the bias built in to the NGSS, here in Kentucky our students probably won’t get to practice real, inquisitive science about climate. After all, NGSS’ standard “ESS3.D: Global Climate Change,” specifically declares that “Human activities, such as the release of greenhouse gases from burning fossil fuels, are major factors in the current rise in Earth’s mean surface temperature (global warming).” That absolute declaration leaves no opening for inquiry and question...” (2009).</i>	0	0	Civil Society Coalition on Climate Change.	2	2009	USA

Economic Freedom Network (EFN)	Connected to the Fraser Institute and documents the current state of the international global market. It is a coalition group of various think tanks and other organisations many of which are other CCCM organisations. It promotes alongside the Fraser Institute and PERC, several books by climate sceptics including <i>Who Owns the Environment?</i> (https://web.archive.org/web/20001204183000/http://perc.org:80/booksfor.htm#Owms)	-	0	0	Fraser Institute	4	1998	USA
International Climate and Environmental Change Assessment (ICECAP)	Advocacy organisation that distributes studies that debate the science and policy on climate change. The library includes a variety of texts written by several climate contrarians and the organisations is associated with various other CCCM organisations (http://icecap.us/index.php/go/climate-library). It has previously co-sponsored the Heartland Institute's International Conference on Climate Change.	<i>"Man-made emissions of CO₂ represent less than 5% of the total, including CO₂ emissions from natural sources, but even this relatively small increase can shift the Earth's natural balance"</i> (2015).	1	0	Heartland Institute	1	2007	USA
Manhattan Institute for Policy Research	Free market think tank that focuses on a variety of issues including energy and the environment. It has co-sponsored the Heartland Institute's International Conference on Climate Change.	<i>"The old conservationists were reluctant collectivists; the new environmentalists, eager ones. Having successfully conflated eagles with snail darters, halogenated hydrocarbons with the mountain peaks of Yosemite, the new environmentalists claim to speak for them all. This is an agenda that fits easily into a left-wing shoe"</i> (1998).	1	0	Heartland Institute	2	1998	USA

Sovereignty International Inc	<p>Advocacy organisation focused on a variety of policy issues that are in their words a 'threat to national sovereignty' (http://www.sovereigntyonline.org/home.html). Several climate sceptic's work for the organisation such as Paul Driessen, and it uses the work contrarians such as Fred Singer and John Christy to support the position taken on climate change. They also promote the Leipzig Declaration. It has previously co-sponsored several of the Heartland Institutes International Conference on Climate Change.</p>	<p><i>"...scientists' report was heavily edited by the policy makers to remove several statements by scientists who were sceptical of a "human influence on global climate..." (1998).</i></p>	1	0	Heartland Institute	2	1998	USA
Virginia Land Rights Coalition (VLRC)	<p>Small think tank organisation promoting the values of private property rights and personal access to natural resources. They produce work on environmental regulations and tax. They have cited climate sceptic Patrick Moore, criticising the work of environmentalists.</p>	<p><i>"Too often, environmental teaching takes the form of fearful and gloomy messages, presented to children as early as kindergarten or even preschool. It's a disturbing trend with potentially devastating ramifications... The gloom and anxiety often overshadow the facts. Students become alarmed about toxic waste, acid rain, deforestation and global warming, without ever learning basic scientific facts about these complex issues" (2015).</i></p>	0	0	Virginia Public Policy Institute	2	1999	USA

Washington legal Foundation (WLF)	Think tank that was previously tied to the Tobacco industry lobby, in particular tobacco company Phillip Morris. It supports some of its legal cases using the work of climate contrarian scientists including Richard Lindzen. The organisation has also reportedly received funding from ExxonMobil (https://www.desmogblog.com/washington-legal-foundation#s6).	<i>"In an April 1996 speech at Stanford University Secretary of State Warren Christopher announced that environmental issues would play a heightened role in US foreign policy, crowding out economic issues and national security. As a result, inappropriate environmental issues, including global warming and sustainable development, have increasingly distract American armed forces. U. S. troops have been deployed abroad as "enviro-cops" in Latin America and hold conferences and war games in environmental policy issues. US. tax dollars have gone to environmental groups waging spurious economic campaigns against American companies, claiming that their profits come at the expense of citizens' suffering more pollution and political persecution" (1998).</i>	0	0	Mountain States Legal Foundation	2	1998	USA
Accuracy in Media (AIM)	Think tank that according to its mission statement is "to promote accuracy, fairness and balance in news reporting. AIM exposes politically motivated media bias; teaches consumers to think critically about their news sources; and holds the mainstream press accountable for its misreporting." (2016, np). It criticises various media organisations on coverage of climate change including a 2008 report " <i>Will the Media Expose Global Warming Con Job.</i> " (http://www.aim.org/special-report/will-media-expose-global-	<i>"The Greatest Hoax? Global Warming" (2002).</i>	1	0	Heartland Institute	2	2002	USA

[warming-con-job/](#)). It has also co-sponsored several of the Heartland Institute's International Conference on Climate Change.

Centre for American Experiment	Think tank that produces research on a variety of policy issues. It promotes and uses the work of contrarian scientists such as Roy Spencer to support its work on climate change. They also cite the Leipzig Declaration.	<i>"The scientific evidence, however, does not support catastrophic warming scenarios. To provide some perspective, here are some facts...GHG comprise only about 1 percent of our atmosphere, most of which is nitrogen and oxygen. Of that 1 percent, the most abundant GHG is water vapour, which accounts for about 98 percent of all GHG in the atmosphere...The climatological predictive models that serve as a basis for catastrophe scenarios fail to accurately simulate climate responses to changes in greenhouse gases...Plants-a basis of all existence-flourish with increases in CO₂..." (1997).</i>	0	0	Independent Institute	2	1997	USA
Christian Coalition of America	Advocacy organisation that includes a legislative agenda which includes energy independence. It promotes traditional American values. It has promoted the work of climate sceptics including Fred Singer, Dennis Avery and James Inhofe (e.g. http://www.cc.org/blog/nasa_obvious_finger_agw_discrepancies).	<i>"The most powerful greenhouse gas in the atmosphere is water vapour. And represents over 90 percent of the natural greenhouse effect" (2015).</i>	0	0	Frontiers of Freedom	1	2009	USA

Future of Freedom Foundation	Think tank that promotes the principles of individual freedom, free markets, private property and limited government. The organisation debates several policy issues	<i>“Climate change is par for the course in the history of planet Earth. Even schoolchildren know that long ago, vast glaciers of ice stretched over much of our planet, gouging out valleys, drastically altering the landscape” (1999).</i>	0	0	Fundacion Bases	2	1999	USA
Nevada Policy Research Institute (NPRI)	Think tank that works on several policy issues including energy and the environment. They frequently refer to the environmental movement and those promoting climate action as alarmists and have used some of the work from contrarian scientists including Bjorn Lomborg in articles and op-eds.	<i>“Advocates of more intrusive and controlling government have increasingly, over the past several years, seized upon the supposed threat of global warming as an overarching rationale for curtailing individual rights across the entire spectrum of human activity” (2009).</i>	0	0	Independent Institute	2	2009	USA
American Civil Rights Union	Think tank promoting 'traditional' American values. Peter Ferrara general council member of the organisation regulatory reports on the overarching issue of climate change and global warming across several different news outlets. They cover climate change quoting several denial scientists including Fred Singer, and Dennis Avery	<i>“The earth may be warming—but not as fast as the debate over climate is heating up” (2010).</i>	0	0	Mountain States Legal Foundation	2	2010	USA

Washington Policy Centre (WPC)	Think tank that has a centre dedicated to issues on the environment (http://www.washingtonpolicy.org/centers/detail/center-for-the-environment). The director of the Centre for the Environment is Todd Myers, who has criticised environmentalism and promotes free market environmentalism (http://www.washingtonpolicy.org/about/page/staff). It uses the work of sceptics such as Robert Balling and Willie Soon to support some of its positions and attitudes on climate change.	<i>In the aftermath of the recent Kyoto Conference on Global Warming, the world is being urged to adopt expensive and intrusive regulations, including an increasingly interventionist international regime of economic and social regulations. All are designed to address what is described as "global warming...As you read about Kyoto and Global Warming, ask yourself whether you are getting a balanced presentation of the scientific data which underpins calls for drastic action" (1998).</i>	0	0	Freedom to Trade	2	1998	USA
Western Fuels Association (WFA)	Trade association that has played an active role in disseminating information to industry members in an effort to discredit and minimise the risks associated with ACC. The WFA supported the release of a videotape titled "The Greening of Planet Earth" in 1991, which contains interviews with several climate contrarians diagnosing the benefits of increased concentrations of CO ₂ on plant life.	<i>"Not much scientific support" (1991).</i>	0	0	Brulle	3	1991	USA
Information Council on the Environment (ICE)	Recognised as one of the first actors that disseminated CCCM opposition. It was one of the first organisations to reposition global warming as theory not fact. It was led by climate sceptics including Robert Balling, and Sherward Idso.	<i>"We believe it is wrong to predict that higher levels of CO₂ will bring about catastrophic global warming" (1991).</i>	0	0	Union of Concerned Scientists	1	1991	USA

George Bush Institute	Think tank that covers several policy issues. It as institute dedicated to the legacy of George W Bush, advocating on policy that tackles present challenges.	<i>"Facts do not bend to policy. When policies nevertheless try, they create considerable risks for social welfare. And when those risks are realized, winners of a negative-sum proposition can double down on impotent solutions. The politics of clean energy may be producing more votes than value, damaging both the economy and environment by diverting scarce resources to unsustainable activities"</i> (2013).	0	0	International Republican Institute	2	2013	USA
Americans for Prosperity (AFP)	Advocacy organisation that is led by the Koch brothers. It has repeatedly advocated against and developed documents to prevent the adoption of climate change policies in the USA.	<i>"Abundant, affordable energy is a key driver of prosperity. We must unleash resources by removing regulatory barriers and eliminating corporate welfare that favours certain energy sources over others. When energy prices increase or government distorts the market, it disproportionately affects low and middle income families"</i> (2015).	1	1	Heartland Institute	1	1997	USA
US Chamber of Commerce, Business Civic Leadership Centre	Advocacy organisation affiliated with of the US Chamber of Commerce. It advocated on behalf of leaders in business, government and other non-profit sector organisations across several social issues that affect business processes/ This includes for example legislation to address climate change.	<i>"Efforts by environmental extremists to over-regulate the marketplace and put huge new mandates on businesses will be opposed. A new radical environmental movement has started at the grassroots level pushing for regulations based on race and socio-economic status. The US. Chamber leads the opposition to these groups. In addition, the Chamber is pushing for common sense regulatory reform to</i>	0	0	Greenpeace	1	1997	USA

		<i>make it easier and less costly for businesses to do business" (1997).</i>						
60 Plus Association	Advocacy organisation that has a dedicated department to energy. It has received funding from vested industry groups (Brulle, 2014) and has played a historic role in the CCCM. It is a member of the Cooler Heads Coalition, and has previously co-sponsored the Heartland Institute's International Conference on Climate Change.	<i>"Climate Change Report Causes Seniors, Poorer Americans to Sweat Over Their Health" (2015).</i>	1	1	Heartland Institute	1	1995	USA
Small Business and Entrepreneurship Council (SBEC)	Advocacy organisation conducting research on behalf of small businesses. It has a section dedicated to research on energy and makes a consistent argument that government intervention on climate change is unwarranted. It is a member of the Cooler Heads Coalition.	<i>"Those on the environmental left, assisted by many in the media, have done a masterful job in convincing people that global warming is a scientific fact. In reality, though, the science on the subject is anything but settled" (2004).</i>	0	1	Cooler Heads Coalition	1	2004	USA
Western Energy Alliance	Trade association promoting the interest of businesses in the US and Canada.	<i>"By imposing costly regulations on a small source of emissions, [it] is losing sight of a real climate change solution while continuing to choke out a source of economic growth" (2015).</i>	0	0	Domestic Energy Producers Alliance	3	2009	USA
Cornwall Alliance	Co-sponsored several Heartland Institute's International Conference on Climate Change including its most recent 2017 conference. The organisation also has a YouTube site which has posted several videos on environmental issues including climate change	<i>"Natural causes may account for a large part, perhaps the majority, of the global warming in both the last thirty and the last one hundred fifty years, which together constitute an episode in the natural rising and falling cycles of global average temperature. Human emissions of CO₂ and other GHG are</i>	1	0	Heartland Institute	4	2000	USA

	<p>(https://www.youtube.com/channel/UCHdG1AWWS2zvWkL2MBc5TNg). It has produced its own declaration on climate change challenging the consensus (http://cornwallalliance.org/2009/05/evangelical-declaration-on-global-warming/).</p>	<p><i>probably a minor and possibly an insignificant contributor to its causes” (2000).</i></p>						
Hoover Institution	<p>Think tank that has held several conference events targeting environmental issues and issues regarding climate change. They have co-sponsored one of the Heartland Institutes International Conference on Climate Change.</p>	<p><i>“American armed forces have become increasingly distracted by inappropriate environmental issues, including global warming and sustainable development” (1995).</i></p>	0	0	Independent Institute	2	1995	USA
Education Action Group Foundation	<p>Conservative foundation that is focused on "promoting sensible education reform." Staff members including founding member Kyle Olson a regular contributor to right wing media organisations including Townhall.com and Fox News Channel.</p>	<p><i>“Following are some basic facts about Global Warming that are in direct contrast to the spoon-fed pabulum that is being force-fed as undisputed fact through the mainstream media and our government-sanctioned educational system...There is no scientific consensus on the human role in climate change...Future warming due to human greenhouse gas emissions will be much less than the UN forecasts... CO₂ has not caused weather to become more extreme, polar ice and sea ice to melt, or sea level rise to accelerate...The benefits of warmer temperatures and more CO₂ in the air will be greater than the costs they create for at least the next 100 years or longer” (2015).</i></p>	1	0	Heartland Institute	7	2014	USA

Franklin Centre for Government Policy and Public Integrity	Online based think tank that focuses on transparency and accountability of the US government using journalism publications. It covers several issues and has released multiple reports and op-eds available on its website on climate change and other general environmental issues. The connected subsection of the organisation watchdog.com reports on the government but also on media reporting of issues such as climate change (http://watchdog.org/about/).	<i>"This has been a trick pulled by global warming alarmists over the last decade. As trend lines have flattened out, they have stopped referring to warming trends and focused on irrelevant, for the purpose of measuring warming, data points"</i> (2015).	0	0	Greenpeace	2	2009	USA
Centre for Energy and Economic Development	Think tank that merged into what is now the American Coalition for Clean Coal Energy. There were several corporations and listed companies tied to the organisation including the WFA and EEI.	<i>"CO₂ only makes up about 3% of the atmosphere and therefore cannot play a significant role in climate change...ii. CO₂ is a basic building block of life, so how could it be considered a pollutant...iii. Scientists predicted global "cooling" before they predicted global "warming."...iv. Climate change is nothing more than natural variations in temperature"</i> (1998).	0	0	Greenpeace	2	1998	USA
Arizona State University, Office of Climatology	Climate contrarian Robert Balling was a former director of this organisation. It has received funding from ExxonMobil and other companies, using his position at the university department to previously disseminate contrarian scientific perspectives on climate change. While they appear to no longer deny the science on climate change,	<i>"The uncertainties of climate change provide a confusing backdrop for all of today's sustainability discussions. While there is no longer scientific doubt about anthropogenic influences on the Earth's atmosphere and climate, determining appropriate responses is one of the greatest policy challenges mankind faces"</i> (2015).	0	0	Union of Concerned Scientists	5	1973	USA

there focus is on the methods applied to address climate change.

Alexis de Tocqueville Institution	Defunct think tank that had been at the centre of both the Tobacco Industry lobby and the CCCM. Reports indicator it has been funded by industries including ExxonMobil http://www.exxonsecrets.org/html/orgfactsheet.php?id=89) and was one of the founding members of the Cooler Heads Coalition (page). It was also a member of the NIPCC and Cooler Heads Coalition when active.	-	0	1	Brulle	2	99	USA
The Justice Foundation	Foundation that provides legal and financial representation to individuals to promote the values of free markets, private property rights, and limited government. It was first identified by Greenpeace as a CCCM organisation that had received funding from ExxonMobil.	-	0	0	Greenpeace	7	99	USA
Institute for Humane Studies (IHS)	University based research centre connected to the Mercatus Centre and George Mason University. It has been identified by several sources as a CCCM organisation.	-	0	0	Greenpeace	5	99	USA
Charles Koch Foundation	The foundation is directly connected to Koch industries and a key actor in the CCCM organisation that distributes funds to other CCCM organisation to conduct oppositional research.	-	0	0	Greenpeace	7	99	USA

Lincoln Legal Assistance Foundation Incorporation	Advocacy organisation providing legal advice to members of US counties on various policy issues. It has previously sponsored several of the Heartland Institute's International Conference on Climate Change.	-	1	0	Heartland Institute	1	99	USA
George Mason University Law and Economics Centre	Has a specific section dedicated to energy and is home to several climate sceptics. It is has been previously cited within the CCCM literature as a key actor within the movement.	-	0	0	Greenpeace	5	99	USA
AEI-Brookings Joint Centre	A joint organisations between the American Enterprise Institute and the Brookings Institute. It is a free market think tank that has reportedly received finding from ExxonMobil (http://www.exxonsecrets.org/html/orgfactsheet.php?id=76). It appears inactive since 2015.	<i>"This testimony addresses three issues: the politics of climate change, the economics of climate change, and the role of the US in the Buenos Aires negotiations. It also discusses the failure of the Administration Economic Analysis of the Kyoto Protocol to adhere closely to widely accepted principles of policy analysis and the OMB Best Practices guidelines for the analysis of major new regulations. In the Buenos Aires negotiations, the US should demand modifications to the Kyoto Protocol to encourage the development of institutions designed to address the climate change problem over the long term. These institutions must implement cost-effective policies and be able to adapt to new information as it emerges"</i> (1998).	0	0	Australian Libertarian Society.	8	1998	USA

Arizona Cattleman's Association	Professional association working on behalf of beef producing organisations and individuals. It has associated local branches across the Arizona state. It is on the outskirts of the CCCM, and covers a range of topics relevant to the industry. This includes climate change as part of its government affairs section.	-	0	0	Polluter Watch	6	99	USA
Centre for American and International Law	Think tank organisation working on various policy issues including energy and the environment. it has received donor funding from ExxonMobil since 1998 (http://www.exxonsecrets.org/html/orgfactsheet.php?id=67).	-	0	0	Greenpeace	2	99	USA
National Association of Neighbourhoods	Membership organisation taking on a grassroots, multi-issue advocacy role. The organisation has reportedly received funding from ExxonMobil over several years between 1998-2012 (http://www.greenpeace.org/usa/wp-content/uploads/2015/11/Greenpeace_Dealing-in-Doubt-1.pdf?f3025c). The organisation is also a sponsor of the CCCM organisation United For Jobs.	-	0	0	Greenpeace	8	99	USA
New England Legal Foundation	Foundation that has previously received funding from ExxonMobil Foundation (http://www.exxonsecrets.org/html/orgfactsheet.php?id=71)	-	0	0	Greenpeace	7	1995	USA
Coalition for American Jobs	Defunct advocacy organisation that specifically advocated against EPA regulations and in particular climate change policy. (http://web.archive.org/web/2010022423	<i>"We represent American businesses, industries and others concerned about the impact of potential EPA action on job creation, including the growth of green jobs. Arbitrary, premature EPA</i>	0	0	Greenpeace	1	2010	USA

	3052/http://coalitionforamericanjobs.com/about/).	<i>regulation of stationary sources of greenhouse gases would threaten the jobs and livelihoods of millions of Americans, along with the nation's economic recovery" (2010).</i>							
Public Interest Watch	Think tank that classed itself as a Watchdog organisation protecting against other non-profit organisations to make their funding information available. It has received funding from ExxonMobil. The organisation also co-sponsored several of the Heartland Institute's International Conference on Climate Change.	-	1	0	Brulle	2	99	USA	
US Russia Business Council	Trade association promoting the interests of various industries that are attempting or access the Russian market economy. One of its core members is climate sceptic Joel Schwartz. Several members of the energy sector including ExxonMobil and BP America Inc are part of the organisation.	<i>"Climate change: The term can refer to all forms of climatic inconsistency, but because the Earth's climate is never static, the term is more properly used to imply a significant change from one climatic condition to another" (2007).</i>	0	0	Brulle	3	99	USA	
Wyoming Business Alliance	Think tank emerging to advocate on behalf of the coal industry and focuses on related policy issues (http://www.wyomingbusinessalliance.com/history). They have hosted events which include speakers such as Bjorn Lomborg (http://www.wyomingbusinessalliance.com/past-achievements)	-	0	0	Greenpeace/Heritage foundation	2	2008	USA	

Society of Independent Earth Scientists (SIPES)	Coalition of actors from various scientific sectors that work together and produce scientific research on various policy issues.	<i>“Beginning with global warming (we call it climate change these days) we tend to forget that the earth is a dynamic system, i.e., it changes. We haven’t been around long enough, nor collected enough data, to define normal (except within our limited data set)...”</i> (2010).	0	0	Independent Petroleum Association of America	4	2010	USA
Mont Pelerin Society (MPS)	Coalition group of several individuals and scholars working across the globe that promote the values of free markets and individual liberty. Members of the organisation including the Koch Brothers, and well known climate sceptics including Vaclav Klaus.	<i>“this panic doesn’t have a solid ground, that it has not been set off by rational arguments, that it demonstrates an apparent disregard of the past experience of mankind, and that its substance is not science”</i> (2015).	0	0	Greenpeace	4	99	USA
American Association of State climatologists (ASCC)	Professional association conducting scientific research on climate change (https://www.stateclimate.org/).	<i>“Ongoing political debate about global energy policy should not stand in the way of common sense action to reduce societal and environmental vulnerabilities to climate variability and change. Considerable potential exists to improve policies related to climate; the AASC is working to turn that potential into reality”</i> (2001).	0	0	Polluter Watch	6	2001	USA
Northern Montana Oil and Gas Association	It is a trade association working on behalf of the local members in the oil and gas industry. It lobbies on behalf and consults on issues to do with oil and gas. This includes work on legislative issues including environmental problems and energy policy.	<i>“It will increase the cost of finding, producing and refining the energy we must have for heating, cooling, power and transportation; Create a massive federal bureaucracy that will hamper business in the US and raise costs to consumers; increase our reliance on foreign energy”</i> (2015).	0	0	Domestic Energy Producers Alliance	3	99	USA

Centre for Environmental Education Research (CEER)	Sceptic environmental group was set up to influence scientific teaching on the environment in schools. It was linked with other US based CCCM organisations including the CEI and PERC. Was identified by Greenpeace but appears to no longer be operational.	-	0	0	Polluter Watch	5	99	USA
Freedom Action Network	Online non-profit broadcasting centre dedicated that covers various topics including relevant policy issues. The organisation itself has reportedly received funding from fossil fuel based industry actors.	<i>"Global Warming Fraud"</i> (2009).	0	0	Brulle	1	2009	USA
Hispanic Leadership Fund	Advocacy organisation that covers various policy issues. It promotes the values of small government, free trade and markets, and pro-life issues. It has previously supported the Heartland Institute's International Conference on Climate Change. It has worked with several other CCCM organisations to deliver petitions against government actions on EPA regulations (see http://www.ago.wv.gov/publicresources/epa/Documents/60%20Plus%20Ass%27n%20CPP%20Amicus%20Brief%20(MO119628xCECC6).pdf)	<i>"EPA fails to acknowledge the Plan's immediate adverse impact on many fixed- and low income heads of households, who will be forced to pay more for electricity when they can barely provide basic necessities for their families"</i> (2015).	1	0		1		USA
Students for Academic Freedom	Coalition organisation of students operating across universities in the US. It encourages political participation that would "restore integrity" into academia. It appears to be inactive from 2017	<i>"This is just being poured into kids' brains instead of letting them know there's a debate going on"</i> (2007).	0	0	Instituto Liberdade	4	99	USA

Cascade Policy Institute	Think tank that has been at the centre of the CCCM. It promotes the principles of property rights, individual liberty, and limited government. It discusses several policy issues including energy and the environment. It has co-sponsored the Heartland Institutes International Conference on Climate Change, and uses several articles from various climate sceptics on its website.	<i>“Climate change is one of the hottest topics, literally, in state and national public policy. Alarmism over human-induced climate change is one of many examples of the extreme environmental movement. Because astonishing news sells, media coverage on climate change is focused entirely on exaggerated claims of future catastrophe caused by CO₂ emitted from human activities. Unfortunately, misleading media reporting is making it difficult for citizens to discern fact from fiction”</i> (2015).	1	0	Instituto Liberdade	2	99	USA
Gun Owners of America	Gun activist advocacy organisation. Its main focus is on gun ownership rights tied into the values of individual freedom, liberty, and property rights.	<i>“Those of us active in defending the right to keep and bear arms don’t find it surprising that when politicians fund research, you get political science, not real science”</i> (2009).	0	0	Frontiers of Freedom	1	2009	USA
The American Spectator Foundation	Foundation is connected the newspaper outlet the American Spectator. It has co-sponsored the Heartland Institute’s International Conference on Climate Change. Via the website includes work from climate sceptics including Sterling Burnett and Christopher Monckton.	<i>“Climate Change Is Not as Bad as You Think”</i> (2015).	1	0	Heartland Institute	7	99	USA

American Fuel and Petrochemical Association (AFPA)	Trade association operating on behalf of the fuel and petrol industry in the US. The organisation has reportedly received funding from fossil fuel based industry actors (Brulle, 2014).	<i>“Greenhouse gases are regulated by the Environmental Protection Agency under the Clean Air Act, even though the Clean Air Act never authorized such regulation. AFPA believes that using this 40-year-old law to control of greenhouse gases (GHG) emissions threatens our nation’s economic and energy security. Even the EPA has admitted Clean Air Act GHG emissions will do nothing to reduce global concentrations of these emissions” (2015).</i>	0	0	Brulle	3	99	USA
Atlas Economic Research Foundation	Foundation promotes the values of freedom, limited government and free markets across the world. It has promoted the work of sceptic organisations including the Heartland Institute on issues such as climate change and the NIPCC report. Several CCCM organisation are part of this network of actors.	<i>“The Kyoto Protocol signed by President Clinton in 1998 (but never ratified by the US. Senate) now appears to have been the high---water mark for the Global Warming movement (since coincidentally that was that last year of measured “warming”). Even those who believe global warming is A catastrophic, man---made the problem now struggle to make a case that Global energy austerity is a practical Or cost---effective course of action” (2015).</i>	1	0	Greenpeace	7	1992	USA
Council of Industrial Boiler Owners (CIBO)	Trade association working on behalf of industrial and commercial energy producers. It has a section dedicated to legislative issues on climate change and several other environmental issues (https://www.cibo.org/issues/). Its position on mitigating climate change is	<i>“While this does not help move energy legislation, it does help the Administration in its efforts to move the Clean Power Plan Climate Change / Global Warming initiative to raise the cost of energy and increase the competitiveness of renewable energy</i>	0	0	Industrial Energy Consumers America	3	1997	USA

	<p>tied in with its work to protect manufacturing and industry owners.</p>	<p><i>sources, drive conservation and energy efficiency actions and promote electrification and demand side management” (2015).</i></p>						
Freedom Foundation	<p>Think tank promoting the values of individual liberty free enterprise, and limited and accountable governments. It covers various policy issues and produces regular media documents to distribute messages to the public and politicians. They promote the work and cite climate sceptics including Jay Lehr.</p>	<p><i>“Climate change believers understand this, but say human industrial development, most notably automobiles, are producing too much carbon-dioxide, which is shrinking the size of the ozone layer, allowing more sunlight into the atmosphere and warming the earth’s climate...Lehr explained to the members that doom-and-gloom scenarios about climate change are based on a combination of political agendas and junk science” (2015).</i></p>	0	0	American Land Rights Coalition	2	99	USA
Liberty Counsel	<p>Christian ministry that promotes Christian values and how that can help influence policy decision making. Environmentalism and climate change only plays a small role in the organisations agenda.</p>	<p><i>“New “Science Czar” is From a Different Planet” (2009).</i></p>	0	0	?	8	2009	USA
National Association of Scholars (NAS)	<p>Trade association made up of network of scholars in the higher education sector. It has a specific topic section dedicated to climate change that draws on the work of climate sceptics such as David Legates. It has co-sponsored the Heartland Institute’s International Conference on Climate Change.</p>	<p><i>“Whether their dissents are accurate will be determined in time to come. If they are right, the climate consensus is a house of cards built more on political aspirations than on good science” (2015).</i></p>	1	0		3	1996	USA

Sovereign Society	Think tank that conducts research on several policy issues. It promotes the values of personal liberty and free market. It has used the work of climate sceptics including Joe Bastardi to discuss and support the issue of climate change.	<i>"The Climate-Change Hoax"</i> (2015).	0	0	Libertarian International	2	99	USA
American Coal Foundation	Foundation promoting the interests of mining and coal producers. It promotes educational materials and programmes for American coal groups. It has received funding from ExxonMobil (http://www.exxonsecrets.org/html/orgfactsheet.php?id=72).	<i>"Because coal is our country's most abundant energy resource, it will remain important to our energy mix...To some it may seem that our use of coal is at odds with environmental protection. The science and economics behind various sides of the arguments that arise between the energy sector and environmentalists are complicated, and, unfortunately, sometimes emotional. In some cases, incomplete understanding of the science and economics further complicates these issues"</i> (2015).	0	0	Brulle	7	99	USA
World Taxpayers Association (WTA)	Coalition of several tax payers association or associated groups across countries. It promotes the values of lower taxes, individual freedom and limited government (http://worldtaxpayers.org/about-us/). They cite several climate contrarians in blogs including James Dellingle and Bjorn Lomborg	<i>"They should be rejoicing in the fantastic possibilities they have ahead – and in how our world has been able to adapt with more freedom, greater wealth and resources, more food and higher possibilities for all"</i> (2015).	0	0	Minimal Government Thinkers	4	99	USA
American Feed Industry Association (AFIA)	Trade association working on behalf of the animal feed industry in the US. Climate Change is one issue on its legislative outlook.	<i>"The White House has prioritised what it once called "global warming" and now calls "climate change,"</i> (2015).	0	0	American Farm Bureau	3	99	USA

American Coalition for Clean Coal Electricity (ACCCE)	Advocacy organisation for several American coal companies. It promotes the use of coal as clean energy resource compared to other forms of extraction. It is connected to the Western Fuel Association. It has also lobbied on state policies through the CCCM organisation ALEC (http://www.energyandpolicy.org/american-coalition-clean-coal-electricity/).	<i>"...China emits more CO₂ in one month (more than 800 million tonnes) than the maximum amount EPA's proposal will reduce in one year (approximately 550 million tonnes)" (2015).</i>	0	0	Brulle	1	99	USA
Chemical Education Foundation	Foundation that has received funding from ExxonMobil. It supports several companies and individuals in industries that rely on science of chemistry. This includes ExxonMobil Chemical Company	-	0	0	Brulle	7	99	USA
Copenhagen Consensus Centre	Think tank founded by Bjorn Lomborg. It has a department dedicated to climate change. The organisation regularly produces papers on and hosts events relating to climate change.	<i>"Climate change is real and man-made. It will come as a big surprise that climate change from 1900 to 2025 has mostly been a net benefit, rising to increase welfare about 1.5% GDP per year" (2015).</i>	0	0	Copenhagen Institute	2	2004	USA
The Edmund Burke Institute	Think tank promoting the values of conservatism and liberty. It runs a separate magazine and online network of articles that reflect on various policy issues effecting the American public although this appears inactive since 2015.	<i>"We cannot clamp down on Western capitalist economies based on what might happen in crude theoretical models of global scale systems. On the contrary, the real, inexorable force of plate tectonics strains our economic development and challenges our very</i>	0	0	Independent Institute	2	99	USA

existence—day after day, with no end in sight” (2015).

Friends of Coal	Advocacy and volunteer organisation promoting the interests of the coal industry. They are concerned with any issues relating to the coal industry. They promote education programmes promoting the benefits of the industry for current and future generations.	<i>“These factors have led to both immediate and permanent long-term damage to the industry. Major factors affecting the industry include the following: Regulatory environment. Global and national concerns with climate change have led to policies that are discouraging the use of CO₂ emitting fuels, with coal being more carbon intensive than others” (2015).</i>	0	0	Brulle	1	2001	USA
David Horowitz Freedom Centre	Think tank formally the Centre for the Study of Popular Culture which works to promote the values of free societies, critical of leftist ideology. It runs a separate online shop FrontPage, as well as other online organisations including Truth Revolt which assesses the 'left agenda' within the media. The leader of the organisation David Horowitz is a climate sceptic, and the organisation often cite research by several climate sceptics.	<i>“The climate change alarmists should put up or shut up. In the meantime, all legislative, punitive taxation and/or privileged subsidy schemes and education curricula that are derived from fraudulent environmentalism and the assumption that only government can save us from ourselves and from fossil fuels, must be defeated or repealed” (2015).</i>	0	0	Students for Academic Freedom	2	99	USA
Indiana Oil and Gas Association (INOGA)	Trade association working on behalf of Indiana oil and gas producers.	<i>“The coverage mentions computer models are used for predicting future climate and weather conditions for the planet...However, it is clear not only that human activities play a major role in climate change but also that impacts of climate change—for example, increased frequency of severe storms due to ocean warming—have begun to</i>	0	0	Independent Petroleum Association	3	99	USA

Illinois Oil and Gas Association	Trade association with links with other CCCM organisations including Independent Petroleum Association of America (http://www.ioga.com/industry-links). It has promoted climate sceptic books including Terry W. Donze <i>Climate Realism</i> . (http://www.ioga.com/index.php?option=com_content&view=article&id=53:2015-fall-meeting-speakers&catid=20:2015-ioga-fall-meeting?).	<i>influence human activities. The prospect of future impacts of climate change due to further increases in atmospheric carbon is prompting consideration of how to avoid or restrict such increases." There is insufficient coverage that computer models fail to replicate what happens in the future when data for comparisons are available" (2015). "The threat of global warming has been promoted by both climate scientists and politicians alike for two age-old reasons: money and power. The media has been complicit in this agenda because alarmist headlines sell well. Is the planet really heating up? Yet the truth about motives and science will come out, as it always does. It is time to look at climate reality" (2015).</i>	0	0	Independent Petroleum Association	3	99	USA
International Republican Institute	Think tank connected to the US Republican party. It promotes the ideas of individual liberty, entrepreneurship and American values (http://www.iri.org/who-we-are), and has received funding from Koch industries.	<i>"Just before visiting Beijing in February on her first trip overseas, Clinton said that pressing China on human rights "can't interfere with the global economic crisis, the global climate change crisis and the security crisis." Then, while traveling in the Middle East in March, Clinton appeared to play down human rights issues in Egypt and Turkey that had been raised in recent State Department reports. Clinton later tried to repair the damage by declaring that "a mutual and collective commitment to human rights is [as] important to bettering our world</i>	0	0	Brulle	2	99	USA

as our efforts on security, global economics, energy, climate change and other pressing issues" (2009).

Landmark Legal Foundation	Non-profit law firm promoting conservatism and reducing the influence of "liberal extremism". Also related to the group Greenwash which was specifically set up to "examine which groups benefit from promoting global warming hype"	<i>"After learning that many of the nation's most extreme environmental groups have received billions of taxpayer dollars from the federal government, Landmark also initiated recent litigation against the EPA, the Forest Service, the Bureau of Land Management and the Fish and Wildlife Service aimed at exposing both the amount and misuse of federal grants by these organisations, including political advocacy and lobbying. The EPA has already produced a list of nearly 14,000 grants totalling more than \$2 billion made to non-profit organisations since 1993. Landmark has used the information produced through this litigation to create the most extensive database on environmental grants awarded by the government on the Internet" (2015).</i>	0	0	Frontiers of Freedom	8	99	USA
Californians Against Higher Taxes	Coalition of several trade associations. It focuses on several policy issues that affect high taxes and environmental regulations.	<i>"Politicians are trying to extend a MULTI-BILLION-DOLLAR TAX on energy" (2015).</i>	0	0	Western Fuels Association	3	99	USA

Institute for Regulatory Science	Think tank first identified by Greenpeace as a home to contrarian climate scientist working on a variety of scientific issues. It claims to be a forum for the creation of reports, independent peer reviews and scientific assessments.	-	0	0	Greenpeace	2	99	USA
Oklahoma Independent Petroleum Association	Trade association working on behalf of petroleum producers in the local community. It has a section dedicated to issues of the environment including climate change. It documents and praises the work of climate sceptic James Inhofe and the work of other US based CCCM organisations including Americans for Prosperity. Energy Citizens and the API.	<i>"Tide turning on climate change?"</i> (2009).	0	0	Domestic Energy Producers Alliance	3	2009	USA
Ohio Oil and Gas Association (OOGA)	Trade association working on behalf of members that work in the oil and gas industry. It advocates on several policy issues including climate and environmental policy.	<i>"The climate is inherently dangerous (and it is always changing, whether we influence the change or not)"</i> (2015).	0	0	Domestic Energy Producers Alliance	3	99	USA
American Sheep Industry Association	Trade association working on behalf of sheep industry actors in the US. It conducts research on various issues relating to the sheep industry including environmental issues. It maintains a position on climate change that resists climate change policy	<i>"The White House has prioritised what it once called "global warming" and now calls "climate change," In 2013, President Obama by executive order instructed all departments and major agencies to develop programs using their current authority to devise plans to minimise the impact of climate change on various industries and infrastructure components and to assist the general population in "adapting" to weather changes... The</i>	0	0	Polluter Watch	3	99	USA

overall effort has drawn the ire of coal-producing states” (2015).

Tech Central Station	Advocacy group connected to the Global Climate Coalition and received funding from ExxonMobil across several years. It cited the work of several climate sceptics including Kenneth Green, and the work of the CCCM SAS.	<i>“Yet politics is overtaking this scientific uncertainty” (2000).</i>	0	0	Greenpeace	1	2000	USA
Centre for Industrial Progress (CIP)	For profit think tank that promotes the investment and new industrial revolution. It has co-sponsored Heartland Institute’s International Conference on Climate Change. It was founded by climate sceptic Alex Epstein and promote the book “the moral case for fossil fuels.” They also cite the work of several climate sceptics including Judith Curry	<i>“For the last 40 years, so-called environmentalists have held back industrial progress around the world. That’s why we’re helping industry fight for its freedom, with new ideas, arguments, and policies that will improve our economy and our environment” (2012).</i>	1	0	Greenpeace	2	2012	USA
TS August	Defunct non-profit corporation that focused on environmental and energy policy issues. It has co-sponsored the Heartland Institute’s International Conference on Climate Change. The organisation had a section dedicated to climate change and publicised the work of climate sceptics including Bjorn Lomborg. It has reportedly been funded by ExxonMobil.	<i>“There are many reasons why we can believe that Global Warming is not a serious threat and that human activities are having a minimal impact. Three of the more discernible are, Inaccurate computer models that overstate temperature rise...Historic evidence in the 1900’s...The probable effect of solar radiation on global temperatures” (2003).</i>	.1	0	Heartland Institute	8	2003	USA

Power for the USA	Co-sponsored previous Heartland Institute's International Conference on Climate Change.	-	1	0	Heartland Institute	-	-	USA
State Policy Network (SPN)	Coalition of think tanks that promotes the values of individual liberty, economic freedom and global markets. It has been one of the key actors where CCCM organisations are likely to collaborate following the same values and principles. They have previously used the work of climate sceptics such as Marlo Lewis in discussions and comments on climate change (http://www.webcitation.org/6bZuMZwXI)	-	0	0	Greenpeace	4	99	USA
National Wilderness Institute	Defunct think tank that focused specifically on environmental research policy issues. It co-sponsored the Heartland Institute's International Conference on Climate Change. The organisation received funding from Exxon Mobil.	<i>"We are here to keep people like you informed about common sense ideas covering a variety of environmental issues including endangered species, land use rights and environmental regulations...We believe that an informed public can make the best decisions regarding environmental policies, and NWI strives to present our public officials, the media, educators and our supporters with the facts...Rather than unnecessarily scaring you by misrepresenting the facts about an issue, we try to appeal to your unique ability to think and reason and make up your own mind about what is right for our environment" (1989).</i>	1	0	Heartland Institute	2	1989	USA

National Policy Forum	Defunct think tank that had co-sponsored several of the Heartland Institutes International Conference on Climate Change. One of its leaders was climate contrarian Fred Singer, and it produced research on various issues including environmental policies.	-	1	0	Heartland Institute	2	-	USA
National Environmental Policy Institute	Defunct think tank that had co-sponsored several of the Heartland Institute's international conference on Climate Change and had received funding from ExxonMobil.	<i>"Climate science is evolving, and core elements of present understanding of climate change are continually being refined; - The potential risks of climate change are poorly understood, and estimates are heavily dependent upon assumptions that face many challenges; - Climate change policy has economic ramifications significant enough to threaten the national economy; ... The climate change policy process has become heavily politicised, creating a framework that makes exploration of policy options more difficult"</i> (1999).	1	0	Heartland Institute	2	1999	USA
Knowledge and Progress Fund	Foundation with connections to several other CCCM organisation in particular Koch industries and Donors trust (http://www.motherjones.com/politics/2013/02/donors-trust-donor-capital-fund-dark-money-koch-bradley-devos/).	-	1	0	Heartland Institute	7	-	USA
Liberty Foundation for America	Foundation promoting the limited power of government and empower governors and state legislatures to impact forms of	-	1	0	Heartland Institute	7	-	USA

	federalism under the US government. It has co-sponsored the Heartland Institutes International Conference on Climate Change							
Independent Commission on Environmental Education (ICEE)	Defunct group of a collaboration between the George C Marshall Institute and the Environmental Literacy Council. According to Greenpeace there were several climate sceptics including Robert Balling and Patrick Michaels in the group that reviewed educational and teaching materials on environmental issues.	<i>"We found some excellent resources, factual, exciting, and challenging at all grade levels. We also found many, however, that simply ignored or misstated the most important and interesting scientific questions at the heart of an education about the environment"</i> (1997).	0	0	George C Marshall Institute	2	1997	USA
Coalition for Vehicle Choice	Defunct coalition and alliance of several automobile manufacturers and consumers. They had an entire section dedicated to the issue of global warming and climate change policy They cited several other CCCM organisations for further information and support about the science and policy of climate change.	<i>"The UN climate treaty will hurt American motorists and consumers"</i> (1999).	0	0	Greenpeace	4	1999	USA
Association of Global Automobile Manufacturers	Trade Association representing domestic and international car manufacturers. While it was previously associated with the CCCM, more recently it appears to now support proactive policies on environmental issues emerging from car manufacturer (see https://www.globalautomakers.org/about). It has previously co-sponsored a	-	1	0	Heartland Institute	3	-	USA

	Heartland Institute's International Conference on Climate Change.							
Defenders of Property Rights	Defunct coalition of actors promoting action to prevent and reduce environmental regulations by the US government. It was originally connected to the tobacco lobby, receiving money from the tobacco company Phillip Morris.	-	0	0	Greenpeace	4	1991	USA
National Council for Environmental Balance	Greenpeace reports state that this organisation is a small advocacy group that publishes "wise use" books and newsletters. Such books include <i>Rational Readings</i> by climate contrarian Jay Lehr.	-	0	0	Greenpeace	99	-	USA
Consumer Alliance for Global Prosperity (CAGP)	Defunct advocacy organisation promoting the value of free trade, individual responsibility and property rights. It was originally identified by Greenpeace	<i>"All too often in discussions about economic and geopolitical policy today, the voices and interests of consumers are ignored or left behind. Powerful business, ideological and bureaucratic interests advance their agendas at the expense of individual consumers"</i> (2010).	0	0	Greenpeace	1	2010	USA
Cooler Heads Coalition (CHC)	Coalition organisation and product of the defunct group Consumer Alert Inc. It is headed by several contrarian scientists, and there are 33 organisations across different countries involved in the group.	<i>"Globalwarming.org is the blog of the Cooler Heads Coalition, an ad hoc coalition of more than two dozen free market and conservative non-profit groups in the US and abroad that question global warming alarmism and oppose energy-rationing policies"</i> (2015).	-	1	-	4		USA

Consumer Alert Inc.	Defunct advocacy organisation that developed the organisation Cooler Heads Coalition to promote contrarian positions on climate change and other environmental issues.	<i>"... In fact, many laws have already been passed and consumers are already paying higher prices for goods and services as a result of these environmental alarms. Consumer Alert for years has been saying that science, instead of emotional fears, should dictate environmental policies"</i> (1990).	0	0	Greenpeace	1	1990	USA
Free Enterprise Action Fund	Defunct organisation set up to find various contrarian based research and advocacy by climate sceptic Steven Milloy and co-founder. It had previously co-sponsored one of the Heartland Institutes International Conference on Climate Change	<i>"Global warming alarmism, we believe, will increase energy costs and damage economic development around the world and we frankly don't see how GE plans to make money in developing countries if their access to energy is impaired"</i> (2005).	1	0	Heartland Institute	1	2005	USA)
Centre for the dissemination of economic information (CEDICE)	Free market Venezuelan think tank promoting the values of individual freedom, limited government and property rights. It was a member of the CSCCC. Work driven by climate contrarian scientists feature on its websites influencing the type of messaging it puts out on climate change.	<i>"Avoid costly environmental regulatory mandates that will achieve little environmental gain...past experience...shows that mandates can be expensive and economically harmful while making only marginal progress toward environmental goals"</i> (2007).	0	0	Independent Institute	2	2007	Venezuela

Table A.3. Organisations And Neutralisation Techniques

<i>Organisations</i>	<i>DOR Time 1</i>	<i>DOI1 Time 1</i>	<i>DOI2 Time 2</i>	<i>DOV 1 Time 1</i>	<i>COC Time 1</i>	<i>AHL Time 1</i>	<i>DOR Time 2</i>	<i>DOI1 Time 2</i>	<i>DOI2 Time 2</i>	<i>DOV 1 Time 2</i>	<i>COC Time 2</i>	<i>AHL Time 2</i>	<i>Other Time 2</i>
Instituti Liberal Shqiptar	99	99	99	99	99	99	0	0	0	0	0	0	0
Fundacion Atlas	0	0	0	0	0	0	0	0	0	0	1	0	0
Centro de Investifaciones de Instituciones y Mercados de Argentina	0	1	0	1	0	1	0	1	0	0	1	1	0
Instituto Acton (Argentina)	0	0	0	0	1	0	0	0	0	0	1	0	0
Fundacion Bases	0	0	0	0	1	0	0	0	0	0	1	0	0
Libertad Progress (Argentina)	0	0	0	0	1	1	0	0	0	0	0	1	0
Bert Kelly Research Centre	0	0	0	0	0	0	0	0	0	0	1	0	0
Australian Privacy Foundation	0	1	0	0	0	0	0	0	0	0	1	0	0
Australian Taxpayers Alliance	0	0	0	0	1	1	99	99	99	99	99	99	99
Centre for Independent Studies	0	0	1	0	1	1	1	0	1	0	1	0	1
The H.R. Nicholls Society	1	0	0	0	1	1	0	0	0	0	1	0	0
The Galileo Movement	1	0	1	0	1	1	0	0	0	0	1	1	0
Lavoisier Group	1	0	0	0	1	1	0	0	0	0	0	1	0
Carbon Sense Coalition	0	1	1	0	1	1	0	1	1	0	0	1	0
Mannkal Economic Education Foundation	1	1	1	0	1	1	1	1	1	0	1	0	0
Australian Environmental Foundation	0	0	0	1	1	1	1	0	0	0	1	1	0
Institute for Public Affairs	0	0	0	0	1	1	0	0	0	0	0	1	0
Australian Libertarian Society	0	0	0	0	1	0	0	0	0	0	1	1	0
Hayek Institute	0	0	0	0	1	0	0	0	0	0	1	0	0
Austrian Economics Centre	0	0	0	0	1	1	1	1	0	0	1	1	0
The Nassau Institute	0	0	0	0	1	1	0	1	0	0	1	0	0
European Enterprise Institute	0	0	0	0	0	1	0	0	0	0	0	1	1
Instituti Economique Molinari	0	0	0	0	0	1	0	0	0	0	1	0	0
European Centre for International Political Economy	0	0	0	0	1	1	0	0	0	0	0	0	1
Thomas More Institute (France)	0	0	0	0	1	0	1	0	0	0	0	0	0
LIBERA	99	99	99	99	99	99	99	99	99	99	99	99	99
Scientific Research Mises Centre	0	1	1	0	1	1	0	0	0	0	1	0	0
Instituto Liberdade	0	1	0	0	0	1	0	1	0	0	1	0	0
Fake Climate.com	1	0	0	0	1	0	1	0	0	0	1	1	0

The Plinio Correa De Oliveira Institute	0	0	0	0	1	0	0	0	0	0	1	0	0
Instituto Ordem Livre	0	0	1	0	1	1	0	0	0	0	1	0	0
Instituto Millenium	0	0	0	0	1	1	0	0	0	0	0	0	0
Liberty Institute	99	99	99	99	99	99	99	99	99	99	99	99	99
Institute for Market Economics	1	0	0	0	1	0	0	0	1	0	1	1	0
Centre for Human Affairs	99	99	99	99	99	99	99	99	99	99	99	99	99
Foundation for Habitat Conservation	0	1	0	0	0	0	99	99	99	99	99	99	99
Frontier Centre for Public Policy	1	0	0	1	0	0	0	0	0	0	1	0	0
C.D Howe Institute	0	0	0	0	0	1	0	0	0	0	0	1	0
Macdonald Laurier Institute	0	0	0	0	0	1	0	1	0	1	0	0	0
Friends of Science	1	1	0	0	0	1	1	0	0	0	1	0	0
Coal Association of Canada	0	1	0	0	0	1	0	0	0	0	0	1	0
Ontario Petroleum Institute	0	0	0	0	0	0	1	0	0	0	0	0	0
Manning Centre	0	0	0	0	1	0	0	0	0	0	1	1	0
Fraser Institute	0	1	0	0	1	0	1	0	0	0	1	0	0
Environment Probe International	0	0	0	0	1	1	1	0	0	0	0	0	0
Atlantic Institute for Market Studies	0	0	0	0	1	1	1	1	0	0	0	0	0
Montreal Economic Institute	1	0	0	0	1	1	1	0	0	0	1	0	0
Natural Resources Stewardship Project	0	1	0	0	1	1	0	1	0	0	1	1	0
Canadian Taxpayers Federation	0	1	0	0	1	1	0	0	0	0	1	0	0
Ludwig Von Mises Institute Canada	1	0	0	0	1	0	1	0	1	0	1	0	0
Institute for Competitiveness and Prosperity	99	99	99	99	99	99	0	0	0	0	1	1	0
Democracy and Market Institute	99	99	99	99	99	99	99	99	99	99	99	99	99
Instituto Libertad y Desarrollo (Chile)	99	99	99	99	99	99	0	0	0	0	0	0	0
Universidad Francisco Marroquin	1	0	0	0	0	0	0	0	0	0	1	0	0
Cathay Institute for Public Affairs	0	0	0	1	1	1	1	0	1	0	1	0	0
IPENCIL Economic Research Institute	1	1	0	0	1	1	1	1	0	0	1	0	0
China Centre for Economic Research	99	99	99	99	99	99	99	99	99	99	99	99	99
Institute for Liberty and Public Policy Analysis	99	99	99	99	99	99	99	99	99	99	99	99	99
Association for Free Consumer	0	0	0	0	1	0	0	0	0	0	1	0	0
CEVRO: Liberal Conservative Academy	0	0	0	0	0	1	0	1	0	0	1	1	0
Prague Security Studies Institute	0	0	0	0	0	0	0	1	0	0	0	1	0
Civic Institute	1	0	1	0	1	1	1	0	1	0	1	1	0
Environmental Assessment Institute	0	0	0	0	0	1	0	0	0	0	0	0	0
Centre for Political Studies	0	1	0	0	1	1	0	0	0	0	1	1	0
The Copenhagen Institute	99	99	99	99	99	99	99	99	99	99	99	99	99

Ecuadorian Institute of Political Economy	99	99	99	99	99	99	1	0	0	0	1	0	0
Timbro	0	0	0	0	0	1	0	0	0	0	1	0	0
Institut Turgot	0	1	1	1	0	1	0	0	0	0	1	0	0
Institut Coppet	0	0	0	0	1	1	1	1	1	0	1	1	1
Institute for Research in Economic and Fiscal Issues	0	0	0	0	1	1	0	0	0	0	1	0	0
Institut Euro 92	0	0	0	0	1	1	0	0	0	0	1	1	0
Institute for Economic Studies	1	0	0	1	1	1	0	1	0	0	1	0	0
Contribuales Association	0	0	0	0	1	0	0	0	0	0	1	0	0
Libres.org	0	1	0	0	1	0	1	0	0	0	1	0	0
International Centre for Research on Environmental issues	99	99	99	99	99	99	0	0	0	0	0	0	0
Die Familien Unternehmer	0	0	0	0	0	1	0	0	0	0	0	1	0
Institute for Free Enterprise	1	0	0	0	0	1	1	0	0	0	1	0	0
Committee for a Constructive Tomorrow (European Branch)	0	0	0	0	1	1	0	0	0	0	1	0	0
The Friedrich Naumann Foundation	0	0	0	0	1	1	0	0	0	0	1	1	0
European Institute for Climate and Energy	1	0	0	0	1	1	1	0	0	0	1	1	0
New Economics School Georgia	99	99	99	99	99	99	99	99	99	99	99	99	99
Imani Centre for Policy and Education	1	0	0	0	1	1	0	0	0	0	0	0	0
Centre for Economic and Social Studies	1	0	0	0	1	1	0	0	0	0	1	0	0
Centro De Investigaciones Economicas Nacionales	1	1	0	0	1	1	1	1	0	0	1	1	0
Lion Rock Institute	0	0	1	0	1	1	1	0	0	0	1	0	0
Centre for Civil Society	0	0	0	0	0	1	0	0	0	0	0	0	0
Liberty Institute	0	0	0	0	1	1	0	0	0	0	0	0	0
Jerusalem Institute for Market Studies	0	0	0	0	1	1	1	1	0	0	1	1	0
Fondazione Repubblica Italy	99	99	99	99	99	99	99	99	99	99	99	99	99
Federazione Ambient Agriculture	99	99	99	99	99	99	99	99	99	99	99	99	99
Fondazione Magna Carta	0	0	0	0	1	1	0	0	1	0	1	1	0
Bruno Leoni Institute	0	1	0	0	1	1	1	0	0	0	1	0	0
Lithuanian Free Market Institute	99	99	99	99	99	99	0	0	0	0	1	1	0
Institute for Democracy and Economic Affairs	1	0	0	0	1	1	0	0	0	0	1	1	0
Malaysia Think Tank	99	99	99	99	99	99	99	99	99	99	99	99	99
Red Liberal de American Latina	0	1	0	0	0	1	99	99	99	99	99	99	99
Caminos de la liberated	99	99	99	99	99	99	0	0	0	0	1	1	0
Planck Foundation	1	1	1	0	0	0	1	0	1	0	1	1	0
New Zealand Initiative	0	1	0	0	1	1	0	0	0	0	1	0	1

Climate Realists (New Zealand)	1	1	0	0	1	0	1	0	0	0	1	1	0
New Zealand Centre for Political Research	0	1	1	0	1	0	1	1	0	0	1	0	0
African Centre for Advocacy and Human Development Initiative of Public Policy Analysis	99	99	99	99	99	99	99	99	99	99	99	99	99
The Centre for Ethics and Technological Development	0	0	0	0	0	0	0	0	0	0	1	1	0
Centre for Business and Society Incorporated	99	99	99	99	99	99	99	99	99	99	99	99	99
Alternative Solutions Institute	0	0	0	0	1	0	1	0	0	0	1	0	0
Paraguayan Centre for the Promotion of Economic and Social Justice	99	99	99	99	99	99	99	99	99	99	99	99	99
Instituto Libertad y Democracia (Peru)	0	0	0	0	0	1	0	0	0	0	0	1	1
Andes Libres	0	0	0	0	1	1	0	1	1	0	1	0	0
Instituto De Libre Empresa	0	1	0	0	1	1	1	1	0	0	0	0	0
The Inter-American Institute	0	0	0	0	1	0	0	0	0	0	1	0	0
The Institute for the Study of Humane Action	99	99	99	99	99	99	99	99	99	99	99	99	99
Minimal Government Thinkers	0	0	0	0	1	1	1	1	1	0	1	0	0
Instytut Globalizacji	0	0	0	0	0	1	1	0	0	0	1	1	0
Romanian Centre for European Policies	0	0	0	0	0	1	0	0	0	0	0	1	0
Institute for Economic Analysis	1	1	0	1	0	1	1	1	1	1	1	1	0
M.R Stefanik Conservative Institute	1	0	1	0	1	1	0	0	0	0	1	0	0
Institute of Economic and Social Studies	1	0	0	0	1	0	0	0	0	0	1	0	0
Africa Fighting Malaria	0	0	0	0	1	1	1	1	0	0	0	1	0
Free Market Foundation	1	0	0	0	1	1	1	1	0	0	0	0	0
Centre for Free Enterprise	99	99	99	99	99	99	0	0	0	0	0	1	0
Strategic Studies Group	0	0	0	0	0	1	1	0	0	0	0	0	0
Juan de Mariana Institute	0	1	0	0	1	1	0	0	0	0	1	0	0
Traditional Values Coalition	0	0	0	1	1	0	1	0	0	0	1	0	0
Liberals Institut	99	99	99	99	99	99	0	0	0	0	1	1	0
Institut Constant de Rebecque	99	99	99	99	99	99	0	0	0	0	0	1	0
Economic Freedom Network Asia	99	99	99	99	99	99	1	0	0	0	0	1	0
Association of Liberal Thinking	99	99	99	99	99	99	1	1	1	0	1	1	0
Open Europe	0	0	0	0	0	1	0	0	0	0	0	0	0
Taxpayers Alliance UK	0	1	0	0	0	1	0	0	0	0	0	1	0
Sense about Science UK	0	0	0	0	0	0	0	1	0	0	0	0	0
Centre for Policy Studies	1	1	0	0	1	1	1	1		0	1	1	1
Adam Smith Institute	0	0	0	0	1	1	0	0	0	0	1	1	0
Institute for the Study of Civil Society	0	0	0	0	1	1	0	0	0	0	1	1	0

The Social Affairs Unit	0	0	0	0	1	1	1	0	1	0	0	0	0
Clexit	1	1	1	0	1	1	1	1	1	0	1	1	0
Libre Afrique	0	1	0	0	1	1	0	0	0	0	1	0	0
Freedom to Trade Campaign	0	0	0	0	1	0	0	0	0	0	1	0	0
Institute for Economic Affairs	0	0	0	0	1	0	0	0	0	0	0	1	0
The Rutherford Institute	0	0	0	0	1	0	0	0	0	0	1	0	0
Global Warming Policy Foundation	0	0	0	0	1	0	0	1	0	0	1	1	0
The Statistical Assessments Service	1	0	0	0	1	0	0	0	0	0	1	0	0
Network for a Free Society	99	99	99	99	99	99	0	0	0	0	0	0	0
Centre for Human Development	99	99	99	99	99	99	99	99	99	99	99	99	99
Michigan Agri-business Association	0	0	0	0	0	1	99	99	99	99	99	99	99
Independent Petroleum Association of America	0	0	0	0	0	1	99	99	99	99	99	99	99
Rocky Mountain Agri-Business	0	0	0	0	0	1	99	99	99	99	99	99	99
Small Business Survival Committee	0	0	0	0	0	1	99	99	99	99	99	99	99
Maine Heritage Policy Centre	99	99	99	99	99	99	99	99	99	99	99	99	99
National Taxpayers Union Foundation	0	1	0	0	0	1	99	99	99	99	99	99	99
Atlantic Legal Foundation	0	0	0	0	0	0	99	99	99	99	99	99	99
Goldwater Institute	1	0	1	0	0	0	99	99	99	99	99	99	99
Institute for the Study of Earth and Man	0	0	0	0	0	0	99	99	99	99	99	99	99
Centre for Consumer Freedom	0	0	0	0	0	0	99	99	99	99	99	99	99
Alabama Forest Owners Association	0	0	1	0	0	0	99	99	99	99	99	99	99
American Gas Association	0	0	0	0	0	0	99	99	99	99	99	99	99
Council for Agricultural Science and Technology	0	0	1	0	0	0	99	99	99	99	99	99	99
Discovery Institute	0	0	0	0	1	0	99	99	99	99	99	99	99
American Recreation Coalition	99	99	99	99	99	99	99	99	99	99	99	99	99
World Energy Council	0	0	0	0	0	1	0	0	0	0	0	0	1
Allegheny Institute of Public Policy	0	0	0	0	0	1	0	0	0	0	1	1	1
Citizens for Affordable Energy	0	0	0	0	0	0	0	0	0	0	0	0	1
Centre for Strategic and International studies	0	0	0	0	0	0	0	0	0	0	0	0	1
Foundation for Defence of Democracies	0	0	0	0	0	0	0	1	0	0	1	0	1
Global Climate Coalition	0	0	0	0	0	1	0	0	0	0	1	1	1
American Natural Gas Alliance	0	0	0	0	0	1	0	0	0	0	1	1	0
Capitol Resource Institute	0	0	0	0	0	1	0	0	1	1	1	0	0
Consumer Energy Alliance	0	0	0	0	0	1	0	0	0	0	0	0	0
Uni-rule Institute of Economics	0	0	0	0	0	1	0	0	0	0	0	0	0
Lindenwood University	0	0	0	0	0	1	0	1	0	0	1	1	0

Property and Environment Research Centre	0	0	0	0	0	1	0	0	0	0	0	1	0
Fed up at the Pump	0	0	0	0	0	1	0	0	0	0	0	1	0
Institute for Energy Research	0	0	0	0	0	1	0	0	1	0	0	1	0
Pennsylvania Landowners Association	0	0	0	0	0	1	1	0	0	0	1	0	0
Tax Foundation	0	0	0	0	0	1	0	0	0	0	0	0	0
American Enterprise Institute	0	0	0	0	0	1	1	0	0	0	1	0	0
Pennsylvania Coal Alliance	0	0	0	0	0	1	0	0	0	0	1	1	0
California Association of Business and Property and Resource Owners	0	0	0	0	0	1	0	0	0	0	1	0	0
Collegians for a Constructive Tomorrow	0	0	0	0	0	1	1	0	0	0	0	0	0
Commonwealth Foundation	0	0	0	0	0	1	0	0	0	0	1	0	0
Edison Electric Institute	0	0	0	0	0	1	0	0	0	0	0	0	0
Institute for 21st Century Energy	0	0	0	0	0	1	0	0	0	0	0	1	0
American Farm Bureau	0	0	0	0	0	1	1	0	0	0	0	1	0
Family Research Council	0	0	0	0	0	1	0	0	0	0	1	0	0
American Land Rights Association	0	0	0	0	0	1	0	0	0	0	1	0	0
National Centre for Public Policy Research	1	0	0	0	0	1	0	1	0	0	1	0	0
National Coal Council	0	0	0	0	0	1	0	0	0	0	0	1	0
Pacific Research Institute	0	0	0	0	0	1	1	0	0	0	1	0	0
The California Drivers Alliance	0	1	0	0	0	1	0	0	0	0	1	0	0
Free to Choose Network	0	1	0	0	0	1	0	1	0	0	0	1	0
Americas Future Foundation	0	1	0	0	0	1	0	1	0	0	1	1	0
National Association of Home Builders	0	1	0	0	0	1	0	1	0	0	1	1	0
National Association of Regulatory Utility Commissioners	0	1	0	0	0	1	0	0	0	0	0	0	0
Chamber of Commerce of the United States of America	0	1	0	0	0	1	0	0	0	0	0	1	0
Rightchange.com	0	1	0	0	0	1	0	0	0	0	1	1	0
American Coal Council	0	1	0	0	0	1	1	0	0	0	0	1	0
Agricultural Retailers Association	0	1	0	0	0	1	0	0	0	0	1	1	0
National Petroleum Council	0	1	0	0	0	1	0	0	0	0	0	0	0
International Organisation of Motor Vehicle Manufacturers	0	1	0	0	0	1	0	0	0	0	0	0	0
Pulp and Paper-workers Resource Council	0	1	0	0	0	1	0	0	0	0	1	0	0
American Legislative Exchange Council	1	0	0	1	0	1	0	0	0	0	1	1	0
Louisiana Oil and Gas Association	0	0	0	1	0	1	1	0	0	0	1	0	0

Industrial Energy Consumers of America	0	0	0	0	0	0	0	0	0	0	0	0	0
Interstate National Gas Association	0	0	0	0	0	0	0	0	0	0	0	0	0
World Affairs Council of America	0	0	0	0	0	0	0	0	0	0	0	0	0
Alliance for Energy and Economic Growth	0	0	0	0	0	0	0	0	0	0	0	0	0
ICEAGENOW	1	0	0	0	0	0	1	0	0	0	0	0	0
Lignite Energy Council	1	0	0	0	0	0	0	0	0	0	0	0	0
National Stripper Well Association	0	0	0	0	0	0	0	0	0	0	1	1	0
Smithsonian Astrophysical Observatory	1	0	0	0	0	0	0	1	0	0	0	1	0
Charles Koch Institute	0	0	0	0	0	0	0	0	0	0	0	0	0
Harvard Centre for Risk Analysis	99	99	99	99	99	99	99	99	99	99	99	99	99
Pioneer Institute	0	0	0	0	0	0	1	0	0	0	0	0	0
Show-me Institute	1	0	0	0	0	0	0	0	0	0	0	0	0
Alaska Forest Association	0	0	0	0	0	0	0	0	0	0	1	0	0
American Exploration Production Council	0	0	0	0	0	0	0	0	0	0	0	0	0
Centre for Competitive Politics	0	0	0	0	0	0	0	0	0	0	1	0	0
Junkscience.com	1	0	0	0	0	0	0	0	0	0	1	0	0
American Gas Foundation	0	0	0	0	0	0	0	0	0	0	0	0	0
Global Carbon Project	0	0	0	0	0	0	0	0	0	0	0	0	0
US Grains Council	1	0	0	0	0	0	0	0	0	0	0	0	0
Leadership Institute	0	0	0	0	0	0	0	0	0	0	1	0	0
National Corn Growers Association	0	0	0	0	0	0	0	0	0	0	0	1	0
Natural Gas Supply Association	0	0	0	0	0	0	0	0	0	0	0	0	0
National Gas Supply Association	0	0	0	0	0	0	0	0	0	0	0	1	0
South-eastern Legal Foundation	1	0	0	0	0	0	1	0	0	0	1	0	0
World Coal Association	0	0	0	0	0	0	0	0	0	0	0	1	0
energytomorrow.org	0	1	0	0	0	0	0	1	0	0	0	0	0
The Intercollegiate Studies Institute	0	1	0	0	0	0	1	0	0	0	0	0	0
National Policy Institute	0	0	0	0	1	0	0	0	0	0	1	0	0
National Rural Electric Cooperative Association	0	1	0	0	0	0	0	0	0	0	0	1	0
Sense About Science USA	0	0	0	1	0	0	1	1	0	0	0	0	0
Centre for Urban Renewal and Education	0	0	0	1	0	0	0	0	0	0	1	0	0
Property Rights Alliance	0	0	0	0	0	1	0	0	0	0	0	1	0
American Petroleum Institute	0	1	0	0	0	1	1	0	0	0	0	0	0
Colderside.com	1	0	0	0	0	0	1	1	0	0	0	0	0
Blue Ribbon Coalition	0	0	0	0	1	1	99	99	99	99	99	99	99
Federation for American Coal, Energy and Security	0	0	0	0	1	1	99	99	99	99	99	99	99

Institute for Liberty	0	0	0	0	1	1	99	99	99	99	99	99	99
American Friends of the Institute of Economic Affairs	0	0	0	0	1	0	99	99	99	99	99	99	99
National Consumer Coalition	0	0	0	0	1	0	99	99	99	99	99	99	99
US Chamber of Commerce Foundation	0	0	0	0	1	0	99	99	99	99	99	99	99
American Association of Petroleum Geologists	0	0	0	0	1	0	99	99	99	99	99	99	99
Media Institute	0	0	0	0	1	0	99	99	99	99	99	99	99
Centre for the Defence of Free Enterprise	0	1	0	0	1	0	99	99	99	99	99	99	99
West Virginia Coal Association	1	1	0	1	1	0	99	99	99	99	99	99	99
Institute on Religion and Public Life	0	0	0	0	1	1	0	0	0	0	1	1	1
The Environmental Conservation Organisation	0	0	0	0	1	1	1	1	1	0	1	1	1
Consumer Alert Inc	1	0	1	0	1	1	1	0	1	0	1	1	1
Property Rights Research	0	0	0	0	1	1	1	0	0	0	1	0	1
Competitive Enterprise Institute	1	0	1	0	1	1	1	0	1	0	1	1	1
Citizens Against Government Waste	0	0	0	0	1	1	1	0	0	0	1	1	1
Civil Society of Coalition on Climate Change	0	0	1	0	1	1	0	0	1	0	1	1	1
National Association of Manufacturers	0	0	0	0	1	1	0	0	0	0	0	1	1
Progress and Freedom Foundation	0	0	0	0	1	1	0	0	0	0	0	0	1
Mackinac Centre for Public Policy	0	1	1	1	1	1	1	0	0	0	1	0	1
Western States Petroleum Association	0	0	0	0	1	1	1	0	0	0	0	0	1
Northern Virginia Chapter of SEEE	1	1	1	0	1	1	1	1	1	0	1	1	1
Advancement of Sound Science	0	0	0	0	1	1	0	0	0	0	1	1	0
American Council for Capital Formation	0	0	0	0	1	1	0	1	0	0	0	1	0
American Energy Alliance	0	0	0	0	1	1	0	1	0	0	1	0	0
CO ₂ Coalition	0	0	1	0	1	1	0	0	1	0	1	1	0
American Conservative Union	1	0	0	0	1	1	0	0	0	0	0	0	0
Eagle Forum	0	0	0	0	1	1	1	0	1	0	1	0	0
Freedom Foundation of Minnesota	0	0	0	0	1	1	0	0	0	0	1	0	0
Resource Development Council	0	0	0	0	1	1	0	0	0	0	1	1	0
Federalist Society	0	0	0	0	1	1	0	0	0	0	1	0	0
Capital Research Centre	0	0	0	0	1	1	0	1	0	0	1	0	0
Environmental Literacy Council	0	0	0	0	1	1	1	0	0	0	0	0	0
American Society of Mechanical Engineers	0	0	0	0	1	1	0	0	0	0	0	0	0
Cato Institute	1	0	0	0	1	1	0	0	0	0	1	0	0
The Conservative Caucus Inc	1	0	0	0	1	1	0	0	0	0	1	0	0
Frontiers of Freedom	0	0	1	0	1	1	0	1	1	0	1	0	0
Independent Petroleum Association of New Mexico	1	0	0	0	1	1	0	0	0	0	0	0	0

Science and Public Policy Institute	0	0	0	0	1	1	0	0	0	0	1	1	0
Americans for Tax Reform	0	0	1	0	1	1	0	0	0	0	1	1	0
Beacon Hill Institute	0	0	0	0	1	1	0	0	0	0	1	1	0
Committee for a Constructive Tomorrow (USA Branch)	0	0	0	0	1	1	0	0	0	0	1	0	0
Council for National Policy	0	0	0	0	1	1	0	0	0	0	0	0	0
Citizen Outreach	0	0	0	0	1	1	0	0	0	0	0	0	0
The New Zealand Climate Science Coalition	0	0	0	0	1	1	0	0	0	0	1	0	0
Doctors for Disaster Preparedness	0	0	0	0	1	1	0	1	1	0	1	0	0
American Energy Freedom Centre	0	0	0	0	1	1	1	0	0	0	1	0	0
Independent Institute	0	0	0	0	1	1	0	0	0	0	1	1	0
Institute for Policy Innovation	0	0	0	0	1	1	0	1	0	0	1	0	0
Independent Women's Forum	0	0	0	0	1	1	1	0	0	0	1	0	0
Kansas Independent Oil and Gas Association	0	0	0	0	1	1	1	0	0	0	1	0	0
Kriebler Foundation	0	0	0	0	1	1	0	0	0	0	1	0	0
Maine Woods Coalition	0	0	0	0	1	1	1	1	0	0	1	0	0
National Black Chamber of Commerce	0	0	0	0	1	1	0	1	0	0	1	0	0
Environment and Enterprise Institute	0	0	0	0	1	1	0	0	0	0	1	1	0
National Taxpayers Union Foundation	0	0	0	0	1	1	1	0	0	0	1	0	0
Oregon Institute on Science and Medicine	1	0	1	0	1	1	1	0	1	0	1	1	0
Resources for the Future	0	0	0	0	1	1	0	0	0	0	0	0	0
Seniors Coalition	0	0	0	0	1	1	0	0	0	0	0	0	0
Thomas Jefferson Institute	0	0	0	0	1	1	0	0	0	0	1	1	0
United for Jobs 2004	0	0	0	0	1	1	0	0	0	0	0	0	0
Virginia Public Policy Institute	1	0	1	0	1	1	0	1	1	0	1	0	0
Atlas Society	0	1	0	0	1	1	0	0	1	0	1	1	0
Concerned Women of America	0	1	0	0	1	1	0	0	0	0	1	0	0
Ethan Allen Institute	0	1	1	0	1	1	0	0	0	0	1	0	0
Americans for a Limited Government	0	1	1	0	1	1	1	0	0	0	1	1	0
Clare Booth Luce Policy Institute	0	1	0	0	1	1	1	1	0	0	0	1	0
Foundation for Economic Education	0	1	0	0	1	1	0	0	1	1	1	1	0
Heartland Institute	1	1	0	0	1	1	0	1	0	0	1	1	0
Kansas Policy Institute	0	1	0	0	1	1	0	1	0	0	1	0	0
Colorado Mining Association	0	1	0	0	1	1	0	0	0	0	0	0	0
Lincoln Institution of Public Opinion Research	1	1	0	0	1	1	0	0	0	0	1	0	0
American Council on Science and Health.	0	1	0	0	1	1	0	1	0	0	0	0	0
Annapolis Centre for Science	0	1	0	0	1	1	0	1	0	0	1	1	0

Congress of Racial Equality	0	1	0	0	1	1	0	0	0	0	1	1	0
Foundation for Teaching Economics	0	1	0	0	1	1	0	0	0	0	0	0	0
Greening Earth Society	0	1	1	0	1	1	1	0	1	0	1	0	0
The Heritage Foundation	1	1	1	0	1	1	0	0	0	0	1	0	0
Physicians for Civil Defence	1	1	1	0	1	1	1	0	0	1	1	1	0
Citizens Alliance for a Responsible Energy	1	1	1	0	1	1	1	1	1	0	1	1	0
The Scientific Alliance	1	1	0	0	1	1	0	1	0	0	0	0	0
Weidenbaum Centre on the Economy, Government and Public Policy	1	0	1	1	1	1	0	1	1	0	0	1	0
John Locke Foundation	1	0	1	1	1	1	1	0	0	0	1	0	0
George C Marshall Institute	1	0	0	1	1	1	0	1	0	0	1	0	0
Centre for Security Policy	0	0	0	1	1	1	1	0	0	0	1	1	0
CO ₂ Science	1	0	0	1	1	1	1	0	0	1	1	1	0
Georgia Public Policy Foundation	0	0	0	1	1	1	0	0	0	0	1	0	0
Hudson Institute	1	0	0	1	1	1	1	1	0	0	1	1	0
National Centre for Policy Analysis	1	0	1	1	1	1	0	1	1	0	0	1	0
National Mining Association	1	0	1	1	1	1	0	1	0	0	1	1	0
Science and Environmental Policy Project	0	0	0	1	1	1	1	0	0	0	1	0	0
American Policy Centre	1	1	1	1	1	1	0	0	0	0	1	0	0
American Policy Roundtable	0	1	1	1	1	1	1	1	1	0	1	1	0
National Legal and Policy Centre	0	1	0	1	1	1	0	1	0	0	1	0	0
Freedom Works Foundation	0	1	0	1	1	1	0	0	0	0	1	1	0
Grassroots Institute of Hawaii	0	0	0	0	1	0	1	0	0	0	1	0	0
American Dream Coalition	0	0	0	0	1	0	0	0	0	0	1	1	0
Centre for Military Readiness	0	0	0	0	1	0	0	0	0	0	0	0	0
Domestic Energy Producers Alliance	0	0	0	0	1	0	0	0	0	0	1	1	0
E&E Legal	1	0	0	0	1	0	0	0	0	0	0	1	0
Energy Citizens	0	0	0	0	1	0	0	0	0	0	0	1	0
Americans for Competitive Enterprise	1	0	0	0	1	0	0	0	0	0	1	0	0
Locke-Smith Institute	0	0	0	0	1	0	0	0	0	0	1	0	0
Ludwig Von Mises Institute	1	0	0	0	1	0	1	0	0	0	1	0	0
Accuracy in Academia	0	0	0	0	1	0	0	0	1	0	1	0	0
Ayn Rand Institute	0	0	0	0	1	0	0	1	1	0	1	1	0
Independence Institute	0	0	0	0	1	0	1	0	0	0	0	1	0
Illinois Policy Institute	0	0	0	0	1	0	0	0	0	0	1	0	0
Mountain States Legal Foundation	0	0	0	0	1	0	1	0	0	0	1	1	0

Foundation for Individual Rights in Education	0	0	0	0	1	0	0	0	0	0	1	1	0
Illinois Mining Institute	0	0	0	0	1	0	0	0	0	0	1	0	0
Lexington Institute	0	0	0	0	1	0	0	0	0	0	0	1	0
Illinois Coal Association	99	99	99	99	99	99	99	99	99	99	99	99	99
Manhattan Libertarian Party	0	0	0	0	1	0	0	0	0	0	1	0	0
Property Rights Foundation of America	1	0	0	0	1	0	0	0	1	0	1	0	0
Reason Foundation	0	0	0	0	1	0	0	0	1	0	1	0	0
Surface Stations.org	0	0	0	0	1	0	0	0	0	0	1	0	0
The Acton Institute	0	0	0	0	1	0	0	1	0	0	1	0	0
Alabama Policy Institute	0	0	0	0	1	0	0	0	0	0	1	1	0
Beacon Centre of Tennessee	0	0	0	0	1	0	1	1	1	0	1	1	0
Centre for Individual Freedom	1	0	0	0	1	0	0	1	0	0	1	0	0
The Claremont Institute	0	0	0	0	1	0	0	0	0	0	0	0	0
Climate Science Coalition of America	1	0	1	0	1	0	1	0	1	0	1	0	0
International Climate Science Coalition	0	0	0	0	1	0	0	0	0	0	1	1	0
Far West Agribusiness Association	0	0	0	0	1	0	0	0	0	0	0	1	0
The James Madison Institute	1	0	0	0	1	0	0	0	0	0	1	0	0
Media Research Centre	1	0	0	0	1	0	1	0	0	0	1	0	0
Oklahoma Council of Public Affair	1	0	0	0	1	0	0	0	0	0	1	0	0
Pacific Legal Foundation	0	0	0	0	1	0	0	0	0	0	1	0	0
Plants need CO ₂	1	0	1	0	1	0	1	1	1	0	1	0	0
Rocky Mountain Coal Mining Institute	1	0	0	0	1	0	1	0	0	0	1	0	0
Texas Public Policy Foundation	1	0	1	0	1	0	0	0	0	0	1	0	0
The American Society for the Defence of Tradition, Family and Prosperity	1	0	0	0	1	0	1	1	0	0	1	1	0
Ashbrook Centre	0	0	0	0	1	0	0	0	0	0	0	0	0
Thomas More Institute (Belgium)	0	0	0	0	1	0	0	0	0	0	0	0	0
Young America's Foundation	0	0	0	0	1	0	0	0	0	0	1	0	0
World Climate Report	1	1	1	0	1	0	1	1	1	0	1	0	0
Foundation for Research on Economics and the Environment	0	1	0	0	1	0	1	0	0	0	1	0	0
International Society for Individual Liberty	1	1	1	0	1	0	0	0	1	0	1	0	0
Bluegrass Institute	0	1	0	0	1	0	0	0	0	0	1	0	0
Economic Freedom Network	0	1	0	0	1	0	0	0	0	0	0	0	0
ICECAP	0	1	0	0	1	0	1	1	1	0	0	0	0
Manhattan Institute for Policy Research	0	1	1	0	1	0	0	0	0	0	1	0	0

Sovereignty International Inc	1	1	0	0	1	0	1	0	0	0	1	1	0
Virginia Land Rights Coalition	1	1	0	0	1	0	0	0	0	0	1	0	0
Washington legal Foundation	0	1	0	0	1	0	0	1	0	0	1	0	0
Accuracy in Media	1	0	0	1	1	0	1	1	0	0	1	0	0
Centre for American Experiment	0	0	0	1	1	0	0	0	1	0	1	0	0
Christian Coalition of America	0	0	0	1	1	0	0	0	0	0	1	0	0
Future of Freedom Foundation	1	0	1	1	1	0	1	1	0	0	1	1	0
Nevada Policy Research Institute	0	0	0	1	1	0	1	0	0	0	1	0	0
American Civil Rights Union	0	0	0	1	1	0	1	0	0	0	1	0	0
Washington Policy Centre	0	0	0	1	1	0	1	0	0	0	1	0	0
Western Fuels Association	1	0	1	1	1	0	0	0	1	0	1	1	0
Information Council on the Environment	1	1	0	1	1	0	1	1	0	1	1	0	0
George Bush Institute	1	1	0	1	1	0	1	1	0	0	1	1	0
Americans for Prosperity	0	0	0	0	1	1	0	0	0	0	1	1	0
US Chamber of Commerce, Business Civic Leadership Centre	0	0	0	0	1	1	0	0	0	0	1	1	0
60 Plus Association	0	0	0	0	1	1	0	0	0	0	1	1	0
Small Business and Entrepreneurship Council	0	0	0	1	1	1	0	0	0	0	1	0	0
Western Energy Alliance	0	0	0	0	1	0	0	0	0	0	1	1	0
Cornwall Alliance	0	0	1	0	1	1	1	1	1	0	0	1	0
Hoover Institution	1	0	1	0	1	1	1	1	1	0	1	1	0
Education Action Group Foundation	0	0	0	0	1	0	1	0	1	0	0	0	0
Franklin Centre	0	1	0	0	1	0	1	0	0	1	1	0	0
Centre for energy and Economic Development	99	99	99	99	99	99	99	99	99	99	99	99	99
Arizona State University, Office of Climatology	99	99	99	99	99	99	99	99	99	99	99	99	99
Alexis de Tocqueville institution	99	99	99	99	99	99	99	99	99	99	99	99	99
The Justice Foundation	99	99	99	99	99	99	99	99	99	99	99	99	99
Institute for Humane Studies	99	99	99	99	99	99	99	99	99	99	99	99	99
Charles Koch Foundation	99	99	99	99	99	99	99	99	99	99	99	99	99
Lincoln Legal Assistance Foundation Incorporation	99	99	99	99	99	99	99	99	99	99	99	99	99
George Mason University	99	99	99	99	99	99	99	99	99	99	99	99	99
AEI-Brookings Joint Centre	0	0	0	0	0	0	99	99	99	99	99	99	99
Arizona Cattleman's Association	99	99	99	99	99	99	99	99	99	99	99	99	99
Centre for American and International Law	99	99	99	99	99	99	99	99	99	99	99	99	99
National Association of Neighbourhoods	99	99	99	99	99	99	99	99	99	99	99	99	99
New England Legal Foundation	99	99	99	99	99	99	99	99	99	99	99	99	99

Coalition for American Jobs	0	0	0	0	1	1	99	99	99	99	99	99	99
Public Interest Watch	99	99	99	99	99	99	99	99	99	99	99	99	99
US Russia Business Council	99	99	99	99	99	99	99	99	99	99	99	99	99
Wyoming Business Alliance	99	99	99	99	99	99	99	99	99	99	99	99	99
Society of Independent Earth Scientists	99	99	99	99	99	99	0	0	1	0	0	0	1
Mont Pelerin Society	99	99	99	99	99	99	0	0	0	0	0	1	1
American Association of State climatologists	99	99	99	99	99	99	0	0	0	0	0	0	1
Northern Montana Oil and Gas Association	99	99	99	99	99	99	0	0	0	0	1	1	0
Centre for Environmental Education Research	99	99	99	99	99	99	0	0	0	0	0	0	0
Freedom Action Network	99	99	99	99	99	99	0	0	0	0	1	0	0
Hispanic Leadership Fund	99	99	99	99	99	99	0	0	0	0	1	1	0
Students for Academic Freedom	99	99	99	99	99	99	0	0	0	0	1	0	0
Cascade Policy Institute	99	99	99	99	99	99	0	0	0	0	1	0	0
Gun Owners of America	99	99	99	99	99	99	1	0	0	0	1	0	0
The American Spectator Foundation	99	99	99	99	99	99	0	0	0	0	1	1	0
American Fuel and Petrochemical Association	99	99	99	99	99	99	0	0	0	0	1	1	0
Atlas Economic Research Foundation	99	99	99	99	99	99	0	0	0	0	1	1	0
Council of Industrial Boiler Owners	99	99	99	99	99	99	0	0	0	0	1	1	0
Freedom Foundation	99	99	99	99	99	99	0	0	0	0	1	0	0
Liberty Counsel	99	99	99	99	99	99	0	0	0	0	1	0	0
National Association of Scholars	99	99	99	99	99	99	0	0	0	0	1	0	0
Sovereign Society	99	99	99	99	99	99	0	0	0	1	1	0	0
American Coal foundation	99	99	99	99	99	99	1	0	0	0	0	0	0
World Taxpayers Association	99	99	99	99	99	99	0	0	0	0	0	1	0
American Feed Industry Association	99	99	99	99	99	99	0	0	0	0	0	0	0
American Coalition for Clean Coal Electricity	99	99	99	99	99	99	0	0	1	0	0	1	0
Chemical Education Foundation	99	99	99	99	99	99	0	0	0	0	0	0	0
Copenhagen Consensus Centre	99	99	99	99	99	99	0	0	1	0	0	0	0
The Edmund Burke Institute	99	99	99	99	99	99	1	0	0	0	1	0	0
Friends of Coal	99	99	99	99	99	99	0	0	0	0	0	1	0
David Horowitz Freedom Centre	99	99	99	99	99	99	0	0	0	0	1	0	0
Indiana Oil and Gas Association	99	99	99	99	99	99	1	0	0	0	1	0	0
Illinois Oil and Gas Association	99	99	99	99	99	99	0	1	0	0	1	0	0
International Republican Institute	99	99	99	99	99	99	0	0	0	0	0	0	0
Landmark Legal Foundation	99	99	99	99	99	99	0	0	0	0	1	0	0
Californians Against Higher Taxes	99	99	99	99	99	99	0	0	0	0	1	1	0

Institute for Regulatory Science	99	99	99	99	99	99	0	0	0	0	0	0	0
Oklahoma Independent Petroleum Association	99	99	99	99	99	99	1	0	0	0	1	0	0
Ohio Oil and Gas Association	99	99	99	99	99	99	1	0	0	0	1	0	0
American Sheep Industry Association	99	99	99	99	99	99	0	0	0	0	0	1	0
Centre for the Dissemination of Economic Information	0	0	0	0	0	1	0	0	0	0	1	0	0
Cooler Heads Coalition	1	1	1	1	1	1	1	1	1	1	1	1	0
Tech Station Central	0	0	0	0	0	1	99	99	99	99	99	99	99
State Policy Network	99	99	99	99	99	99	99	99	99	99	99	99	99
National Wilderness Institute	0	0	0	0	1	1	0	0	0	0	1	1	0
National Policy Forum	99	99	99	99	99	99	99	99	99	99	99	99	99
National Environmental Policy Institute	1	1	1	0	1	1	99	99	99	99	99	99	99
Knowledge and Progress Fund	99	99	99	99	99	99	99	99	99	99	99	99	99
International Policy Network	0	0	0	0	0	0	99	99	99	99	99	99	99
Independent Commission on Environmental Education	0	0	0	0	1	1	99	99	99	99	99	99	99
Coalition for Vehicle Choice	1	1	0	0	1	1	99	99	99	99	99	99	99
Consumer Alliance for Global Prosperity	0	0	0	0	1	0	99	99	99	99	99	99	99
Defenders of Property Rights	99	99	99	99	99	99	99	99	99	99	99	99	99
Centre for New a Europe.	1	0	1	1	1	1	99	99	99	99	99	99	99
Free Enterprise Action Fun	1	1	1	0	1	1	99	99	99	99	99	99	99
Liberty Foundation for America	99	99	99	99	99	99	99	99	99	99	99	99	99
Climate Sceptics Party	1	1	1	0	1	1	1	1	1	0	1	1	0
Centre for Industrial Progress	1	1	1	0	1	1	0	1	1	0	1	1	0
TS August	1	1	1	0	1	1	99	99	99	99	99	99	99

Table A.4: Organisational Additional Data

<i>Name</i>	<i>Economic Liberty</i>	<i>Promote Traditional Values</i>	<i>Fund online</i>	<i>Funded</i>	<i>member ICSC</i>	<i>Heartland</i>
Instituti Liberal Shqiptar	1	0	0	0	99	99
Fundacion Atlas	1	0	0	1	1	1
Centro de Investifaciones de Instituciones y Mercados de Argentina	1	0	0	1	0	1
Instituto Acton (Argentina)	1	1	0	1	0	0
Fundacion Bases	1	0	0	1	0	1
Libertad Progress (Argentina)	1	0	0	1	1	1
Bert Kelly Research Centre	1	0	0	1	1	0
Australian Privacy Foundation	1	0	0	1	0	0
Taxpayers Association Australia	1	0	0	1	1	1
Centre for Independent Studies	1	0	0	1	0	1
The H.R. Nicholls Society	0	0	0	1	1	0
The Galileo Movement	0	1	0	0	0	1
Lavoisier Group	0	0	0	1	1	1
Carbon Sense Coalition	0	0	0	0	1	0
Climate Sceptics Party	0	0	0	0	1	1
Mannkal Economic Education Foundation	1	0	0	1	0	1
Australian Environmental Foundation	0	0	0	1	1	1
Institute for Public Affairs	1	0	1	0	1	1
Australian Libertarian Society	1	0	0	0	0	1
Hayek Institute	1	0	1	0	0	0
Austrian Economics Centre	1	0	1	0	0	1
The Nassau Institute	1	0	0	1	0	1
European Enterprise Institute	1	0	0	1	0	1
Instituti Economique Molinari	1	0	0	1	0	1
European Centre for International Political Economy	1	0	0	0	0	0
Thomas More Institute (France)	0	0	0	1	0	1
LIBERA	1	0	0	1	0	0
Scientific Research Mises Centre	0	0	0	1	0	1
Instituto Liberdade	1	0	0	1	1	1
Fake Climate.com	0	0	0	0	1	1
The Plinio Correa De Oliveira Institute	0	0	0	1	99	1
Instituto Ordem Livre	1	0	0	1	0	1
Instituto Millenium	1	0	1	0	0	1
Liberty Institute	0	0	0	1	99	0
Institute for Market Economics	1	0	1	0	0	0
Centre for Human Affairs	1	0	0	0	99	99
Foundation for Habitat Conservation	0	0	1	0	0	0
Frontier Centre for Public Policy	0	0	1	0	1	1
C.D Howe Institute	1	0	1	0	0	0
Macdonald Laurier Institute	0	0	1	0	0	1
Friends of Science	0	0	0	1	1	1
Coal Association of Canada	0	0	0	1	0	0
Ontario Petroleum Institute	0	0	1	0	0	0
Manning Centre	1	0	0	1	0	1
Fraser Institute	1	0	1	0	1	1
Environment Probe International	1	0	1	0	0	0
Atlantic Institute for Market Studies	0	0	1	0	1	1
Montreal Economic Institute	1	0	1	0	0	1
Natural Resources Stewardship Project	1	0	0	1	1	1
Canadian Taxpayers Federation	0	0	0	1	0	1
Ludwig Von Mises Institute Canada Branch	1	0	0	1	0	1
Institute for Competitiveness and Prosperity	1	0	1	0	0	0
Democracy and Market Institute	1	0	0	0	0	0

Instituto Libertad y Desarrollo (Chile)	1	0	0	1	0	0
Universidad Francisco Marroquin	1	0	0	0	0	0
Cathay Institute for Public Affairs	1	1	0	1	99	1
IPENCIL	1	0	0	1	0	1
China Centre for Economic Research	1	99	99	99	99	99
Institute for Liberty and Public Policy	1	0	0	0	0	1
Analysis						
Association for Free Consumer	0	0	0	1	0	1
CEVRO: Liberal Conservative	1	0	0	1	0	0
Academy						
Prague Security Studies Institute	1	0	0	1	0	0
Civic Institute	1	0	0	1	0	1
Environmental Assessment Institute	0	0	0	0	1	1
Centre for Political Studies	1	0	0	0	0	0
The Copenhagen Institute	99	99	99	99	1	1
Ecuadorian Institute of Political	1	0	0	1	0	1
Economy						
Timbro	1	0	0	1	0	1
Institut Turgot	1	0	0	1	99	1
Institut Coppet	1	0	0	1	0	0
Institute for Research in Economic and	1	0	0	1	0	1
Fiscal Issues						
Institut Euro 92	1	0	0	1	99	0
Institute for Economic Studies	1	0	0	1	0	0
Contribuales Association	1	0	1	0	0	1
Libres.org	1	0	0	1	99	1
New Economic School	1	0	0	0	0	0
International Centre for Research on	1	0	1	0	0	0
Environmental issues						
Die Familien Unternehmer	1	0	0	1	0	0
Institute for Free Enterprise	1	0	0	1	0	1
Committee for a Constructive	1	0	1	0	1	1
Tomorrow (EU)						
The Friedrich Naumann Foundation	1	0	0	1	0	1
European Institute for Climate and	1	0	1	0	1	1
Energy						
Imani Centre for Policy and Education	1	0	1	0	0	1
Centre for Economic and Social	1	0	0	0	0	1
Studies						
Centro De Investigaciones	1	0	0	0	0	1
Economicas Nacionales						
Lion Rock Institute	1	0	1	0	0	0
Centre for Civil Society	1	0	1	0	0	1
Liberty Institute	1	0	0	1	1	1
Jerusalem Institute for Market Studies	1	0	0	0	0	1
Fondazione Repubblica Italy	1	1	0	1	0	0
Fondazione Magna Carta	1	0	1	0	0	1
Bruno Leoni Institute	1	0	1	0	1	1
Lithuanian Free Market Institute	1	1	0	1	0	0
Institute for Democracy and Economic	1	0	1	0	0	0
Affairs						
Malaysia Think Tank	1	1	0	99	99	99
Red Liberal de American Latina	1	0	0	1	0	0
Camino de la Libertad	1	0	0	1	99	1
Planck Foundation	1	0	0	1	0	0
New Zealand Initiative	1	0	0	1	0	1
Climate Realists (New Zealand)	0	0	0	0	1	1
The New Zealand Climate Science	0	0	0	1	1	1
Coalition						
New Zealand Centre for Political	0	0	0	0	1	1
Research						
African Centre for Advocacy and	0	0	0	0	0	0
Human Development						
Initiative of Public Policy Analysis	1	0	0	1	1	0

The Centre for Ethics and Technological Development	99	99	99	99	99	99
Centre for Business and Society Incorporated	1	0	1	0	0	1
Alternate Solutions Institute	1	0	0	1	1	1
Paraguayan Centre for the Promotion of Economic and Social Justice	1	0	1	0	99	99
Instituto Libertad y Democracia (Peru)	1	0	0	1	0	0
Andes Libres	1	0	0	1	1	1
Instituto De Libre Empresa	1	0	0	1	1	1
The Inter-American Institute	0	0	0	1	0	0
The Institute for the Study of Humane Action	1	0	0	0	0	0
Minimal Government Thinkers	1	0	0	1	0	1
Instytut Globalizacji	1	0	0	1	0	1
Romanian Centre for European Policies	0	0	0	1	0	1
Institute for Economic Analysis	1	0	0	0	99	1
M.R Stefanik Conservative Institute	1	1	0	1	0	1
Institute of Economic and Social Studies	1	0	1	0	0	1
Africa Fighting Malaria	0	0	1	0	0	1
Free Market Foundation	1	0	0	1	0	1
Centre for Free Enterprise	1	0	0	99	0	0
Strategic Studies Group	0	0	0	1	99	1
Juan de Mariana Institute	1	0	0	1	0	1
Traditional Values Coalition	1	1	0	1	0	0
Liberals Institut	1	0	0	0	0	1
Institut Constant de Rebecque	1	0	0	0	0	1
Economic Freedom Network Asia	1	0	0	1	99	1
Association of liberal thinking	1	0	0	1	0	1
Open Europe	1	0	0	1	0	0
Taxpayers Alliance UK	1	0	0	1	0	0
Sense about Science UK	0	0	1	0	0	0
Centre for Policy Studies	1	0	0	1	0	1
Adam Smith Institute	1	0	0	1	0	1
Institute for the Study of Civil Society	1	0	1	0	0	0
The Social Affairs Unit	0	0	0	1	0	1
Clexit	1	0	0	0	1	1
Libre Afrique	1	0	0	1	0	1
Freedom to Trade Campaign	1	0	0	1	99	1
Institute for Economic Affairs	1	0	0	1	1	1
The Rutherford Institute	0	1	0	1	0	0
Global Warming Policy Foundation	0	0	1	0	1	1
The Statistical Assessments Service	0	0	1	0	0	0
Network for a Free Society	1	0	0	1	0	0
Centre for Human Development	0	0	0	0	0	0
Michigan Agri-business Association	0	0	0	1	0	99
Independent Petroleum Association of America	0	0	0	1	0	1
Rocky Mountain Agri-Business	0	0	0	1	0	0
Small Business Survival Committee	0	0	0	1	99	0
Maine Heritage Policy Centre	1	1	0	1	0	0
National Taxpayers Union Foundation	1	0	0	1	0	0
Atlantic Legal Foundation	1	0	0	1	0	1
Goldwater Institute	1	0	1	0	0	0
Institute for the Study of Earth and Man	0	0	0	1	0	1
Centre for Consumer Freedom	0	0	0	1	0	1
Alabama Forest Owners Association	1	0	0	1	99	1
American Gas Association	0	0	0	1	0	0
Council for Agricultural Science and Technology	0	0	0	1	0	0
Discovery Institute	1	0	0	1	0	1

American Recreation Coalition	0	0	0	1	0	0
World Energy Council	0	0	0	0	0	0
Allegheny Institute of Public Policy	1	0	0	1	0	0
Citizens for Affordable Energy	0	0	0	1	0	1
Centre for Strategic and International Studies	0	0	1	0	0	0
Foundation for Defence of Democracies	0	0	0	1	0	1
Global Climate Coalition	0	0	0	0	1	1
American Natural Gas Alliance	0	0	0	1	0	0
Capitol Resource Institute	0	0	0	1	99	1
Consumer Energy Alliance	0	0	1	0	0	99
Uni-rule Institute of Economics	1	0	1	0	0	0
Lindenwood University: The Hammond Institute	0	0	0	1	1	1
Property and Environment Research Centre	1	0	1	0	0	1
Fed up at the Pump	1	0	0	0	0	0
Institute for Energy Research	1	0	0	1	0	1
Pennsylvania Landowners Association	1	0	0	1	0	0
Tax Foundation	1	0	1	0	0	0
American Enterprise Institute	1	0	1	0	1	1
Pennsylvania Coal Alliance	0	0	0	1	0	0
California Association of Business and Property and Resource Owners	1	1	0	1	0	1
Collegians for a Constructive Tomorrow	1	0	0	1	0	1
Commonwealth Foundation	1	0	0	1	0	1
Edison Electric Institute	0	0	0	1	0	1
Institute for 21st Century Energy	1	0	0	1	0	0
American Farm Bureau	0	1	0	1	0	1
Family Research Council	1	1	0	1	0	1
American Land Rights Association	0	0	0	1	0	0
National Centre for Public Policy Research	1	0	1	0	0	1
National Coal Council	0	0	0	1	0	0
Pacific Research Institute	1	0	0	1	0	1
The California Drivers Alliance	0	0	0	0	0	0
Free to Choose Network	1	0	1	1	0	1
Americas Future Foundation	1	0	1	0	0	1
National Association of Home Builders	0	0	0	1	0	0
National Association of Regulatory Utility Commissioners	0	0	0	1	0	0
Chamber of Commerce	1	0	0	1	0	1
Rightchange.com	1	1	0	1	99	99
American Coal Council	0	0	0	1	0	1
Agricultural Retailers Association	1	0	0	1	0	0
National Petroleum Council	0	0	0	1	99	1
Pulp and Paper-workers Resource Council	0	0	0	1	0	0
American Legislative Exchange Council	1	0	1	0	0	0
Louisiana Oil and Gas Association	1	0	0	1	0	0
Industrial Energy Consumers of America	0	0	0	0	99	99
Interstate National Gas Association	0	0	0	0	0	0
World Affairs Council of America	0	0	0	1	0	0
Alliance for Energy and Economic Growth	0	0	0	1	0	1
ICEAGENOW	0	0	0	1	0	1
Lignite Energy Council	0	0	0	1	0	0
National Stripper well Association	1	0	0	1	0	99
Smithsonian Astrophysical Observatory	0	0	0	1	1	1

Charles Koch Institute	0	0	1	0	0	1
Harvard Centre for Risk Analysis	1	0	0	1	0	1
Pioneer Institute	1	0	1	0	0	0
Show-me Institute	1	0	1	0	0	0
Alaska Forest Association	0	0	0	1	0	0
American Exploration Production Council	0	0	0	1	0	0
Centre for Competitive Politics	1	1	1	0	0	0
Junkscience.com	0	0	0	1	1	1
American Gas Foundation	0	0	0	1	0	0
Global Carbon Project	0	0	0	1	0	0
US Grains Council	0	0	0	1	0	0
Leadership Institute	0	0	1	0	0	1
National Corn Growers Association	0	0	1	0	0	0
Natural Gas Supply Association	1	0	0	1	0	0
National Gas Supply Association	1	0	0	1	0	0
South-Eastern Legal Foundation	1	1	1	0	0	0
World Coal Association	0	0	0	1	0	1
energytomorrow.org	0	0	0	0	0	0
The Intercollegiate Studies Institute	1	1	1	0	0	1
National Policy Institute	1	1				1
National Rural Electric Cooperative Association	0	0	1	0	0	0
Sense About Science USA	0	0	1	0	0	0
Centre for Urban Renewal and Education	1	1	0	1	0	1
Property Rights Alliance	1	1	0	1	0	0
American Petroleum Institute	0	0	0	1	0	1
Colderside.com	0	0	0	0	1	1
Blue Ribbon Coalition	1	0	1	0	99	0
Federation for American Coal, Energy and Security	0	0	0	1	0	0
Institute for Liberty	1	1	0	1	0	0
American Friends of the Institute of Economic Affairs	1	1	1	1	0	0
National Consumer Coalition	1	0	1	1	1	1
US Chamber of Commerce Foundation	1	0	0	1	0	0
American Association of Petroleum Geologists	0	0	0	1	0	1
Media Institute	0	0	0	1	0	0
Centre for the Defence of Free Enterprise	1	1	0	1	1	1
West Virginia Coal Association	0	0	0	0	0	0
Institute on Religion and Public Life	1	0	1	0	99	1
The Environmental Conservation Organisation	1	0	0	1	1	1
Consumer Alert Inc	99	99	1	1	1	1
Property Rights Research	0	0	0	1	0	1
Competitive Enterprise Institute	1	0	1	0	1	1
Citizens Against Government Waste	0	0	0	1	0	1
Civil Society of Coalition on Climate Change	1	0	0	1	1	1
National Association of Manufacturers	0	0	0	1	0	1
Progress and Freedom Foundation	1	0	0	1	0	0
Mackinac Centre for Public Policy	1	0	0	1	0	1
Western States Petroleum Association	0	0	0	1	0	0
Northern Virginia Chapter of SEEE	0	0	0	1	1	1
Advancement of Sound Science	0	0	1	1	1	1
American Council for Capital Formation	1	0	0	1	0	1
American Energy Alliance	1	0	0	1	0	1
CO ₂ Coalition	0	0	1		1	1
American Conservative Union	1	1	0	1	0	0
Eagle Forum	1	1	0	1	0	1

Freedom Foundation of Minnesota	1	0	1	0	0	1
Resource Development Council	1	0	0	1	0	1
Federalist Society	1	1	1	0	0	1
Capital Research Centre	1	1	0	1	0	1
Environmental Literacy Council	0	0	0	1	0	0
American Society of Mechanical Engineers	0	0	1	0	0	1
Cato Institute	1	0	1	0	1	1
The Conservative Caucus Inc	1	1	0	1	1	1
Frontiers of Freedom	1	0	0	1	1	0
Independent Petroleum Association of New Mexico	0	0	0	1	0	1
Science and Public Policy Institute	0	0	0	1	1	1
Americans for Tax Reform	1	0	0	1	0	1
Beacon Hill Institute	0	0	0	1	0	1
Committee for a Constructive Tomorrow (USA)	1	0	1	0	1	1
Council for National Policy	1	1	0	1	99	1
Citizen Outreach	1	1	0	1	0	0
Doctors for Disaster Preparedness	0	0	0	1	99	1
American Energy Freedom Centre	0	0	0	1	0	1
Independent Institute	1	0	1	0	1	1
Institute for Policy Innovation	1	0	0	1	0	1
Independent Women's Forum	1	1	0	1	0	1
Kansas Independent Oil and Gas Association	1	0	0	1	0	1
Kriebel Foundation	0	0	0	1	0	0
Maine Woods Coalition	0	0	0	1	0	0
National Black Chamber of Commerce	1	0	0	1	0	0
Environment and Enterprise Institute	1	0	1	0	0	1
National Taxpayers Union Foundation	1	0	0	1	0	0
Oregon Institute on Science and Medicine	0	0	0	0	1	1
Resources for the Future	0	0	1	0	0	1
Seniors Coalition	0	0	1	0	0	0
Thomas Jefferson Institute	1	0	0	1	0	1
United for Jobs 2004	1	1	0	0	0	1
Virginia Public Policy Institute	1	0	0	1	0	1
Atlas Society	1	0	0	1	0	1
Concerned Women of America	0	0	0	1	0	0
Ethan Allen Institute	1	0	0	1	0	0
Americans for a Limited Government	1	1	1	1	1	0
Clare Booth Luce Policy Institute	1	1	1	0	0	1
Foundation for Economic Education	1	0	1	0	0	1
Heartland Institute	1	0	1	0	1	1
Kansas Policy Institute	1	0	0	1	0	0
Colorado Mining Association	0	0	0	1	99	1
Lincoln Institution of Public Opinion Research	1	0	0	1	0	0
American Council on Science and Health.	0	0	1	0	0	1
Annapolis Centre for Science	0	0	0	1	1	1
Congress of Racial Equality	0	0	0	1	0	1
Foundation for Teaching Economics	0	0	1	0	0	1
Greening Earth Society	0	0	0	1	1	1
The Heritage Foundation	1	1	1	0	1	1
Physicians for Civil Defence	0	0	0	0	1	1
Citizens Alliance for a Responsible Energy	0	1	1	0	1	1
The Scientific Alliance	0	0	0	1	1	1
Weidenbaum Centre	0	0	0	1	0	1
John Locke Foundation	1	0	0	1	1	1
George C Marshall Institute	0	0	0	1	1	1
Centre for Security Policy	0	0	1	0	0	1

CO ₂ Science	0	0	0	1	1	1
Georgia Public Policy Foundation	1	0	0	1	0	1
Hudson Institute	0	0	0	1	1	1
National Centre for Policy Analysis	1	0	1	0	0	1
National Mining Association	0	0	0	1	0	0
Science and Environmental Policy Project	0	0	0	1	1	1
American Policy Centre	1	0	0	1	1	1
American Policy Roundtable	0	1	0	1	0	0
National Legal and Policy Centre	1	0	1	0	0	1
Freedom Works Foundation	1	0	0	1	0	0
Grassroots Institute of Hawaii	0	0	0	1	0	1
American Dream Coalition	1	1	0	1	0	1
Centre for Military Readiness	0	0	0	1	0	0
Domestic Energy Producers Alliance	0	0	0	1	0	0
Energy and Environmental Legal Institute	1	0	0	1	0	1
Energy Citizens	0	0	0	1	0	0
Americans for Competitive Enterprise	1	0	0	1	1	1
Locke-Smith Institute	1	0	0	1	0	1
Ludwig Von Mises Institute	1	1	1	0	0	1
Accuracy in Academia	0	0	0	1	0	1
Ayn Rand Institute	1	0	1	0	1	1
Independence Institute	1	0	0	1	0	1
Illinois Policy Institute	1	1	1	0	0	0
Mountain States Legal Foundation	1	1	1	0	1	1
Foundation for Individual Rights in Education	1	1	1	0	0	1
Illinois Mining Institute	0	0	0	0	0	0
Illinois Coal Association	0	0	0	0	0	0
Lexington Institute	1	0	0	1	0	0
Manhattan Libertarian Party	1	0	0	1	0	1
Property Rights Foundation of America	1	1	0	1	0	1
Reason Foundation	1	0	0	1	0	1
Surface Stations.org	0	0	0	1	1	1
The Acton Institute	1	0	1	0	0	1
Alabama Policy Institute	1	0	0	1	0	0
Beacon Centre of Tennessee	1	1	0	1	0	0
Centre for Individual Freedom	1	1	0	1	0	1
The Claremont Institute	1	1	0	1	0	1
Climate Science Coalition of America	0	0	0	0	1	1
International Climate Science Coalition	0	0	0	1	1	1
Far West Agribusiness Association	0	0	0	1	0	0
The James Madison Institute	1	0	0	1	0	0
Media Research Centre	1	1	1	0	0	1
Oklahoma Council of Public Affairs	1	0	0	1	0	1
Pacific Legal Foundation	1	0	1	0	0	1
Plants need CO ₂	0	0	0	1	1	0
Rocky Mountain Coal Mining Institute	0	0	0	0	0	1
Texas Public Policy Foundation	1	0	0	1	1	1
The American Society for the Defence of Tradition, Family and Prosperity	0	1	0	1	0	1
Ashbrook Centre	1	1	1	0	0	1
Thomas More Institute (Belgium)	0	0	0	1	0	1
Young America's Foundation	1	1	1	0	1	1
World Climate Report	0	0	0	1	1	1
Foundation for Research on Economics and the Environment	1	1	0	1	0	1
International Society for Individual Liberty	1	0	0	1	0	0
Bluegrass Institute	1	0	0	1	0	0
Economic Freedom Network	1	0	0	0	99	99
ICECAP	0	0	0	1	1	1

Manhattan Institute for Policy Research	1	0	0	1	0	1
Sovereignty International Inc	1	1	0	1	1	0
Virginia Land Rights Coalition	1	1	0	1	0	0
Washington legal Foundation	1	0	0	1	0	1
Accuracy in Media	0	0	1	0	1	1
Centre for American Experiment	1	0	0	1	0	1
Christian Coalition of America	1	1	0	1	0	1
Future of Freedom Foundation	1	1	0	1	0	1
Nevada Policy Research Institute	1	0	0	1	0	1
American Civil Rights Union	1	1	1	0	0	1
Washington Policy Centre	1	0	1	0	0	1
Western Fuels association	0	0	0	1	0	0
Information Council on the Environment	0	0	99	1	1	1
George Bush Institute	0	0	1	0	99	0
Americans for Prosperity	1	0	0	1	0	0
US Chamber of Commerce, Business Civic Leadership Centre	1	0	0	0	0	0
60 Plus Association	1	0	0	1	0	0
Small Business and Entrepreneurship Council	0	0	0	1	0	0
Western Energy Alliance	0	0	0	1	0	1
Cornwall Alliance	0	0	0	1	1	1
Hoover Institution	1	1	0	1	1	1
Education Action Group Foundation	0	0	0	1	0	0
Franklin Centre	1	0	0	1	0	1
Centre for Energy and Economic Development	99	99	99	99	99	99
Arizona State University, Office of Climatology	0	0	0	1	0	1
Alexis de Tocqueville institution	99	99	99	99	99	99
The Justice Foundation	1	1	0	1	0	0
Institute for Humane Studies	1	0	0	1	0	1
Charles Koch Foundation	1	0	1	0	1	0
Lincoln Legal Assistance Foundation	0	0	0	0	0	0
George Mason University	0	0	1	1	0	0
AEI-Brookings Joint Centre	1	0	0	1	99	99
Arizona Cattleman's Association	1	0	0	1	0	1
Centre for American and International Law	0	0	0	1	0	0
National Association of Neighbourhoods	0	0	0	1	0	0
New England Legal Foundation	99	0	1	0	0	0
Coalition for American Jobs	1	0	0	0	0	0
Public Interest Watch	0	0	1	0	99	0
US Russia Business Council	1	0	0	1	0	0
Wyoming Business Alliance	0	1	0	1	0	1
Society of Independent Earth Scientists	0	0	0	1	0	0
Mont Pelerin Society	1	0	0	1	1	0
American Association of State Climatologists	0	0	0	1	0	1
OICA	0	0	0	1	1	0
Northern Montana Oil and Gas Association	1	0	0	1	0	0
Centre for Environmental Education Research	0	0	0	1	0	0
Freedom Action network	0	0	0	1	99	1
Hispanic Leadership Fund	1	0	0	0	0	0
Students for Academic Freedom	0	0	0	1	0	1
Cascade Policy Institute	1	0	0	1	1	1
Gun Owners of America	1	1	0	1	0	0
The American Spectator Foundation	0	0	0	1	1	1

American Fuel and Petrochemical Association	0	0	0	1	0	0
Atlas Economic Research Foundation	1	0	1	1	1	1
Council of Industrial Boiler Owners	0	0	0	1	0	0
Freedom Foundation	1	1	0	1	0	0
Liberty Counsel	1	1	1	0	0	0
National Association of Scholars	1	0	0	1	0	1
Sovereign Society	1	0	0	1	0	0
American Coal foundation	0	0	0	1	1	0
World Taxpayers Association	1	0	0	1	0	1
American Feed Industry Association	0	0	0	1	0	0
American Coalition for Clean Coal Electricity	0	0	0	1	0	1
Chemical Education Foundation	0	0	0	1	0	0
Copenhagen Consensus Centre	0	0	0	0	1	1
The Edmund Burke Institute	1	1	0	1	0	0
Friends of Coal	0	0	0	1	99	1
David Horowitz Freedom Centre	1	1	0		0	1
Indiana Oil and Gas Association	0	0	0	1	0	1
Illinois Oil and Gas Association	0	0	0	1	0	0
International Republican Institute	1	0	1	1	0	0
Landmark Legal Foundation	0	1	0	1	0	0
Californians Against Higher Taxes	1	0	0	0	0	0
Institute for Regulatory Science	0	0	0	1	1	1
Oklahoma Independent Petroleum Association	0	0	0	1	0	1
Ohio Oil and Gas Association	0	0	0	1	0	0
American Sheep Industry Association	0	0	0	1	0	0
Centre for the Dissemination of Economic Information	1	0	0	1	99	1
Cooler Heads Coalition	0	0	0	0	1	1
Tech Central Station	1	0	1	1	1	0
State Policy Network	1	0	-	1	0	1
National Wilderness Institute	-	-	0	0	1	1
National Policy Forum	-	-	0	1	0	1
National Environmental Policy Institute	1	0	0	0	1	1
Knowledge and Progress Fund	1	0	1	1	0	1
International Policy Network	1	0	0	1	0	1
Independent Commission on Environmental Education	0	0	0	0	1	1
Coalition for Vehicle Choice	1	0			0	1
Consumer Alliance for Global Prosperity	1	0	0	0	0	1
Defenders of Property Rights	1	1	0	0	0	1
Centre for a New Europe	1	0	0	0	0	1
Free Enterprise Action Fund	1	1	0	1	1	1
Liberty Foundation for America	1	1	0	1	0	1
TS August	1	0	0	1	1	1
Centre for Industrial Progress	0	0	0	0	0	1

Table A.5. Organisational Website Data.

Name	Website	Name	Website
Instituti Liberal Shqiptar	http://alblib.org	60 Plus Association	www.60plus.org
Fundacion Atlas	http://www.atlas.org.ar/	Small Business and Entrepreneurship Council	sbecouncil.org
Centro de Investigaciones y Mercados de Argentina	https://ciima.wordpress.com	Western Energy Alliance	https://www.westernenergyalliance.org
Instituto Acton	institutoacton.org/	Cornwall Alliance	cornwallalliance.org/
Fundacion Bases	www.fundacionbases.org	Hoover Institution	www.hoover.org/
Libertad Progress (Argentina)	www.libertadprogressonline.org	Education Action Group Foundation	EAGnews.org
Bert Kelly Research Centre	bertkelly.org.au/	Franklin Centre for Government Policy and Public Integrity	franklincenterhq.org/
Australian Privacy Foundation	https://www.privacy.org.au/	Centre for Energy and Economic Development	99
Australian Taxpayers Alliance	www.taxpayers.org.au/	Arizona State University, Office of Climatology	azclimate.asu.edu
Centre for Independent Studies	www.cis.org.au/	Alexis de Tocqueville institution	http://www.adti.net/
The H.R. Nicholls Society	hrnicholls.com.au/	The Justice Foundation	http://www.txjf.org/
The Galileo Movement	www.galileomovement.com.au	Institute for Humane Studies	https://theihs.org
Lavoisier Group	www.lavoisier.com.au/	Charles Koch Foundation	https://www.charleskochfoundation.org
Carbon Sense Coalition	carbon-sense.com/	Climate Sceptics Party	http://theclimatescepticsparty.blogspot.co.uk/
Mannkal Economic Education Foundation	www.mannkal.org/	Lincoln Legal Assistance Foundation	lollaf.org
Australian Environmental Foundation	aefweb.info/	George Mason University Law and Economics Centre	masonlec.org/
Institute for Public Affairs	https://www.ipa.org.au	AEI-Brookings Joint Centre	www.aei.org/publication/the-aei-brookings-joint-center-for-regulatory-studies/
Australian Libertarian Society	https://alsblog.wordpress.com/	Arizona Cattleman's Association	www.azcattlemensassoc.org/
Hayek Institute	www.hayek-institut.at/	Centre for American and International Law	www.cailaw.org/
Austrian Economics Centre	www.austriancenter.com	National Association of Neighbourhoods	www.nanworld.org
The Nassau Institute	www.nassauinstitute.org	New England Legal Foundation	www.nelfonline.org/
European Enterprise Institute	www.european-enterprise.org	Coalition for American Jobs	http://coalitionforamericanjobs.com/about/

Instituti Economique Molinari	www.institutmolinari.org/	Public Interest Watch	www.publicinterestwatch.org
European Centre for International Political Economy	ecipe.org/	US Russia Business Council	www.usrbc.org
Thomas More Institute (France)	institut-thomas-more.org	Wyoming Business Alliance	www.wyomingbusinessalliance.com
LIBERA	www.liberavzw.be/	Society of Independent Earth Scientists	https://sipes.org
Scientific Research Mises Centre	liberty-belarus.info/	Mont Pelerin Society	https://www.montpelerin.org/
State Policy Network	https://spn.org/	American Association of State Climatologists	https://www.stateclimate.org
Instituto Liberdade	www.il-rs.org.br/	The Intercollegiate Studies Institute	https://home.isi.org/
Fake Climate.com	fakeclimate.com	Northern Montana Oil and Gas Association	99
The Plinio Correa De Oliveira Institute	ipco.org.br/	Centre for Environmental Education Research	99
Instituto Ordem Livre	ordemlivre.org/	Centre for the Defence of Free Enterprise	www.cdfc.org
Instituto Millenium	www.institutomillennium.org.br	Freedom Action network	freedomactionnetwork.com
Liberty Institute	www.ced.bg	Hispanic Leadership Fund	hispanicleadershipfund.org/
Institute for Market Economics	ime.bg/en	Students for Academic Freedom	http://www.studentsforacademicfreedom.org/
Centre for Human Affairs	99	Cascade Policy Institute	https://cascadepolicy.org
Foundation for Habitat Conservation	www.hctf.ca/	Gun Owners of America	https://gunowners.org/
Frontier Centre for Public Policy	https://fcpp.org/	The American Spectator Foundation	https://spectator.org/
C.D Howe Institute	https://www.cdhowe.org/	American Fuel and Petrochemical Association	https://www.afpm.org
Macdonald Laurier Institute	www.macdonaldlaurier.ca/	Centre for a New Europe	http://www.cne.org/
Friends of Science	https://friendsofscience.org/	Atlas Economic Research Foundation	https://www.atlasnetwork.org/
Coal Association of Canada	www.coal.ca/	Council of Industrial Boiler Owners	https://www.cibo.org/
Ontario Petroleum Institute	www.ontariopetroleuminstitute.com/	Institute on Religion and Public Life	firstthings.com
Manning Centre	https://www.manningcentre.ca/	Freedom Foundation	https://www.freedomfoundation.com
Fraser Institute	https://www.fraserinstitute.org	Liberty Counsel	https://www.lc.org
Environment Probe International	https://environment.probeinternational.org	National Association of Scholars	https://www.nas.org/

Atlantic Institute for Market Studies	www.aims.ca	Sovereign Society	sovereignsociety.com
Montreal Economic Institute	www.iedm.org/e	American Coal foundation	teachoal.org/
Natural Resources Stewardship Project	www.nrsp.com	World Taxpayers Association	worldtaxpayers.org
Canadian Taxpayers Federation	www.taxpayer.com	American Feed Industry Association	www.afia.org/
Ludwig Von Mises Institute Canada Branch	https://www.mises.ca	American Coalition for Clean Coal Electricity	www.americaspower.org/
Institute for Competitiveness and Prosperity	www.competeprosp.com	Centre for Industrial Progress	industrialprogress.com/
Democracy and Market Institute	99	Chemical Education Foundation	www.chemed.org
Instituto Libertad y Desarrollo	lyd.org/	Copenhagen Consensus Centre	www.copenhagenconsensus.com/
Universidad Francisco Marroquin	https://www.ufm.edu/	The Edmund Burke Institute	www.edmundburkeinstitute.org
Cathay Institute for Public Affairs	www.cipacn.org	Liberals Institut	http://www.libinst.ch/
IPENCIL Economic Research Institute	http://www.ipencil.org/	Friends of Coal	www.friendsofcoal.org
China Centre for Economic Research	www.ccer.edu.cn	David Horowitz Freedom Centre	www.horowitzfreedomcenter.org
Institute for Liberty and Public Policy Analysis	99	Indiana Oil and Gas Association	www.inoga.org
Association for Free Consumer	http://www.consumidoreslibres.org	Illinois Oil and Gas Association	www.ioga.com
CEVRO: Liberal Conservative Academy	www.cevroinstitut.cz	International Republican Institute	www.iri.org/
Prague Security Studies Institute	www.pssi.org	Landmark Legal Foundation	www.landmarklegal.org/
Civic Institute	http://www.obcinst.cz/	Californians Against Higher Taxes	www.morejobsnottaxes.com
Environmental Assessment Institute	www.imv.dk	Institute for Regulatory Science	www.nars.org/
Centre for Political Studies	https://www.cepos.dk/english	Oklahoma Independent Petroleum Association	www.oipa.com
The Copenhagen Institute	http://www.coin.dk/	Ohio Oil and Gas Association	www.ooga.org/
Ecuadorian Institute of Political Economy	http://www.ieep.org.ec/	American Sheep Industry Association	www.sheepusa.org/
Timbro	timbro.se/	Coalition for Vehicle Choice	https://web.archive.org/web/19981212021952/www.vehiclechoice.org/
Institut Turgot	www.turgot.org	Centre for the Dissemination of Economic Information	http://www.cedice.org.ve/
Institut Coppet	www.institutcoppet.org	Cooler Heads Coalition	www.globalwarming.org/about/

Institute for Research in Economic and Fiscal Issues	en.irefeurope.org/	TS August	https://web.archive.org/web/20031206080651/http://www.tsaugust.org:80/About%20Us.htm
Institut Euro 92	www.euro92.com	Tech Station Central	-
Institute for Economic Studies	www.ies-europe.org/	Property Rights Research	http://www.propertyrightsrsearch.org/
Contribuales Association Libres.org	https://www.contribuales.org Libres.org	Competitive Enterprise Institute Citizens Against Government Waste	https://cei.org www.cagw.org/
International Centre for Research on Environmental issues	https://cei.org/events/2012/06/21/international-center-research-environmental-issues-icrei-conference	Civil Society of Coalition on Climate Change	www.csecc.org
Die Familien Unternehmer Institute for Free Enterprise	https://www.familienunternehmer.eu www.iuf-berlin.org/index2.php	National Association of Manufacturers Progress and Freedom Foundation	www.nam.org www.pff.org/
Committee for a Constructive Tomorrow (European Branch) The Friedrich Naumann Foundation	https://www.cfact.org/cfact-programs/cfact-europe/ https://www.freiheit.org/	Mackinac Centre for Public Policy Western States Petroleum Association	https://www.mackinac.org/ https://www.wspa.org/
European Institute for Climate and Energy Imani Centre for Policy and Education Centre for Economic and Social Studies Centro De Investigaciones Economicas Nacionales	www.eike-klima-energie.eu www.imaniafrica.org/ https://cees.org.gt/ www.cien.org.gt	Northern Virginia Chapter of SEEE Advancement of Sound Science American Council for Capital Formation American Energy Alliance	sites.ieee.org/nova/ 99 accf.org americanenergyalliance.org/
The Environmental Conservation Organisation Lion Rock Institute	freedom21.org www.lionrockinstitute.org/en ccs.in/	CO ₂ Coalition American Conservative Union Eagle Forum	co2coalition.org conservative.org/ eagleforum.org/
Centre for Civil Society Liberty Institute	indefenceofliberty.org	Freedom Foundation of Minnesota	freedomfoundation.publithub.com
Jerusalem Institute for Market Studies Fondazione Respubblica Italy	www.jims-israel.org/ http://www.fondazioneerespubblica.org/	Resource Development Council Federalist Society Capital Research Centre	http://www.akrdc.org/ http://www.fed-soc.org/ https://capitalresearch.org/
Fondazione Magna Carta Bruno Leoni Institute	magna-carta.it/ www.brunoleoni.it/	Environmental Literacy Council American Society of Mechanical Engineers	https://enviroliteracy.org/ https://www.asme.org/

West Virginia Coal Association	www.wvcoal.com	Cato Institute	https://www.cato.org
Lithuanian Free Market Institute	en.lfri.lt	The Conservative Caucas Inc	https://www.conservativeusa.org/
Institute for Democracy and Economic Affairs	www.ideas.org.my	Frontiers of Freedom	https://www.ff.org/
Malaysia Think Tank	99	Independent Petroleum Association of New Mexico	ipanm.org/
Red Liberal de American Latina	http://relial.org/	Science and Public Policy Institute	sppiblog.org/
Caminos de la liberated	www.caminosdelalibertad.com	Americans for Tax Reform	www.atr.org/
Planck Foundation	www.planck.org	Beacon Hill Institute	www.beaconhill.org/
New Zealand Initiative	https://nzinitiative.org.nz/	Committee for a Constructive Tomorrow (USA Branch)	www.cfact.org
Climate Realists (New Zealand)	www.climaterealists.org.nz/	Council for National Policy	www.cfnp.org
New Zealand Centre for Political Research	www.nzcpr.com/	Citizen Outreach	www.citizenoutreach.com
African Centre for Advocacy and Human Development	african-advocacygrp.org	The New Zealand Climate Science Coalition	www.climatescience.org.nz/
Initiative of Public Policy Analysis	www.ippanigeria.org	Doctors for Disaster Preparedness	www.ddponline.org
The Centre for Ethics and Technological Development	99	American Energy Freedom Centre	www.energyfreedomcenter.org
Centre for Business and Society Incorporated	www.civitas.org.uk	Independent Institute	www.independent.org
Alternative Solutions Institute	www.asinstitute.org/	Institute for Policy Innovation	www.ipi.org
Paraguayan Centre for the Promotion of Economic and Social Justice	99	Independent Women's Forum	www.iwf.com
Instituto Libertad y Democracia	http://www.ild.org.pe/	Kansas Independent Oil and Gas Association	www.kioga.org/
Andes Libres	www.andeslibres.com	Kriehle Foundation	www.kriehle.org/
Instituto De Libre Empresa	https://ile.pe/	Maine Woods Coalition	www.mainewoodcoalition.org
The Inter-American Institute	theinteramerican.org	National Black Chamber of Commerce	www.nationalbcc.org
The Institute for the Study of Humane Action	http://ieah.org/	Environment and Enterprise Institute	www.nationalcenter.org/epft.html
Minimal Government Thinkers	minimalgovernment.net/	National Taxpayers Union Foundation	www.ntu.org/foundation/
Instytut Globalizacji	globalizacja.org/	Global Warming Petition Project/Oregon Institute on Science and Medicine	www.oism.org/pproject/

Romanian Centre for European Policies	www.crpe.ro/en/	Resources for the Future	www.rff.org/
Institute for Economic Analysis	http://www.iea.ru	Seniors Coalition	www.senior.org/
M.R Stefanik Conservative Institute	www.institute.sk	Thomas Jefferson Institute	www.thomasjeffersoninst.org/
Institute of Economic and Social Studies	iness.sk/	United for Jobs 2004	www.unitedforjobs2004.org
Africa Fighting Malaria	http://www.fightingmalaria.org/index.html	Virginia Public Policy Institute	www.virginia institute.org/
Free Market Foundation	www.freemarketfoundation.com	Atlas Society	atlassociety.org/
Centre for Free Enterprise	www.cfe.org	Concerned Women of America	concernedwomen.org
Strategic Studies Group	http://www.gees.org/	Ethan Allen Institute	ethanallen.org
Juan de Mariana Institute	https://www.juandemariana.org/	Americans for a Limited Government	getliberty.org/
Traditional Values Coalition	https://www.traditionalvalues.org/	Clare Booth Luce Policy Institute	https://cblpi.org
Institut Constant de Rebecque	http://www.libinst.ch/?i=home--fr	Foundation for Economic Education	https://fee.org/
Economic Freedom Network Asia	efnasia.org	Heartland Institute	https://heartland.org
Association of Liberal Thinking	www.liberal.org.tr	Kansas Policy Institute	https://kansaspolicy.org/
Open Europe	openeurope.org.uk/	Colorado Mining Association	https://www.coloradomining.org/
Taxpayers Alliance UK	www.taxpayersalliance.com	Lincoln Institution of Public Opinion Research	https://www.lincolninstitute.org
Sense about Science UK	senseaboutscience.org/	American Council on Science and Health.	www.acsh.org/
Centre for Policy Studies	www.cps.co.uk	Annapolis Centre for Science	www.annapoliscenter.org
Adam Smith Institute	https://www.adamsmith.org/	Congress of Racial Equality	www.core-online.org/
Institute for the Study of Civil Society	www.civitas.org.uk	Foundation for Teaching Economics	www.fte.org/
The Social Affairs Unit	www.socialaffairsunit.org.uk/	Greening Earth Society	www.greeningearth.org
Clexit	https://clexit.net/	The Heritage Foundation	www.heritage.org/
Libre Afrique	www.librefrique.org	Physicians for Civil Defence	www.physiciansforcivildefence.org
Freedom to Trade Campaign	freedomtotrade.org	Citizens Alliance for a Responsible Energy	www.responsibleenergy.org/
Institute for Economic Affairs	https://iea.org.uk	The Scientific Alliance	www.scientific-alliance.org
The Rutherford Institute	https://www.rutherford.org	Weidenbaum Centre on the Economy, Government and Public Policy	https://wc.wustl.edu
Global Warming Policy Foundation	www.gwpcf.org	John Locke Foundation	https://www.johnlocke.org
The Statistical Assessments Service	www.stats.org	George C Marshall Institute	marshall.org/
		Centre for Security Policy	www.centerforsecuritypolicy.org

Network for a Free Society	www.networkforafreesociety.org/	CO ₂ Science	www.co2science.org
Centre for Human Development	99	Georgia Public Policy Foundation	www.georgiapolicy.org
Michigan Agribusiness Association	http://miagbiz.org/index.cfm?show=10&mid=90	Hudson Institute	www.hudson.org/
National Policy Forum	http://www.sourcewatch.org/index.php/National_Policy_Forum	National Centre for Policy Analysis	www.ncpa.org/
Independent Petroleum Association of America	www.ipaa.org	National Mining Association	www.nma.com
Rocky Mountain Agribusiness	www.rmagbiz.org/	Science and Environmental Policy Project	www.sepp.org/
Small Business Survival Committee	www.sbsc.org	American Policy Centre	americanpolicy.org/
Maine Heritage Policy Centre	mainepolicy.org/	American Policy Roundtable	https://www.aproundtable.org/
National Taxpayers Union Foundation	www.ntu.org/foundation	National Legal and Policy Centre	nlpc.org/
Atlantic Legal Foundation	atlanticlegal.org/	Freedom Works Foundation	www.freedomworks.org/
Goldwater Institute	http://www.goldwaterinstitute.org/en/	Grassroots Institute of Hawaii	new.grassrootinstitute.org/
Institute for the Study of Earth and Man	http://www.smu.edu/Dedman/Academics/InstitutesCenters/isem	American Dream Coalition	americandreamcoalition.org/
Centre for Consumer Freedom	https://www.consumerfreedom.com/	Centre for Military Readiness	cmrlink.org
Alabama Forest Owners Association	www.afoa.org/	Domestic Energy Producers Alliance	depausa.org
American Gas Association	www.aga.org	Energy and Environmental Legal Institute	eelegal.org/
Council for Agricultural Science and Technology	www.cast-science.org	Energy Citizens	energycitizens.org/
Discovery Institute	www.discovery.org	Americans for Competitive Enterprise	freedomaction.org/about-us/
American Recreation Coalition	www.funoutdoors.com/arc	Locke-Smith Institute	http://www.belmont.edu/lockesmith/
World Energy Council	https://www.worldenergy.org/	Liberty Foundation for America	https://web.archive.org/web/20160305051128/http://libertyfound.org/about
Allegheny Institute of Public Policy	www.alleghenyinstitute.org/	energytomorrow.org	http://energytomorrow.org/
Citizens for Affordable Energy	citizensforaffordableenergy.com	Accuracy in Academia	https://www.academia.org/
Centre for Strategic and International Studies	https://www.csis.org/	Ayn Rand Institute	https://www.aynrand.org
World Coal Association	www.worldcoal.org	Cooler Heads Coalition	www.globalwarming.org

Foundation for Defence of Democracies	www.defenddemocracy.org	Independence Institute	https://www.i2i.org
Global Climate Coalition	99	Illinois Policy Institute	https://www.illinoispolicy.org/
American Natural Gas Alliance	anga.us/	Mountain States Legal Foundation	https://www.mountainstateslegal.org/
Capitol Resource Institute	capitolresource.org	Foundation for Individual Rights in Education	https://www.thefire.org/
Consumer Energy Alliance	consumerenergyalliance.org/	Illinois Mining Institute	illinoismininginstitute.org/
Uni-rule Institute of Economics	english.unirule.org.cn/	Lexington Institute	lexingtoninstitute.org/
Lindenwood University: The Hammond Institute: Centre for Economics and the Environment	http://www.lindenwood.edu/academics/centers-institutes/the-hammond-institute/center-for-economics-and-the-environment/	Manhattan Libertarian Party	manhattanlp.org/
Property and Environment Research Centre	http://www.perc.org/	Property Rights Foundation of America	prfamerica.org/
International Policy Network	https://web.archive.org/web/20011219065248/http://policynetwork.net:80/index.htm	Reason Foundation	reason.org
Fed up at the Pump	https://www.facebook.com/fedupatthepump/	Surface Stations.org	SurfaceStations.org
Institute for Energy Research	instituteforenergyresearch.org/	The Acton Institute For The Study of Religion and Liberty	www.acton.org/
Pennsylvania Landowners Association	palandowners.org/	Alabama Policy Institute	www.alabamapolicy.org/
Tax Foundation	taxfoundation.org/	Beacon Centre of Tennessee	www.beacontn.org/
American Enterprise Institute	www.aei.org	Consumer Alert Inc	http://www.consumeralert.org/
Pennsylvania Coal Alliance	www.betterwithcoal.com/	Centre for Individual Freedom	www.cfif.org/
California Association of Business and Property and Resource Owners	www.cabpro.net/	The Claremont Institute	www.claremont.org/
Collegians for a Constructive Tomorrow	www.cfactcampus.org	Climate Science Coalition of America	www.climatescienceamerica.org/
Commonwealth Foundation	www.commonwealthfoundation.com/	International Climate Science Coalition	www.climatescienceinternational.org/
Edison Electric Institute	www.edi.org	Far West Agribusiness Association	www.fwaa.org/
Institute for 21st Century Energy	www.energyxxi.org	The James Madison Institute	www.jamesmadison.org
American Farm Bureau	www.fb.org/	Media Research Centre	www.mrc.org/

Family Research Council	www.frc.com	Oklahoma Council of Public Affairs	www.ocpathink.org
Independent Commission on Environmental Education	http://web.archive.org/web/19970612233019/www.marshall.org/icee.html	Pacific Legal Foundation	www.pacificlegal.org/
American Land Rights Association	www.landrights.org/	Plants need CO ₂	www.plantsneedco2.org/
National Centre for Public Policy Research	www.nationalcenter.org/	Rocky Mountain Coal Mining Institute	www.rmcmi.org/
National Coal Council	www.nationalcoalcouncil.org	Texas Public Policy Foundation	www.texaspolicy.com/
Illinois Coal Association	www.ilcoalassn.com/	The American Society for the Defence of Tradition, Family and Prosperity	www.tfp.org/
Pacific Research Institute	www.pacificresearch.org	Ashbrook Centre	www.theashbrookcentre.info
The California Drivers Alliance	californiadriversalliance.org	Thomas More Institute (Belgium)	www.thomasmore.be/
Free to Choose Network	freetochoosenetwork.org/	Young America's Foundation	www.yaf.org/
Americas Future Foundation	https://americasfuture.org/	World Climate Report/Greening Earth Society/Institute for Biospheric Research	99
National Association of Home Builders	https://www.nahb.org/	Foundation for Research on Economics and the Environment	free-eco.org
National Association of Regulatory Utility Commissioners	https://www.naruc.org/	International Society for Individual Liberty	https://liberty-intl.org/
Chamber of Commerce of the United States of America	https://www.uschamber.com/	Bluegrass Institute	www.bipps.org
Rightchange.com	Rightchange.com	Economic Freedom Network	www.freetheworld.com/
American Coal Council	www.americancoalcouncil.org	International Climate and Environmental Change Assessment	www.icecap.us
Agricultural Retailers Association	www.aradc.org	Manhattan Institute for Policy Research	www.manhattan-institute.org/
National Petroleum Council	www.npc.org/	Sovereignty International Inc	www.sovereigntyonline.org/
International Organisation of Motor Vehicle Manufacturers	www.oica.net/	Virginia Land Rights Coalition	www.vlrc.org/
Pulp and Paper-workers Resource Council	www.pprc.info/	Washington legal Foundation	www.wlf.org/
American legislative Exchange Council	https://www.alec.org/	Accuracy in Media	www.aim.org/
Louisiana Oil and Gas Association	www.lola.la	Centre for American Experiment	www.americanexperiment.org/

Industrial Energy Consumers of America	http://www.ieca-us.com/	Christian Coalition of America	www.cc.org
Interstate National Gas Association	http://www.ingaa.org/	Future of Freedom Foundation	www.fff.org
World Affairs Council of America	http://www.worldaffairscouncils.org/	Nevada Policy Research Institute	www.npri.org
Alliance for Energy and Economic Growth	http://www.youenergyfuture.org/	American Civil Rights Union	www.theacru.org
ICEAGENOW	https://iceagenow.info	Washington Policy Centre	www.washingtonpolicy.org/
Lignite Energy Council	https://lignite.com/	Western Fuels Association	www.westernfuels.org
National Stripper well Association	https://nswa.us/	Information Council on the Environment	99
Smithsonian Astrophysical Observatory	https://www.cfa.harvard.edu/sao	George Bush Institute	www.bushcenter.org
Charles Koch Institute	https://www.charleskochinstitute.org/	Americans for Prosperity	https://americansforprosperity.org/
Harvard Centre for Risk Analysis	https://www.hsph.harvard.edu/hcra/	US Chamber of Commerce, Business Civic Leadership Centre	https://www.uschamberfoundation.org/corporate-citizenship-center
Pioneer Institute	pioneerinstitute.org	National Rural Electric Cooperative Association	www.electric.coop/
Show-me Institute	showmeinstitute.org	Sense About Science USA	www.senseaboutscienceusa.org
Alaska Forest Association	www.akforest.org	Centre for Urban Renewal and Education	www.urbancure.org
American Exploration Production Council	www.axpc.us/	Property Rights Alliance	www.propertyrightsalliance.org
Centre for Competitive Politics	www.campaignfreedom.org/	American Petroleum Institute	www.api.org
Junkscience.com	www.fb.org/	Colderside.com	Colderside.com
American Gas Foundation	www.gasfoundation.org/	Blue Ribbon Coalition	https://sharetrails.org/
Global Carbon Project	www.globalcarbonproject.org/	Federation for American Coal, Energy and Security	www.facesofcoal.org
US Grains Council	www.grains.org/	Institute for Liberty	www.instituteforliberty.org
Leadership Institute	www.leadershipinstitute.org	American Friends of the Institute of Economic Affairs	99
National Corn Growers Association	www.ncga.com	National Consumer Coalition	99
Natural Gas Supply Association	www.ngsa.org	New Economics School	https://web.archive.org/web/20140422232111/http://blog.nesgeorgia.org:80/miission/
National Gas Supply Association	www.ngsa.org	US Chamber of Commerce Foundation	https://www.uschamberfoundation.org/
Free Enterprise Action Fund	https://web.archive.org/web/20060219232452/http://www.fr	American Association of Petroleum Geologists	www.aapg.org/

Appendix B

Additional Tables and Models

**Table B.1. Sponsors Of The Heartland Institute's International Conference On
Climate Change (<http://climateconferences.heartland.org/>)**

Organisations (Country)	
Taxpayers association Australia (Australia)	Lavoisier Group (Australia)
Carbon Sense Coalition (Australia)	Mannkal Economic Education Foundation (Australia)
Institute for Public Affairs (Australia)	Australian Libertarian Society (Australia)
Hayek Institute (Austria)	Austrian Economics Centre (Austria)
Instituto Liberdade (Brazil)	Frontier Centre for Public Policy (Canada)
Cathay Institute for Public Affairs (China)	Institute for Free Enterprise (Germany)
Committee for a Constructive Tomorrow (Germany)	Liberty Institute (India)
Bruno Leoni Institute (Italy)	Climate Realists (New Zealand)
New Zealand Centre for Political Research (New Zealand)	African Centre for Advocacy and Human Development (Nigeria)
Initiative of Public Policy Analysis (Nigeria)	Alternate Solutions Institute (Pakistan)
Instituto De Libre Empresa (Peru)	Minimal Government Thinkers (Malaysia)
Juan de Mariana Institute (Spain)	American Enterprise Institute (USA)
National Centre for Public Policy Research (USA)	Free to Choose Network (USA)
Junkscience.com (USA)	Leadership Institute (USA)
Institute for Liberty (USA)	Centre for the Defence of Free Enterprise (USA)
Competitive Enterprise Institute (USA)	Northern Virginia Chapter of SEEE (USA)
American Conservative Union (USA)	Freedom Foundation of Minnesota (USA)
Capital Research Centre (USA)	Frontiers of Freedom (USA)
Science and Public Policy Institute (USA)	Americans for Tax Reform (USA)
Beacon Hill Institute (USA)	Committee for a Constructive Tomorrow (USA)
The New Zealand Climate Science Coalition (New Zealand)	Doctors for Disaster Preparedness (USA)
American Energy Freedom Centre (USA)	Independent Institute (USA)
Independent Women's Forum (USA)	Foundation for Economic Education (USA)
Congress of Racial Equality(USA)	The Heritage Foundation (USA)
Physicians for Civil Defence (USA)	Citizens Alliance for a Responsible Energy (USA)
John Locke Foundation (USA)	George C Marshall Institute (USA)
CO ₂ Science (USA)	National Centre for Policy Analysis (USA)
Science and Environmental Policy Project (USA)	American Policy Centre (USA)
Grassroots Institute of Hawaii (USA)	Energy and Environmental Legal Institute (USA)
Accuracy in Academia (USA)	Ayn Rand Institute (USA)
Illinois Policy Institute (USA)	Reason Foundation (USA)
The Acton Institute (USA)	International Climate Science Coalition (USA)
Media Research Centre (USA)	Texas Public Policy Foundation (USA)

Young America's Foundation (USA)

Sovereignty International Inc (USA)

Americans for Prosperity (USA)

Cornwall Alliance (USA)

Hispanic Leadership Fund (USA)

The American Spectator Foundation (USA)

National Association of Scholars (USA)

Climate Sceptics Party (Australia)

Illinois Coal Association (USA)

Manhattan Institute for Policy Research (USA)

Accuracy in Media (USA)

60 Plus Association (USA)

Lincoln Legal Assistance Foundation Incorporation
(USA)

Cascade Policy Institute (USA)

Atlas Economic Research Foundation (USA)

Centro de Investigaciones de Instituciones y
Mercados de Argentina (Argentina)

EIKE (Germany)

Table B.2. Members And Location of Civil Society Of Coalition On Climate**Change Organisations 2007 (CSCCC, 2007-2014)**

Organisation Name (Country)	
Alternate Solutions Institute (Pakistan)	Initiative for Public Policy Analysis (IPPA)
Alabama Policy Institute (USA)	(Nigeria)
Asociación de Consumidores Libres, (Costa Rica)	Institute for Liberty and Analysis of Policy in
Association of Liberal Thinking (Turkey)	Government (INLAP) (Costa Rica)
Bluegrass Institute for Public Policy (USA)	Beacon Centre Tennessee (USA)
CGC Forum (China)	Institut Constant de Rebecque (Switzerland)
Cathay Institute of Public Affairs (China)	Institute for Free Enterprise (Germany)
CEDICE (Venezuela)	Institute for Market Economics (Bulgaria)
Centre for Human Development (Centro de	Institute for Economic Analysis (Russia)
Innovación y Desarrollo Humano) (Uruguay)	Institute for Public Affairs (Australia)
Centre for Political Studies (CEPOS) (Denmark)	Instituto de Libre Empresa (Peru)
China Sustainable Development Research Centre,	Instituto Liberdade (Brazil)
Capital University of Business and Economics	International Policy Network (UK)
(China)	Instituto Bruno Leoni (Italy)
CEPPRO (Paraguay)	Jerusalem Institute for Market Studies
CIIMA-ESEADE (Argentina)	(Israel)
CORE (USA)	John Locke Foundation (USA)
European Centre for International Political Economy	Liberal Institut (Switzerland)
(European Centre for Economic Growth) (Austria)	Liberalni Institute (Czech Republic)
Fraser Institute (Canada)	Liberty Institute (India)
Free Market Foundation (South Africa)	Lion Rock Institute (Hong Kong)
Frontier Centre for Public Policy (Canada)	Lithuanian Free Market Institute (Lithuania)
Fundacion Atlas 1853 (Argentina)	Minimal Government Thinkers (The
Fundacion Libertad (Argentina)	Philippines)
Ecuadorian Institute of Political Economy (IEEP)	New Economic School (Georgia)
(Ecuador)	New Zealand Business Roundtable (New
Hayek Institute (Austria)	Zealand)
CEES (Guatemala)	IMANI (Ghana)
Centre for Ethics and Technological Development	Adam Smith Institute (UK)
(Nigeria)	Americans for Tax Reform (USA)
Centre for Economic Transition (China)	Cascade Policy Institute
Institute for the Study of Humane Action (Peru)	Centre of Human Affairs (Burkina Faso)
Libertad y Desarrollo (Chile)	Institute for Democracy and Economic Affairs
Reason Foundation	(Malaysia)
Taxpayer's Alliance (UK)	Democracy and Market Institute (Chile)
	Washington Policy Centre (USA)

Table B.3. Members Of The Cooler Heads Coalition (www.globalwarming.org)

Name (Country)	
Alexis de Tocqueville Institution (USA)	Heartland Institute (USA)
Americans for Prosperity (AFP) (USA)	Independent Institute (USA)
Americans for Tax Reform (ATR) (USA)	Bruno Leoni Institute (Italy)
American Legislative Exchange Council (ALEC) (USA)	Junkscience.com (USA)
American Policy Centre (APC) (USA)	Lavoisier Group (USA)
America's Future Foundation (AFF) (USA)	Liberty Institute
Committee for a Constructive Tomorrow (CFACT) (USA)	National Centre for Policy Analysis (NCPA) (USA)
Competitive Enterprise Institute (CEI) (USA)	Pacific Research Institute (PRI) (USA)
Fraser Institute (Canada)	Seniors Coalition (USA)
Frontiers of Freedom (USA)	60 Plus Association (USA)
George C Marshall Institute (USA)	Small Business and Entrepreneurship Council (SBEC) (USA)

Table B.4. Members Of The Non-Governmental Independent Panel On Climate Change (<http://climatechangereconsidered.org/>)

Name (Country)	
Alexis de Tocqueville Institution (USA)	Frontiers of Freedom (USA)
Americans for Prosperity (USA)	George C Marshall Institute (USA)
Americans for Tax Reform (USA)	Heartland Institute (USA)
American Legislative Council (USA)	Independent Institute (USA)
American Policy Centre (USA)	Junkscience.com (USA)
America's Future Foundation (USA)	National Centre for Policy Analysis (USA)
Committee for a Constructive Tomorrow (USA)	Pacific Research Institute (USA)
Competitive Enterprise Institute (USA)	Seniors Coalition (USA)
Fraser Institute (Canada)	60 Plus Association (USA)
Freedom Works (USA)	Small Business and Entrepreneurship Council (USA)

Table B.5. Cross-National Distribution Of Organisational Type

<i>Country</i>	<i>Advocacy</i>	<i>Think Tank</i>	<i>Trade Association</i>	<i>Coalition</i>	<i>University Based Research Institute</i>	<i>Professional Association</i>	<i>Foundation</i>	<i>Other</i>	<i>N/A</i>
Albania	0	1	0	0	0	0	0	0	0
Argentina	1	3	0	0	0	0	1	0	0
Australia	3	4	0	1	0	0	3	2	0
Austria	0	2	0	0	0	0	0	0	0
Bahamas	0	1	0	0	0	0	0	0	0
Belgium	0	5	0	0	0	0	1	0	0
Belarus	0	1	0	0	0	0	0	0	0
Brazil	0	2	0	0	0	1	0	2	0
Bulgaria	0	2	0	0	0	0	0	0	0
Burkina Faso	0	1	0	0	0	0	0	0	0
Canada	3	10	2	0	0	0	1	0	0
Chile	0	1	0	0	0	1	0	0	0
China	0	4	0	0	0	0	0	0	1
Costa Rica	1	1	0	0	0	0	0	1	0
Czech Republic	0	4	0	0	0	0	0	0	0
Denmark	0	3	0	0	0	0	0	0	0
Ecuador	0	1	0	0	0	0	0	0	0
France	2	6	0	0	0	1	0	0	0
Georgia	0	0	0	0	0	0	0	0	1
Germany	2	1	0	0	0	0	1	1	0
Ghana	0	1	0	0	0	0	0	0	0
Guatemala	0	2	0	0	0	0	0	1	0
Hong Kong	0	1	0	0	0	0	0	1	0
India	0	2	0	0	0	0	0	0	0
Israel	0	1	0	0	0	0	0	0	0
Italy	0	3	0	0	0	0	0	0	0
Lithuania	0	1	0	0	0	0	0	0	0
Malaysia	0	2	0	0	0	0	0	0	0
Mexico	0	1	0	0	0	0	0	0	0

Netherlands	0	0	0	0	0	0	0	1	0	0
Nigeria	0	2	0	0	0	0	0	0	0	1
New Zealand	1	2	0	0	0	0	0	0	0	0
Norway	0	1	0	0	0	0	0	0	0	0
Pakistan	0	1	0	0	0	0	0	0	0	0
Paraguay	0	1	0	0	0	0	0	0	0	0
Peru	0	5	0	0	0	0	0	0	0	0
Philippines	0	1	0	0	0	0	0	0	0	0
Poland	0	1	0	0	0	0	0	0	0	0
Romania	0	1	0	0	0	0	0	0	0	0
Russia	0	1	0	0	0	0	0	0	0	0
Slovakia	0	2	0	0	0	0	0	0	0	0
South Africa	2	0	0	0	0	0	0	0	0	0
South Korea	0	1	0	0	0	0	0	0	0	0
Spain	0	2	0	0	0	0	0	0	0	0
Sweden	0	1	0	0	0	0	0	0	0	0
Switzerland	0	2	0	0	0	0	0	0	0	0
Thailand	0	0	0	1	0	0	0	0	0	0
Turkey	0	1	0	0	0	0	0	0	0	0
UK	2	9	0	1	0	1	1	1	3	0
Uruguay	0	0	0	0	0	0	0	0	1	0
USA	60	130	49	24	7	1	20	20	20	3
Venezuela	0	1	0	0	0	0	0	0	0	0
Total	77	231	51	27	7	5	29	32	6	

Table B.6. Mean Number Of Neutralisation Techniques at Each Data Point

		Minimum	Maximum	Mean	Std. Dev
Total Number of Techniques	Time One	.00	6.00	1.9158	1.23692
	Time Two	.00	6.00	1.7337	1.24314

Table B.7. Total Number of Neutralisation Techniques Used at One Point in Time.

		<i>Time One</i>		<i>Time Two</i>	
		Freq.	Percent	Freq.	Percent
Total Number of Neutralisation Techniques	.00	37	7.8	58	12.2
	1.00	128	26.9	138	29.0
	2.00	121	25.4	128	26.9
	3.00	57	12.0	51	10.7
	4.00	36	7.6	25	5.3
	5.00	12	2.5	9	1.9
	6.00	1	.2	4	.8

Table B.8 Correlation Results Between Organisational Characteristics And Techniques of Neutralisation

		DOR Time 1	DOI1 Time 1	DOI2 Time 1	DOV1 Time 1	COC Time 1	AHL Time 1	Other Time 1	DOR Time 2	DOI1 Time 2	DOI2 Time 2	DOV1 Time 2	COC Time 2	AHL Time 2	Other Time 2
Use Heartland Expert	Pearson Correlation	.098	-.023	.068	.044	.269**	.109*	. ^b	.155**	.125*	.126*	.058	.176**	-.012	-.006
	N	385	385	385	385	385	385	459	406	406	405	406	406	406	406
Economic liberty	Pearson Correlation	.002	.000	-.010	-.022	.141**	.090	. ^b	-.042	-.032	-.005	-.062	.238**	.041	-.015
	N	391	391	391	391	391	391	470	412	412	411	412	412	412	412
Traditional Values	Pearson Correlation	.049	-.004	.028	.037	.135**	-.108*	. ^b	.089	-.051	-.015	-.020	.149**	-.073	-.116*
	N	391	391	391	391	391	391	470	412	412	411	412	412	412	412

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

b. Cannot be computed because at least one of the variables is constant.

Table B.9. Cross-Tabulation Results Economic Liberty*Condemnation Of The Condemner Time One.

		Economic liberty			
		no	yes	Total	
Condemnation of the Condemner Time One	Freq.	no	70	71	141
	(%)		(44.3%)	(30.5%)	(36.1%)
	Freq.	yes	88	162	250
	(%)		(55.7%)	(69.5%)	(63.9%)
Total			158	233	391
Chi-Square Tests					7.812*

Notes; *p<0.05,
Degrees of Freedom (df) =1

Table B.10 Cross-Tabulation Results Economic Liberty*Condemnation Of The Condemner Time Two.

		Economic liberty			
		no	yes	Total	
Condemnation of the Condemner Time two	Freq.	no	83	64	147
	(%)		(49.4%)	(26.2%)	(35.7%)
	Freq.	yes	85	180	265
	(%)		(50.6%)	(73.8%)	(64.3%)
Total			168	244	412
Chi-Square Tests					23.285*

Notes; *p<0.05
Degrees of Freedom (df) =1

Table B.11 Cross-Tabulation Results Traditional Values*Condemnation Of The Condemner Time One.

		Protect country, traditional values			
		no	yes	Total	
Condemnation of the Condemner Time One	Freq.	no	130	11	141
	(%)		(38.7%)	(20.0%)	(36.1%)
	Freq.	yes	206	44	250
	(%)		(61.3%)	(80.0%)	(63.9%)
Total			336	55	391
Chi-Square Tests					7.161*

Notes; *p<0.05
Degrees of Freedom (df) =1

Table B.12. Cross-Tabulation Results Traditional Values*Condemnation Of The Condemner Time Two.

		Protect country, traditional values			
		no	yes	Total	
Condemnation of the Condemner Time Two	Freq.	no	136	11	147
	(%)		(38.6%)	(18.3%)	(35.7%)
Total	Freq.	yes	216	49	265
	(%)		(61.4%)	(81.7%)	(64.3%)
Chi-Square Tests			352	60	412
					7.161*

Notes: *p<0.05
Degrees of Freedom (df) =1

Table B.13 Cross-Tabulation Results Traditional Values*Other Time Two.

		Protect country, traditional values			
		no	yes	Total	
Other Time Two	Freq.	no	322	60	382
	(%)		(91.5%)	(100.0%)	(92.7%)
Total	Freq.	yes	30	0	30
	(%)		(8.5%)	(0.0%)	(7.3%)
Chi-Square Tests			352	60	412
					5.515*

Notes 1 *p<0.05
Degrees of Freedom (df) =1

Table B.14. Cross Tabulation Results Heartland Global Warming Experts*Condemnation Of The Condemner Time One

		Heartland Global Warming Expert			
		no	yes	Total	
Condemnation of the Condemner Time One	Freq.	no	74	61	135
	(%)		(51.7%)	(25.2%)	(35.1%)
Total	Freq.	yes	69	181	250
	(%)		(48.3%)	(74.8%)	(64.9%)
Chi-Square Tests			143	242	385
					27.810*

Notes 1 *p<0.05
Degrees of Freedom (df) =1

**Table B.15 Cross Tabulation Results Heartland Global Warming
Experts*Appeal to Higher Loyalties Time One**

		Heartland Global Warming Expert			
		no	yes	Total	
Appeal to Higher Loyalties Time 1	Freq.	no	69	90	159
	(%)		48.3%	37.2%	41.3%
Total	Freq.	yes	74	152	226
	(%)		51.7%	62.8%	58.7%
Chi-Square Tests			143	242	385
					4.537*

Notes 1 *p<0.05

Degrees of Freedom (df) =1

**Table B.16. Cross-Tabulation Results Heartland Global Warming
Experts*Denial Of responsibility Time Two**

		Heartland Global Warming Expert			
		no	yes	Total	
Denial of Responsibility Time Two	Freq.	no	122	165	287
	(%)		79.7%	65.2%	70.7%
Total	Freq.	yes	31	88	119
	(%)		20.3%	34.8%	29.3%
Chi-Square Tests			153	253	406
					9.703*

Notes 1 *p<0.05

Degrees of Freedom (df) =1

**Table B.17. Cross-Tabulation Results Heartland Global Warming Experts*Denial of
Injury One, Time Two**

		Heartland Global Warming Expert			
		no	yes	Total	
Denial of Injury 1 Time Two	Freq.	No	132	192	324
	(%)		86.3%	75.9%	79.8%
Total	Freq.	Yes	21	61	82
	(%)		13.7%	24.1%	20.2%
Chi-Square Tests			153	253	406
					6.414*

Notes 1 *p<0.05

Degrees of Freedom (df) =1

Table B.18. Cross-Tabulation Results Heartland Global Warming Experts*Denial of Injury Two, Time Two

		Heartland Global Warming Expert			
		no	yes	Total	
Denial of injury 2 Time Two	Freq.	no	141	210	351
	(%)		92.2%	83.3%	86.7%
Total	Freq.	yes	12	42	54
	(%)		7.8%	16.7%	13.3%
Chi-Square Tests			153	252	405
			6.414*		

Notes 1 *p<0.05
Degrees of Freedom (df) =1

Table B.19 Cross-Tabulation Results Traditional Values*Appeal to Higher Loyalties, Time One.

		Traditional Values			
		no	yes	Total	
Appeal to Higher Loyalties Time One	Freq.	No	132	30	162
	(%)		(39.3%)	(54.5%)	(41.4%)
Total	Freq.	yes	204	25	229
	(%)		(60.7%)	(45.5%)	(58.6%)
Chi-Square Tests			336	55	391
			4.535*		

Notes 1 *p<0.05
Degrees of Freedom (df) =1

Appendix C
Coding Manual

Coding Instruction Manual

Do not distribute this manual without permission of author.

Table of Contents

Background
 Sampling
 Instructions
 Coding Survey
 Codebook: Content Analysis
 References

<i>Name</i>	<i>Code</i>	<i>Climate Change Definition</i>
<i>Denial of Responsibility</i>	<i>DOR</i>	Climate change is happening, but humans are not the cause.
<i>Denial of Injury One</i>	<i>DOI1</i>	There is no significant harm caused by human action and
<i>Denial of Injury 2</i>	<i>DOI2</i>	there may even been some benefits
<i>Denial of Victim One</i>	<i>DOV1</i>	There is no evidence of climate and no climate change victims.
<i>Condemnation of the Condemner</i>	<i>COC</i>	Climate change research is misrepresented by scientists, and manipulated by media, politicians and environmentalists.
<i>Appeal to Higher Loyalties</i>	<i>AHL</i>	Economic progress and development are more important than preventing climate change.
<i>Other</i>	<i>Other</i>	Any technique that does not appear above

Background

The climate change counter movement is a network of organisation that employ climate sceptic arguments and advocate actions against environmental protection (Neubauer, 2011). Previous research have identified such arguments as, *Climate Change is not occurring*, *Climate change is occurring, but it is not due to humans*, *Climate change is occurring, it is due to humans. But it does not pose a sufficient threat to justify large scale action* (Dunlap and Jacques, 2013, Jacques et al., 2008, Neubauer, 2011).

Your task is to identify the organisations that make up the climate counter movement and the arguments they use to question climate science. These sceptical arguments are to be explored in a template of five techniques of neutralisation (Sykes and Matza, 1957). **Table 1** provides an overview and definition of these techniques of neutralisation.

There are two phases for you to complete. **Phase One**, is an initial identification process whereby you are required to follow the coding survey. **Phase Two** is to conduct a content analysis of these organisations messages on climate change. You must consult the guidance sheet that list key requirements for each category using this a coding scheme for the content analysis. You must then record this data. Throughout the coding process you are free to make comments regarding any problems or issues you experienced when coding the data.

Sampling

This list of organisations is derived from five major sources:

- 1) List of organisations sponsored Heartland Institute International Climate Change Conference in Table 1
- 2) List of organisations members of the cooler heads coalition in Table 2
- 3) Members of the Civil Society Coalition on Climate Change in Table 3
- 4) The organisations list corresponded with other researchers n Table 4
- 5) Partner and affiliated organisations that satisfies coding criteria

**Table 4 Sponsors Of The Heartland Institute's International Conference On
Climate Change (<http://climateconferences.heartland.org/>)**

Organisations (Country)	
Taxpayers association Australia (Australia)	Lavoisier Group (Australia)
Carbon Sense Coalition (Australia)	Mannkal Economic Education Foundation (Australia)
Institute for Public Affairs (Australia)	Australian Libertarian Society (Australia)
Hayek Institute (Austria)	Austrian Economics Centre (Austria)
Instituto Liberdade (Brazil)	Frontier Centre for Public Policy (Canada)
Cathay Institute for Public Affairs (China)	Institute for Free Enterprise (Germany)
Committee for a Constructive Tomorrow (Germany)	Liberty Institute (India)
Bruno Leoni Institute (Italy)	Climate Realists (New Zealand)
New Zealand Centre for Political Research (New Zealand)	African Centre for Advocacy and Human Development (Nigeria)
Initiative of Public Policy Analysis (Nigeria)	Alternate Solutions Institute (Pakistan)
Instituto De Libre Empresa (Peru)	Minimal Government Thinkers (Malaysia)
Juan de Mariana Institute (Spain)	American Enterprise Institute (USA)
National Centre for Public Policy Research (USA)	Free to Choose Network (USA)
Junkscience.com (USA)	Leadership Institute (USA)
Institute for Liberty (USA)	Centre for the Defence of Free Enterprise (USA)
Competitive Enterprise Institute (USA)	Northern Virginia Chapter of SEEE (USA)
American Conservative Union (USA)	Freedom Foundation of Minnesota (USA)
Capital Research Centre (USA)	Frontiers of Freedom (USA)
Science and Public Policy Institute (USA)	Americans for Tax Reform (USA)
Beacon Hill Institute (USA)	Committee for a Constructive Tomorrow (USA)
The New Zealand Climate Science Coalition (New Zealand)	Doctors for Disaster Preparedness (USA)
American Energy Freedom Centre (USA)	Independent Institute (USA)
Independent Women's Forum (USA)	Foundation for Economic Education (USA)
Congress of Racial Equality(USA)	The Heritage Foundation (USA)
Physicians for Civil Defence (USA)	Citizens Alliance for a Responsible Energy (USA)
John Locke Foundation (USA)	George C Marshall Institute (USA)
CO ₂ Science (USA)	National Centre for Policy Analysis (USA)
Science and Environmental Policy Project (USA)	American Policy Centre (USA)
Grassroots Institute of Hawaii (USA)	Energy and Environmental Legal Institute (USA)
Accuracy in Academia (USA)	Ayn Rand Institute (USA)
Illinois Policy Institute (USA)	Reason Foundation (USA)
The Acton Institute (USA)	International Climate Science Coalition (USA)
Media Research Centre (USA)	Texas Public Policy Foundation (USA)

Young America's Foundation (USA)	Manhattan Institute for Policy Research (USA)
Sovereignty International Inc (USA)	Accuracy in Media (USA)
Americans for Prosperity (USA)	60 Plus Association (USA)
Cornwall Alliance (USA)	Lincoln Legal Assistance Foundation Incorporation (USA)
Hispanic Leadership Fund (USA)	Cascade Policy Institute (USA)
The American Spectator Foundation (USA)	Atlas Economic Research Foundation (USA)
National Association of Scholars (USA)	Centro de Investigaciones de Instituciones y Mercados de Argentina (Argentina)
Climate Sceptics Party (Australia)	EIKE (Germany)
Illinois Coal Association (USA)	

Table 2 Members Of The Cooler Heads Coalition (www.globalwarming.org)

Name (Country)	
Alexis de Tocqueville Institution (USA)	Heartland Institute (USA)
Americans for Prosperity (AFP) (USA)	Independent Institute (USA)
Americans for Tax Reform (ATR) (USA)	Bruno Leoni Institute (Italy)
American Legislative Exchange Council (ALEC) (USA)	Junkscience.com (USA)
American Policy Centre (APC) (USA)	Lavoisier Group (USA)
America's Future Foundation (AFF) (USA)	Liberty Institute
Committee for a Constructive Tomorrow (CFACT) (USA)	National Centre for Policy Analysis (NCPA) (USA)
Competitive Enterprise Institute (CEI) (USA)	Pacific Research Institute (PRI) (USA)
Fraser Institute (Canada)	Seniors Coalition (USA)
Frontiers of Freedom (USA)	60 Plus Association (USA)
George C Marshall Institute (USA)	Small Business and Entrepreneurship Council (SBEC) (USA)

Table 3 Members And Location of Civil Society Of Coalition On Climate Change**Organisations 2007 (CSCCC, 2007-2014)**

Organisation Name (Country)	
Alternate Solutions Institute (Pakistan)	Initiative for Public Policy Analysis (IPPA)
Alabama Policy Institute (USA)	(Nigeria)
Asociación de Consumidores Libres, (Costa Rica)	Institute for Liberty and Analysis of Policy in
Association of Liberal Thinking (Turkey)	Government (INLAP) (Costa Rica)
Bluegrass Institute for Public Policy (USA)	Beacon Centre Tennessee (USA)
CGC Forum (China)	Institut Constant de Rebecque (Switzerland)
Cathay Institute of Public Affairs (China)	Institute for Free Enterprise (Germany)
CEDICE (Venezuela)	Institute for Market Economics (Bulgaria)
Centre for Human Development (Centro de	Institute for Economic Analysis (Russia)
Innovación y Desarrollo Humano) (Uruguay)	Institute for Public Affairs (Australia)
Centre for Political Studies (CEPOS) (Denmark)	Instituto de Libre Empresa (Peru)
China Sustainable Development Research Centre,	Instituto Liberdade (Brazil)
Capital University of Business and Economics	International Policy Network (UK)
(China)	Instituto Bruno Leoni (Italy)
CEPPRO (Paraguay)	Jerusalem Institute for Market Studies
CIIMA-ESEADE (Argentina)	(Israel)
CORE (USA)	John Locke Foundation (USA)
European Centre for International Political Economy	Liberal Institut (Switzerland)
(European Centre for Economic Growth) (Austria)	Liberalni Institute (Czech Republic)
Fraser Institute (Canada)	Liberty Institute (India)
Free Market Foundation (South Africa)	Lion Rock Institute (Hong Kong)
Frontier Centre for Public Policy (Canada)	Lithuanian Free Market Institute (Lithuania)
Fundacion Atlas 1853 (Argentina)	Minimal Government Thinkers (The
Fundacion Libertad (Argentina)	Philippines)
Ecuadorian Institute of Political Economy (IEEP)	New Economic School (Georgia)
(Ecuador)	New Zealand Business Roundtable (New
Hayek Institute (Austria)	Zealand)
CEES (Guatemala)	IMANI (Ghana)
Centre for Ethics and Technological Development	Adam Smith Institute (UK)
(Nigeria)	Americans for Tax Reform (USA)
Centre for Economic Transition (China)	Cascade Policy Institute
Institute for the Study of Humane Action (Peru)	Centre of Human Affairs (Burkino Faso)
Libertad y Desarrollo (Chile)	Institute for Democracy and Economic Affairs
Reason Foundation	(Malaysia)
Taxpayer's Alliance (UK)	Democracy and Market Institute (Chile)
	Washington Policy Centre (USA)

Table 4. Previous Research with Organisational information

Name of Source	Source
Brulle (2014)	Brulle, R.J., 2014. "Institutionalising delay: foundation funding and the creation of US climate change counter-movement organisations." <i>Climatic Change</i> 122(4):681-694.
Oreskes and Conway	Oreskes, Naomi and Conway, Eric. M. 2011. <i>Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming</i> . New York, Bloomsbury Publishing USA.
Plehwe (2014)	Plehwe, Dieter. 2014. Think tank networks and the knowledge–interest nexus: The case of climate change. <i>Critical Policy Studies</i> , 8(1):101-115.
McKewon	McKewon, E. 2012 Talking Points Ammo: The Use of Neoliberal Think Tank Fantasy Themes to Delegitimise Scientific Knowledge of Climate Change in Australian Newspapers. <i>Journalism Studies</i> , 13(2):277-297.
McCright and Dunlap (various dates)	Dunlap, Riley. E and McCright, Arron. M. 2015. Organised climate change denial. In Dunlap, Riley, E and Brulle, Robert (eds) <i>The Oxford Handbook of Climate Change and Society</i> , Oxford: Oxford University Press: 144-160.
	McCright, Arron .M and Dunlap, Riley. E. 2000. "Challenging Global Warming as a Social Problem: An Analysis of the Conservative Movement's Counter-claims." <i>Social Problems</i> , 47(4):499-522.
	McCright, Arron. M and Dunlap, Riley. E. 2003 "Defeating Kyoto: The Conservative Movement's Impact on US Climate Change Policy." <i>Social Problems</i> , 50(3):348-373.
Greenpeace	www.exxonsecrets.org/
Corporate Europe Observatory	https://corporateeurope.org/news/funding-climate-change-denial
Mother Jones (2009)	http://www.motherjones.com/environment/2009/12/climate-deniers-atlas-foundation
Campaign Against Climate Change: Union of Concerned Scientists	http://www.ucsusa.org/global_warming/solutions/fight-misinformation/global-warming-skeptic.html

Instructions

Follow the Instructions to locate and gather data on CCCM organisations

Phase One: Initial Identification

- **Step 1:** Examine if they were taken from one of the predefined groups (see above) or the organisation they had been derived from.
- **Step 2:** Locate and record the URL of each organisations website.
- **Step 3:** Identify the type of the organisation from one of eight categories defined above: *advocacy, think tank, trade association, coalition, university affiliated research institute, professional association, foundation, other.*
- **Step 4:** Identify the organisations country of origin.
- **Step 5:** Identify if the organisation has been linked with climate sceptic activities on the following websites.
 - 5.1 Polluter watch. Available at: <https://www.polluterwatch.com>
 - 5.2 Exxon Secrets: Greenpeace. Available at:
<http://www.exxonsecrets.org/maps.php>
 - 5.3 Sourcwatch. Available at:
<http://www.sourcwatch.org/index.php/SourceWatch>
 - 5.4 Corporate Europe Observatory. Available at:
http://corporateeurope.org/sites/default/files/sites/default/files/files/article/funding_climate_deniers.pdf
 - 5.5 The Union of Concerned Scientists. Available at:
http://www.ucsusa.org/global_warming/solutions/fight-misinformation/global-warming-skeptic.html
- **Step 6:** Review organisations website and find the following information.
 - 6.1 Does the mission statement or about me section of their website mention global warming/climate change?
 - 6.2 Is global warming/climate change a specific research area?

- 6.3 Is global warming/climate change part of a section on energy and environment research?
- 6.4 Key word search for global warming/climate change to see if it is mentioned in any other area of the website.
- **Step 7:** Scan the organisations website to find the following information.
 - 7.1. Date that the organisation was founded.
 - 7.2. Trace the period of time it first dedicated attention to global warming and climate change as a major issue. If information unavailable answer N/A
 - 7.3. Consulting the mission statement, does the organisation label itself as politically partisan or non-partisan?
 - 7.4. Consulting the mission statement, does the organisation promote religious principles?
 - 7.5. Looking at the mission statement does the organisation advocate free market principles, property rights
 - 7.6. Looking at the mission statement does the organisation advocate for the protection of traditional and domestic nation sovereign?
 - 7.7. List partner or affiliated organisations. These would most likely be in a section headed links of interests, or partners.
 - 7.8. Is the organisation a member of the Atlas Network (Atlas Economic Research Foundation). The Atlas Network is a non-profit coalition group made up of 450 free market think tanks from across the world. This information was available at: <https://www.atlasnetwork.org/>. The organisation has been linked to the CCCM by Smith (2016), Lack (2013), Greenpeace (nd), Sourcewatch (nd) and Desmogblog (nd).
 - 7.9. Was the organisation a member of the Stockholm Network (European institutions). The Stockholm Network is a market oriented network of European think tanks. It has previously been linked with the CCCM organisations the CSCCC and identified by the Corporate Europe Observatory as related to the CCCM

(<https://www.desmog.uk/2016/02/11/here-s-what-happened-exxon-funded-eu-think-tanks-after-it-pledged-not-fund-climate-denial>). This information was available at: <http://www.stockholm-network.org/>

- 7.10. Was the organisation a member of the State Policy Network (USA institutions). The State Policy Network is a CCCM organisation identified by Greenpeace, Sourcewatch, and Desmogblog. This information was available at: <http://www.spn.org/directory/>.
- 7.11. Are one or more employees on the International Climate Science Coalition climate scientist register? There are three potential registers qualified endorsers at the Manhattan Conference, qualified endorsers not at the Manhattan conference, citizen endorsers of the climate scientist register. This information was available at:
http://www.climatescienceinternational.org/index.php?option=com_content&task=view&id=
- 7.12. Has a member of the organisation spoken at the Heartland Institutes International Conference on Climate Change 2015?
- 7.13. Is a member of or work created by one or more Heartland Institute Global Warming Experts on climate change included in on their website? This information is available at: <https://www.heartland.org/about-us/who-we-are/?topic=climate-change&type=policy-experts&type=senior-fellows&q=#content>. To locate if an organisation had a member of staff that was a climate contrarian or cited some information and data from one or more sceptics, the name of each climate contrarian taken from the *Global Warming Experts* from the Heartland Institute was typed into every search engine on an organisations website (see Table X, Appendix D for a list of these names and credentials). ¹

¹Some experts were official members of the organisation, while some were cited in articles, op-eds and positions related to global warming, climate change, environmentalism and energy policy. Where search engines were unavailable, I recorded this data as missing.

Coding Survey

Step	Initial Identification	No	Yes	N/A	
1	Co-sponsored one or more Heartland Institute International Conference on Climate Change				
	Global Warming.org / Cooler heads Coalition				
	Was the Organisation a member of the Civil Society of Coalition on Climate Change				
	What organisation is this organisation derived from				
	Name of Organisation/Individual				
	Organisation URL				
2					
3	Nature of Organisation		Answer		
	1) Advocacy	5) University Affiliated Research Institute			
	2) Think Tank/Research	6) Professional Association			
	3) Trade Association	7) Foundation			
	4) Coalition	8) Other			
4	Organisation Country of Origin				
5	External Website Descriptions		No	Yes	N/A
	Is the organisation described as CCMO on Wikipedia				
	Is the organisation described as CCMO by Greenpeace (exxonsecrets.org)				
	Is the organisation described as CCMO on Sourcewatch				
	Is the organisation described as CCMO by Corporate Europe Observatory				
	Is the organisation listed as climate change denial by the Union of Concerned Scientists				
	Organisation Website Review		No	Yes	N/A
6	Is Global warming/Climate Change mentioned in mission statement/purpose /objectives				
	Is climate change or global warming a specific research area				
	Is climate change or global warming part of a specific research area into the environment or energy policy				
	Are there any other statements or editorials on the organisation website concerning climate global warming/climate change				
7	Characteristics of organisation 1		Answer		N/A
	Date organisation founded				
	Date organisation began discussing climate change/global warming				
	1) Partisan 2) Non-Partisan				
	Does the organisation use religion: evangelists? 1) Yes 2) No				
			No	Yes	N/A

	Does the organisation have Partners or affiliated organisations			
	Member of the Atlas Network			
	Member of the Stockholm Network			
	Member of the State Policy Network			
	Members	Answer		
	Fellow or individual from organisation Registered on the Climate Scientist Register of the International Climate Science Coalition/ on the advisory board of the International Climate Science Coalition			
	Has a member of the organisation spoken at the Heartland Conference 2015			
	Is a scientist from the climate scientist from the Heartland Conference list of Global warming experts referenced on the organisation website			
8	Techniques of Neutralisation	No	Yes	N/A
	Denial of Responsibility			
	Denial of Injury One			
	Denial of Injury Two			
	Denial of Victim			
	Condemnation of the Condemner			
	Appeal to Higher Loyalties			
	Other			
	None			

Affiliated/Partner Organisations

Date Coded:

Phase Two: Content Analysis

Carry out a content analysis. Identify if and what techniques of neutralisation are used by these organisations. Use the following coding scheme and attached document to note down any codes. Use the following documents for analysis:

- Mission statement/aim
- Position Statement
- Press release, report, web post on website: select the first article from the search

Download each piece of information from organisation websites into word document format or text file. Save to hard drive using the name of the organisation as file name.

Upload files into computer programme Nvivo 10. Carry out content analysis. Use the codebook for details on code and example definitions.

Name	Code	Climate Change Definition
<i>Denial of Responsibility</i>	<i>DOR</i>	Climate change is happening, but humans are not the cause.
<i>Denial of Injury One</i>	<i>DOI1</i>	There is no significant harm caused by human action and
<i>Denial of Injury 2</i>	<i>DOI2</i>	there may even been some benefits
<i>Denial of Victim One</i>	<i>DOV1</i>	There is no evidence of climate and no climate change victims.
<i>Condemnation of the Condemner</i>	<i>COC</i>	Climate change research is misrepresented by scientists, and manipulated by media, politicians and environmentalists.
<i>Appeal to Higher Loyalties</i>	<i>AHL</i>	Economic progress and development are more important than preventing climate change.
<i>Other</i>	<i>Other</i>	Any technique that does not appear above

Codebook for Content Analysis

The following codes are for you to use in the content analysis of information taken from these organisation websites. There are eleven codes under “Techniques of Neutralisation” and seven codes under “Actions advocated for climate change”. If there are no neutralisation techniques found in the data, you must code this **No Code (NC)**. Further information is given below on each code.

Techniques of Neutralisation

Code: Denial of Responsibility (DOR)

Sykes and Matza (1957): *Acts are accidents or beyond an individual's control*

Brief Definition: Climate change is happening, but humans are not the cause.

Summary: Climate change is happening, but humans are not the cause and are unable to prevent climate changes.

Example: *'It is our opinion that the Sun is main direct and indirect driver of climate change.'* (Friends of Science)

Comments:

Code: Denial of Injury/harm: (DOI)

Sykes and Matza (1957): *“Norm violating behaviour has no serious consequences or injury,”*

Brief definition: There is no significant harm caused by anthropogenic global warming

Summary:

DOI1: There are some anthropogenic influences on climate changes however these influences are small compared to natural variation.

DOI2: CO₂ is actually a good thing for the biosphere, increasing agriculture in less prosperous areas.

Example: *“Since science and observation have failed to show that human-caused CO₂ emissions are causing dangerous global warming,”* (Climate Science Coalition of America)

Comments:

Code: Denial of Victim (DOV)

Sykes and Matza (1957): (1) *There is no climate change and (2) there are no visible victim (the victim is physically absent or a vague abstraction)*

Brief Definition: (1) there is no climate change there are no victims of climate change.

Summary:

DOV1: There is no climate change and therefore there are no visible victims.

Comments:

Code: Appeal to Higher Loyalties: (AHL)

Sykes and Matza (1957): *"Sacrificing the demands of larger society for the demands of the smaller social groups."*

Brief Definition: Economic progress and development are more important than preventing climate change

Summary: Climate change is happening and humans are the cause. However, commitments to reducing GHG emissions will compromise human development and economic progress, particularly hurting poor and underdeveloped populations.

Example: *"moving the debate away from implementation of costly and ineffectual climate control measures. Instead, encourage assisting vulnerable peoples to adapt to climate variability"* (International Climate Science Coalition).

Comments

Code: Condemnation of the Condemner: (COC)

Sykes and Matza (1957): *Deflect moral condemnation onto those condemning their norm violating behaviour. "His condemners...are hypocrites, deviants in disguise, or impelled by personal spite"*

Brief Definition: Climate science has been misrepresented by (1) scientists, (2) media, (3) politicians, (4) environmentalists.

Summary: Climate counter movement organisations condemn the behaviour of: (1) scientists; (2) the media; (3) politicians; (4) environmentalists; (5) all. This group of people

use global warming to support a political agenda by misrepresenting evidence, media bias and promoting climate alarmism.

Example: *'We seek to inform the media, politicians and the public, in a newsworthy way, on the subject in general and on the misinformation to which they are all too frequently being subjected at the present time'* (Global Warming Policy Foundation)

Comments

Code: Other

Brief: Any other neutralisation techniques in the data.

Summary: Use this code if any other techniques of neutralisation appear in the data. Give details of this in coder comments.

Brief: Any other actions advocated for climate change in the data.

Summary: Use this code if any other actions advocated appear in the data. Give details of this in coder comments.

Comments

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Appendix D

Climate Change Counter Movement Network Actors

Table D.1. Contrarian Scientists

Name	Background	Example Associated Organisations
James Inhofe	Chairman of the US Committee on Environment and Public Works (CEPW)	Heartland Institute
Mark Steyn	Mark Steyn has produced work on behalf of organisations including CO ₂ Coalition and was Heartland Institute conference speaker and policy expert in 2016 (see Youtube video Mark Steyn at the Heartland Institute on 12-June- 2016, https://www.youtube.com/watch?v=OvEw4m-QfjM).	Heartland Institute, CO ₂ Coalition, Bert Kelly Research Centre, IPA,
Frederick D. Palmer	Senior Fellow for Energy and Climate. Palmer joined Heartland in January, 2017. Fred Palmer is Peabody Energy's Senior Vice President of Government Relations.	Heartland Institute, Greening Earth Society, Western Fuels Association, ICE.
Gerd-Rainer Weber	PhD in Meteorology	Heartland Institute, SEPP, CFACT
Ian Plimer	Professor of Mining Geology, The University of Adelaide. He has published several climate sceptic books.	Heartland Institute, IPA, GWPF, CLEXIT
Kenneth Haapala	President, SEPP	SEPP, heartland Institute, NIPCCC
James Taylor	senior research fellow on environmental and energy policy at the Heartland Institute, James Madison institute	Heartland Institute, James Madison Institute, Federalist Society Cato Institute, SEPP
Larry Bell	Endowed Professor - Space Architecture, University of Houston	CO ₂ Coalition, Heartland Institute.
Nigel Lawson	Lawson is a retired conservative politician and journalist who served under the Thatcher government. He has and continues to be associated as either a fellow or writing op-eds and research for other CCCM organisations including the GWPF, Heartland Institute, Centre for Policy Studies, Austrian Economics Centre.	Austrian Economics Centre, GWPF, Heartland Institute, CPS
Chris Horner	Senior Legal Fellow at the Energy and Environment Legal Institute (E&E Legal) Juris Doctorate (JD) from Washington State University, author of <i>Red Hot Lies: How Global Warming Alarmists Use Threats, Fraud and Deception to keep You Misinformed</i> (2008), and <i>The Politically Incorrect Guide to Global Warming and Environmentalism</i> (2007)	E&E Legal, Heartland Institute,
Bjorn Lomborg	Leader of the CCCM organisation the Copenhagen Consensus Centre a Danish CCCM organisation founded in 2003. He previously led the now defunct Environmental Assessment Institute, Denmark (2002-2007).	Heartland Institute, Copenhagen Consensus Centre, Fraser Institute, Cato Institute, CEI, Hoover Institute, Reason Foundation.
Myron Ebell	Holds an M.Sc. He is director of the Energy and Environment department at CEI. In 2016 he was appointed as a leader of the EPA transition team under the Trump administration. Overtime, he has consistently argued that climate change is real, although he disputes the extent of human causes, and policy developments to remedy climate change	Cato Institute, Heartland Institute, CEI, Cooler Heads Coalition

Patrick Moore	Co-founder and former leader of Greenpeace. Since removing himself from the organisation he has consistently criticised the non-profit referring to the group as alarmists. He published the pseudoscientific book <i>Pacific Spirit</i> , and produced a book criticising Greenpeace " <i>Confessions of a Greenpeace drop-out: The Making of a Sensible Environmentalist</i> "	F CPP, Heartland Institute, Nuclear Energy Institute
Paul Driessen	Senior Policy Advisor, Committee for a Constructive Tomorrow and Centre for the Defence of Free Enterprise	CFACT, Centre for the Defence of Free Enterprise
Tom Segalstad	Associate Professor of Resource and Environmental Geology, University of Oslo. He is an expert reviewer for the IPCC	Heartland Institute
Tom Sheahen	Professional Physicist and Energy Expert	Heartland Institute
Dr. John Dale Dunn, M.D., J.D.	Physician, Attorney, and Policy Advisor to The Heartland Institute. He has presented at several of the Heartland Institutes International Conference on Climate Change.	Heartland Institute, Junkscience.com, NCPA
James E. Enstrom	Research Professor, University of California Los Angeles School of Public Health	Heartland Institute
Jonathan H. Adler	Johan Verheij Memorial Professor of Law and Director of the Centre for Business Law & Regulation, Case Western Reserve University School of Law	Heartland Institute, CEI, Federalist Society, The Independent Institute, PERC
Craig Idso	Founder and Chairman, Centre for the Study of CO ₂ and Global Change	CO ₂ Science, Heartland Institute,
H. Sterling Burnett	Research Fellow, Environment; Managing Editor, Environment & Climate News	Heartland Institute, NCPA, Cornwall Alliance, ALEC, CEI, TPPF
Howard Hayden	Professor of Physics Emeritus, University of Connecticut	Heartland Institute, Clexit, CFACT
Iain Murray	Director of Projects and Analysis/Senior Fellow, Competitive Enterprise Institute	CEI, Heartland Institute, Adam Smith Institute
Ian Clark	Professor of Earth Sciences, University of Ottawa	Heartland Institute, CEI, Fraser Institute.
Indur Goklany	Visiting Fellow, American Enterprise Institute	Heartland Institute, AEI, GWPF, PERC, Cato Institute,
J. Scott Armstrong	Professor, Wharton School, University of Pennsylvania	Clexit, Heartland Institute.
Jay Lehr, Ph.D.	Science Director	Heartland Institute, Property Rights Research.
Joe Bastardi	Chief Forecaster, Weather Bell	Heartland Institute, American Tradition Institute
John Coleman	Former Meteorologist, KUSI-TV San Diego	Heartland Institute.
Joseph Bast	President and CEO, The Heartland Institute	Heartland Institute
Kesten Green	Senior Research Fellow, Ehrenberg-Bass Institute, University of South Australia Business School	Heartland Institute

Madhav Khandekar	Former Research Scientist, Environment Canada	Heartland Institute
Marc Morano	[1] Marc Marono has a B.A. Political Science from George Mason University (GMU). [1] Climate Hustle claims to “reveal the history of climate scares including global cooling, debunks outrageous claims about temperatures, extreme weather, and the so-called consensus, and exposes the increasingly shrill calls to act immediately before it’s too late” (http://www.climatehustle.org/).	CFACT, Heartland Institute, ClimateDepot.com
Marlo Lewis	Senior Fellow, Competitive Enterprise Institute. Marlo Lewis (publishes on energy policy and other policy issues receiving his PhD in Government from Harvard University)	Heartland Institute, Competitive Enterprise Institute
Mitch Taylor	Polar Bear Biologist, Lakehead University	
Patrick Michaels	Senior Fellow, Cato Institute	Cato Institute, Heartland Institute, CEI
Paul Chesser	Associate Fellow, National Legal and Policy Centre	Heartland Institute
Paul Waggoner	Distinguished Scientist, The Connecticut Agricultural Experiment Station	
Petr Chylek	Team Leader, Los Alamos National Laboratory	Heartland Institute, Fraser Institute
Randall Cerveny	Associate Professor of Geography, Arizona State University	Heartland Institute, Arizona State University,
Richard Lindzen	Alfred P. Sloan Professor of Meteorology, Massachusetts Institute of Technology	Heartland Institute
Robert Balling	Professor of Climatology, Arizona State University	Heartland Institute
Robert M. Carter (1942-2016)	Robert ‘Bob’ Carter was a former research professor at James Cook University Queensland, involved in think tanks such as The Heartland Institute, The Centre for the Study of CO ₂ and Global Change, SEPP, and the International Climate Science Coalition.	Lavoisier Group, Heartland Institute, Carbon Sense Coalition, Co2 Science, SEPP, James Cook University
Ron Arnold	Executive Vice President, Centre for the Defence of Free Enterprise	Heartland Institute
Russell Cook	Contributing Editor, Environment & Climate News	Heartland Institute, CFACT
S. Fred Singer	He has a P.hD in physics. Founder and Director, the Science and Environmental Policy Project. He has authored and co-authored several books for the CCCM including "Hot Talk, Cold Science", "Climate Change Reconsidered" and " <i>Unstoppable Global Warming.</i> " He has spoken at several Heartland Institute International Conference on Climate Change.	SEPP, International Climate Science Coalition, Heartland Institute, DDP, PDF, NIPCC
Sallie Baliunas	Astrophysicist and Senior Scientist, George C. Marshall Institute. She published and co-authored a 2017 book " <i>Climate Change, the Facts 2017,</i> " but has co-authored several others and produced reports disputing the science on climate change	George C Marshall Institute, CFACT, CEI, GCC, Heartland Institute, Heritage Foundation, Hoover Institute, NSRP, GES, Annapolis Centre for Science Based Public Policy, MIPR, The Scientific Alliance.
Sherwood B. Idso	President, Centre for the Study of CO ₂ and Global Change	Heartland Institute

Stanley Goldenberg Steve Goreham	Meteorologist, Hurricane Research Division/AOML/NOAA Author, Environmental Researcher	Heartland Institute Heartland Institute, Acton Institute for Individual Liberty.
Steven Milloy	Portfolio Manager, Free Enterprise Action Fund. He was also associated with the Tobacco Lobby (Oreskes and Conway, 2010)	Heartland Institute, TASSC, Junkscience.com, CEI, EE Legal, Cato Institute.
Syun-Ichi Akasofu Thomas B. Hayward Timothy Ball	Founding Director, International Arctic Research Centre - Environmental Consultant and Former Climatology Professor, University of Winnipeg	Heartland Institute, International Arctic Research Centre. Heartland Institute
Tom Harris	Tom Harris is a mechanical energy and is the director of the ICSC. He provides commentary on the NIPCC. He is a regular speaker at the Heartland Institutes International Conference on Climate Change	Heartland Institute, Clexit, ICSC, Galileo Movement, FOS,, FCPP. ICSC, Heartland Institute, NRSP, TASSC, NIPCC
Walter Cunningham William Briggs Willie Soon	Apollo 7 astronaut, author Statistical Consultant, New York Methodist Hospital; wmbriggs.com Astrophysicist and a geoscientist based in Cambridge, MA	
Gilbert L. Ross Henry I. Miller Jeff Stier	Former Executive Director, Medical Director, American Council on Science and Health (ACSH) Robert Wesson Fellow in Scientific Philosophy and Public Policy, Hoover Institution He is a Senior fellow at the NCPPR, publishes reports for the organisation and makes regular media appearances and articles for various news organisations	Clexit, Heartland Institute, GES, SEPP,WCR, George C Marshall Institute, Fraser Institute ACSH, Heartland Institute. Hoover Institution NCPPR, Heartland Institute,
George Taylor James O'Brien John Christy	State Climatologist and Faculty Member, Oregon State University Professor Emeritus of Meteorology and Oceanography, The Florida State University John Christy has a PhD in Astrophysics	Heartland Institute Heartland Institute, Heartland Institute, George C Marshall Institute
Joseph D'Aleo Laurence Gould	Executive Director, Icecap.us Professor of Physics, University of Hartford	ICECAP, Heartland Institute Heartland Institute

Lord Christopher Monckton	Monckton is a political advisor to the Conservative Party and United Kingdom Independence Party (UKIP). He has been a speaker at several conference events including the Heartland Institutes International Conference on Climate Change. He is one of the most vocal opponents of Al Gore (http://www.lordmoncktonfoundation.com/about_us) and produces articles for various CCCM organisations and media outlets.	SPPI, GWPF, Clexit, Heartland Institute, CFACT, Cornwall Alliance
Michael Hart	Emeritus Professor, Norman Paterson School of International Affairs	Heartland Institute.
Nir Shaviv	Professor, Racah Institute of Physics	Heartland Institute.
Owen McShane	He has a B. in Architecture, He is a the director of the New Zealand based Climate Science Coalition. He has previously been a speaker at the Heartland Institutes International Conference on Climate Change.	NZCSC, CFACT, Heartland Institute, ICSC.
Peter Dietze	Energy Advisor and Climate Modeller, Intergovernmental Panel on Climate Change	Heartland Institute, SEPP
R. Timothy Patterson	Professor of Geology, Carleton University	Heartland Institute
Ross McKittrick	Associate Professor of Economics, University of Guelph	Heartland Institute, Cato Institute. George C Marshall Institute, CEI, Cooler Heads Coalition.
Roy Spencer	Principal Research Scientist, University of Alabama in Huntsville	Heartland Institute, Cornwall Alliance, CO ₂ Coalition, ICECAP
Vaclav Klaus	Vaclav Klaus has a PhD in econmies and was former president of the Czech Republic. He has been a speaker the Heartland Institutes International Conference on Climate Change. He has written the climate sceptic book " <i>Blue Planet in Green Shackles</i> "	Clexit, Mont Pelerin Society, GWPF,
William Kininmonth	Scientist, Australasian Climate Research	Heartland Institute, Lavoisier Group, ICSC, SPPI, ACSC, Galileo Movement.
Yuri Izrael	Vice Chairman, Intergovernmental Panel on Climate Change	Heartland Institute
Benita M. Dodd	Vice President, Georgia Public Policy Foundation	GPPF, Heartland Institute.
David Wojick, PH. D	Former consultant, Office of Scientific and Technical Information	Heartland Institute, Hudson Institute, GES
Isaac Orr	Research Fellow. He publishes regularly on the issue of Fracking.	Heartland Institute
Ken Malloy	Executive Director, Centre for the Study of Carbon and Energy Markets	Heartland Institute
Lawrence Solomon	Founder and Managing Director, Energy Probe Research Foundation	Energy Probe International, Heartland Institute, FCPP
Lee Gerhard	Senior Scientist Emeritus, University of Kansas	Heartland Institute, American Association of Petroleum Geologists.
Marita Noon	Executive Director, Citizen's Alliance for Responsible Energy	Heartland Institute, CARE, CFACT

Nick Loris	Herbert & Joyce Morgan Fellow, The Heritage Foundation. Makes regular television appearance to debate and promote a contrarian position on climate change.	Heartland Institute, Heritage Foundation, Charles Koch Foundation, GMU.
Peter R. Cook	President, The Petroleum Connection	Heartland Institute
Randal O'Toole	Senior Fellow, Cato Institute	Cato Institute, Heartland Institute, Greening Earth Society.
Richard Courtney	Energy and Environment Consultant	Heartland Institute, CFACT.
Robert Bradley	CEO and founder of the Institute for Energy Research	Cato Institute, Heartland Institute, Cooler Heads Coalition, Institute for Energy Research
Robert Murphy	Economist, Institute for Energy Research	Institute for Energy Research, Heartland Institute, Mises Institute, PRI.
William Yeatman	William Yeatman (M.A in International Administration and B.Sc. in Environmental Sciences),	CEI, Cooler Heads Coalition, Heartland Institute
Jack A. Chambless	Professor of Economics, Valencia College	FEE, Heartland Institute, Young Americas Foundation.
James L. Johnston	Senior Fellow, Economic Policy	Heartland Institute, Institute of Energy Research, Acton Institute.
John E. Windschill	Policy Advisor, The Heartland Institute	Heartland Institute
Jonathan Lockwood	Executive Director, Advancing Colorado	Heartland Institute, Charles Koch Institute.
Michael Economides	Professor, Cullen College of Engineering, University of Houston	Heartland Institute.
Roy Innis	National Chairman and CEO, Congress of Racial Equality	CORE, Heartland Institute
Alan Moran	Past Director, Deregulation Unit at the Institute of Public Affairs	IPA, Heartland Institute,
Alexandra (Sandy) Liddy Bourne	Policy Advisor, The Heartland Institute	Heartland Institute,
Andreas Prokoph	Adjunct Professor, Department of Earth Sciences, University of Ottawa	Heartland Institute
Angela Logomasini	Senior Fellow, Competitive Enterprise Institute	CEI, Heartland Institute.
Anthony R. Lupo	Associate Professor of Atmospheric Science, University of Missouri - Columbia	The Heartland Institute, Clexit. Heartland Institute

Antonino Zichichi	Founder and Director, Ettore Majorana Foundation and Centre for Scientific Culture	
Arthur B. Robinson	Cofounder, Oregon Institute of Science and Medicine	Oregon Institute for Science and Medicine, Heartland Institute, NCPPR
Bonner R. Cohen	Senior fellow, National Centre for Public Policy Research	
Bruce Yandle	Distinguished Adjunct Professor of Economics, George Mason University	Heartland Institute, GMU, Mercatus Centre, Mises Institute.
Christopher Essex	Professor, Department of Applied Mathematics, University of Western Ontario	ICSC, Heartland Institute, Fraser Institute.
David Archibald	Director, The Lavoisier Society	Heartland Institute, NZCSC
David Bellamy	Botanist, The Conservation Foundation	Heartland Institute
David Schnare	Senior Fellow - Energy and the Environment, Thomas Jefferson Institute for Public Policy	Heartland Institute, Thomas Jefferson Institute, Energy and Environmental Legal Institute,
Dennis Avery	Director, Centre for Global Food Issues	Heartland Institute, Hudson Institute,
E. Calvin Beisner	National Spokesman, Cornwall Alliance for the Stewardship of Creation	Heartland Institute, Cornwall Alliance, CFACT, Clexit, HIS
Eric Posmentier	Adjunct Faculty Member, Dartmouth College	Heartland Institute, George C Marshall Institute
Howard Maccabee	Founding President, Doctors for Disaster Preparedness	Heartland Institute, DDP
James H. Rust	Policy Advisor, Environment	Heartland Institute
Joel Schwartz	Visiting Scholar, American Enterprise Institute	AEI, Heartland Institute
John A. Baden	Chairman, Foundation for Research on Economics and the Environment	Free-ECO, Heartland Institute, PERC
John Charles	President and CEO, Cascade Policy Institute	Heartland Institute, Cascade Policy Institute
Julian Morris	Executive Director, International Policy Network	IPN, Heartland Institute, Reason Foundation, IEA
Kendra Okonski	Former Environment Programme Director, International Policy Network	IPN, Heartland Institute,
Kenneth Green	Senior Director, Energy and Natural Resource Studies, Fraser Institute	Fraser Institute, Heartland Institute, AEI, ASCH
Miklos Zagoni	Physicist and Science Historian, Eotvos Lorand University (Budapest)	Heartland Institute

Robert Essenhigh	Bailey Professor of Mechanical Engineering, The Ohio State University	Heartland Institute
Robert Gordon	President, Responsible Resources	Heartland Institute
Robert McGuire	Adjunct Research Professor, Economics, University of Akron	Heartland Institute
Ronald Rychlak	Professor of Law and Associate Dean for Academic Affairs, University of Mississippi School of Law	Heartland Institute
S. Stanley Young	Research Fellow, National Institute of Statistical Sciences	Heartland Institute, TASSC,
Sam Kazman	General Counsel, Competitive Enterprise Institute	CEI, Heartland Institute,
Todd Myers	Environmental Director, Washington Policy Centre	WPC, Heartland Institute,
H. Leighton Steward	He has an Msc. Geology, is the leader of the organisation Plants need CO ₂ and was a Chairmen on the board of CCCM ISEM. He writes for the right wing online news site Townhall, and has published the book <i>"Fire, Ice and Paradise"</i> that discusses the issue of climate change adopting a pseudoscientific opinion	ISEM, CFACT, Plants need CO ₂ , Cornwall Alliance, Heartland Institute
Brian McGraw,	Editor of the blog Resourceful Earth that promotes access to natural resources, opposes environmental regulations and criticises environmental groups	Heartland Institute, Cooler Heads Coalition, CEI

Table D.2. Complete List Of Endorsers On Climate Scientist Register**(ICSC)**

Name of Endorser, Qualification and Base	
1.	Habibullo I. Abdussamatov, Dr. Sci., mathematician and astrophysicist, Head of the Russian-Ukrainian Astrometria project on the board of the Russian segment of the ISS, Head of Space Research Laboratory at the Pulkovo Observatory of the Russian Academy of Sciences, St. Petersburg, Russia
2.	<u>Syun-Ichi Akasofu</u> , PhD, Professor of Physics, Emeritus and Founding Director, International Arctic Research Centre of the University of Alaska, Fairbanks, Alaska, US.A.
3.	<u>J.R. Alexander</u> , Professor Emeritus, Dept. of Civil Engineering, University of Pretoria, South Africa; Member, UN Scientific and Technical Committee on Natural Disasters, 1994-2000, Pretoria, South Africa
4.	Bjarne Andresen, Dr. Scient., physicist, published and presents on the impossibility of a "global temperature", Professor, Niels Bohr Institute (areas of specialization: fundamental physics and chemistry, in particular thermodynamics), University of Copenhagen, Copenhagen, Denmark
5.	Timothy F. Ball, PhD, environmental consultant and former climatology professor, University of Winnipeg, Winnipeg, Manitoba, Canada
6.	Romuald Bartnik, PhD (Organic Chemistry), Professor Emeritus, Former chairman of the Department of Organic and Applied Chemistry, climate work in cooperation with Department of Hydrology and Geological Museum, University of Lodz, Lodz, Poland
7.	Colin Barton, B.Sc., PhD (Earth Science), Principal research scientist (retd), Commonwealth Scientific and Industrial Research Organisation (CSIRO), Melbourne, Victoria, Australia
8.	Franco Battaglia, PhD (Chemical Physics), Professor of Environmental Chemistry (climate specialties: environmental chemistry), University of Modena, Italy
9.	<u>David Bellamy</u> , OBE, PhD, English botanist, author, broadcaster, environmental campaigner, Hon. Professor of Botany (Geography), University of Nottingham, Hon. Prof. Faculty of Engineering and Physical Systems, Central Queensland University, Hon. Prof. of Adult and Continuing Education, University of Durham, United Nations Environment Program Global 500 Award Winner, Dutch Order of The Golden Ark, Bishop Auckland County, Durham, United Kingdom
10.	Richard Becherer, BS (Physics, Boston College), MS (Physics, University of Illinois), PhD (Optics, University of Rochester), former Member of the Technical Staff - MIT Lincoln Laboratory, former Adjunct Professor - University of Connecticut, Areas of Specialization: optical radiation physics, co-author - standard reference book Optical Radiation Measurements: Radiometry, Millis, MA, USA.
11.	Ernst-Georg Beck, Dipl. Biology (University of Freiburg), biologist (area of specialization: CO ₂ record in the last 150 years – <u>see</u> paper “Accurate estimation of CO ₂ background level from near ground measurements at non-mixed environments”), see http://www.biomind.de/realCO2/ for more from Mr. Beck, Biesheim, France
12.	Edwin Berry, PhD (Atmospheric Physics, Nevada), MA (Physics, Dartmouth), BS (Engineering, Caltech), President, Climate Physics LLC, Bigfork, MT, USA.

13. Sonja A. Boehmer-Christiansen, PhD, Reader Emeritus, Dept. of Geography, Hull University, Editor - Energy&Environment, Multi-Science (www.multi-science.co.uk), Hull, United Kingdom
14. M. I. Bhat, PhD, formerly Scientist at the Wadia institute of Himalayan Geology, Dehra, currently Professor & Head, Department of Geology & Geophysics, University of Kashmir (areas of specialization: Geochemistry, Himalayan and global tectonics & tectonics and climate (Prof Bhat: "Arguing for deepening the climate frontiers by considering interaction between solar flares and core-mantle boundary processes. Clue possibly lies in exploring the tectonics of regions that underlies high and low pressure cells of the three global oscillations (SO, NAO, NPO)"), Srinagar, Jammu & Kashmir, India
15. Ahmed Boucenna, PhD, Professor of Physics, Physics Department, Faculty of Science, Ferhat Abbas University, Setif, Algéria. Author of The Great Season Climatic Oscillation, I. RE. PHY. 1(2007) 53, The Great Season Climatic Oscillation and the Global Warming, Global Conference On Global Warming, July 6-10, 2008, Istanbul, Turkey and Pseudo Radiation Energy Amplifier (PREA) and the Mean Earth's Ground Temperature, arXiv:0811.0357 (November 2008)
16. Antonio Brambati, PhD, Emeritus Professor (sedimentology), Department of Geological, Environmental and Marine Sciences (DiSGAM), University of Trieste (specialization: climate change as determined by Antarctic marine sediments), Trieste, Italy
17. Stephen C. Brown, PhD (Environmental Science, State University of New York), District Agriculture Agent, Assistant Professor, University of Alaska Fairbanks, Ground Penetrating Radar Glacier research, Palmer, Alaska, USA
18. Mark Lawrence Campbell, PhD (chemical physics; gas-phase kinetic research involving greenhouse gases (nitrous oxide, CO₂), Professor, US Naval Academy, Annapolis, Maryland, USA
19. Robert M. Carter, PhD, Professor, Marine Geophysical Laboratory, James Cook University, Townsville, Australia
20. Arthur Chadwick, PhD (Molecular Biology), Research Professor, Department of Biology and Geology, Southwestern Adventist University, Climate Specialties: dendrochronology (determination of past climate states by tree ring analysis), palynology (same but using pollen as a climate proxy), paleobotany and botany; Keene, Texas, USA
21. George V. Chilingar, PhD, Professor, Department of Civil and Environmental Engineering of Engineering, University of Southern California, Los Angeles, California USA
22. Antonis Christofides, Dipl. Civil Engineering, MSc Computing Science, Climate Specialties: co-author of relevant papers: [here](#) and [here](#), author of <http://hk-climate.org/>, Athens, Greece
23. Petr Chylek, PhD, Laboratory Fellow, Remote Sensing Team Leader, Los Alamos National Laboratory, Los Alamos, New Mexico, USA
24. Ian D. Clark, PhD, Professor (isotope hydrogeology and paleoclimatology), Dept. of Earth Sciences, University of Ottawa, Ottawa, Ontario, Canada
25. Paul Copper, BSc, MSc, PhD, DIC, FRSC, Professor Emeritus, Department of Earth Sciences, Laurentian University Sudbury, Ontario, Canada
26. Cornelia Codreanova, Diploma in Geography, Researcher (Areas of Specialization: formation of glacial lakes) at Liberec University, Czech Republic, Zwenkau, Germany

27. Michael Coffman, PhD (Ecosystems Analysis and Climate Influences), CEO of Sovereignty International, President of Environmental Perspectives, Inc., Bangor, Maine, USA
28. Piers Corbyn, MSc (Physics (Imperial College London)), ARCS, FRAS, FRMetS, astrophysicist (Queen Mary College, London), consultant, founder WeatherAction long range forecasters, London, United Kingdom
29. Richard S. Courtney, PhD, energy and environmental consultant, IPCC expert reviewer, Falmouth, Cornwall, United Kingdom
30. Joseph D'Aleo, BS, MS (Meteorology, University of Wisconsin), Doctoral Studies (NYU), Executive Director - ICECAP (International Climate and Environmental Change Assessment Project), Fellow of the AMS, College Professor Climatology/Meteorology, First Director of Meteorology The Weather Channel, Hudson, New Hampshire, USA
31. David Deming, PhD (Geophysics), Associate Professor, College of Arts and Sciences, University of Oklahoma, Norman, Oklahoma, USA
32. James E Dent; B.Sc., FCIWEM, C.Met, FRMetS, C.Env., Independent Consultant, Member of WMO OPACHE Group on Flood Warning, Hadleigh, Suffolk, England, United Kingdom
33. Chris R. de Freitas, PhD, climate Scientist, School of Environment, The University of Auckland, New Zealand
34. Willem de Lange, MSc (Hons), DPhil (Computer and Earth Sciences), Senior Lecturer in Earth and Ocean Sciences, The University of Waikato, Hamilton, New Zealand
35. Geoff Duffy, DEng (Dr of Engineering), PhD (Chemical Engineering), BSc, ASTCDip., FRSNZ (first chemical engineer to be a Fellow of the Royal Society in NZ), FICHEM, wide experience in radiant heat transfer and drying, chemical equilibria, etc. Has reviewed, analysed, and written brief reports and papers on climate change, Auckland, New Zealand
36. Robert W. Durrenberger, PhD, former Arizona State Climatologist and President of the American Association of State Climatologists, Professor Emeritus of Geography, Arizona State University; Sun City, Arizona, USA
37. Don J. Easterbrook, PhD, Emeritus Professor of Geology, Western Washington University, Bellingham, Washington, USA
38. Willis Eschenbach, Independent Climate Researcher, Climate Specialties: Tropical tropospheric amplification, constructed theories of climate, See sample of scientific writings in Nature [here](#), Occidental, CA, USA
39. Christopher Essex, PhD, professor of applied mathematics, and Associate Chair, Department of Applied Mathematics, Former Director, Program in Theoretical Physics, University of Western Ontario, Former NSERC postdoc at the Canadian Climate Centre's Numerical Modelling Division (GCM), London, Ontario, Canada
40. Per Engene, MSc, Biologist, Bø i Telemark, Norway, Co-author - The Climate, Science and Politics (2009)
41. Terrence F. Flower, PhD, Professor of Physics and Astronomy, St. Catherine University, studied and taught physics of climate (focus on Arctic and Antarctic), took students to study physics of climate change in the Antarctic and Costa Rica, St. Paul, Minnesota, USA

42. Stewart Franks, BSci. (Hons, Environmental Science), PhD (Landsurface-atmosphere interactions), Associate Professor and Dean of Students, University of Newcastle, Climate Specialties: hydro-climatology, flood/drought risk, Newcastle, Australia
43. Lars Franzén, PhD (Physical Geography), Professor, Physical Geography at Earth Sciences Centre, University of Gothenburg, Areas of Specialization: Palaeoclimate from global peatland and Chinese loess studies - see related scientific paper by Franzén et al, Gothenburg, Vastra Gotaland, Sweden
44. Gordon Fulks, PhD (Physics, University of Chicago), cosmic radiation, solar wind, electromagnetic and geophysical phenomena, Corbett, Oregon, USA
45. Robert. W. Gauldie, PhD, Research Professor (retired), Hawai'i Institute of Geophysics and Planetology, School of Ocean Earth Sciences and Technology, University of Hawai'i at Manoa, Hawaii, USA
46. Katya Georgieva, MSc (Physics of the Earth, Atmosphere, and Space, specialty Meteorology), PhD (Solar-Terrestrial Physics - PhD thesis on solar influences on global climate changes), Associate Professor, Head of group "Solar dynamics and global climate change" in the Solar-Terrestrial Influences Laboratory at the Bulgarian Academy of Sciences, head of project "Solar activity influences of weather and climate" of the scientific plan of the Bulgarian Academy of Sciences, member of the "Climate changes" council of the Bulgarian Academy of Sciences, Regional coordinator of the Balkan, Black sea and Caspian sea countries and member of the European Steering Committee for the International Heliophysical Year 2007-2008, deputy editor-in-chief of the international scientific journal "Sun and Geosphere", Bulgaria
47. Lee C. Gerhard, PhD, Senior Scientist Emeritus, University of Kansas, past director and state geologist, Kansas Geological Survey USA
48. Gerhard Gerlich, Dr.rer.nat. (Mathematical Physics: Magnetohydrodynamics) habil. (Real Measure Manifolds), Professor, Institut für Mathematische Physik, Technische Universität Carolo-Wilhelmina zu Braunschweig, Braunschweig, Germany, Co-author of "Falsification Of The Atmospheric CO₂ Greenhouse Effects Within The Frame Of Physics", Int.J.Mod.Phys.,2009
49. Fred Goldberg, PhD, Adj Professor, Royal Institute of Technology (Mech, Eng.), Secretary General KTH International Climate Seminar 2006 and Climate analyst (NIPCC), Lidingö, Sweden
50. Stanley B. Goldenberg, Research Meteorologist, NOAA, AOML/Hurricane Research Division, Miami, Florida, USA
51. Wayne Goodfellow, PhD (Earth Science), Ocean Evolution, Paleo environments, Adjunct Professor, Senior Research Scientist, University of Ottawa, Geological Survey of Canada, Ottawa, Ontario, Canada
52. Thomas B. Gray, MS (Meteorology, California Institute of Technology and Florida State University), 23 years as Meteorologist with the US. Army and Air Force (retired) and 15 years experience with NOAA Environmental Research Laboratories. Assignments include Chief, Analysis and Forecast Division, Global Weather Centre, Omaha, Nebraska and Chief, Solar Forecast Centre, Boulder Colorado, maintains active interest in paleoclimate and atmospheric physics, Yachats, Oregon, USA
53. Vincent Gray, PhD, New Zealand Climate Coalition, expert reviewer for the IPCC, author of The Greenhouse Delusion: A Critique of Climate Change 2001, Wellington, New Zealand
54. William M. Gray, PhD, Professor Emeritus, Dept. of Atmospheric Science, Colorado State University, Head of the Tropical Meteorology Project, Fort Collins, Colorado, USA

55. Kenneth P. Green, Doctor of Environmental Science and Engineering (UCLA, 1994), Resident Scholar, Interim Director, Centre for Regulatory Studies, American Enterprise Institute, Washington D.C., USA
56. Charles B. Hammons, PhD (Applied Mathematics), climate-related specialties: applied mathematics, modelling & simulation, software & systems engineering, Associate Professor, Graduate School of Management, University of Dallas; Assistant Professor, North Texas State University (Dr. Hammons found many serious flaws during a detailed study of the software, associated control files plus related email traffic of the Climate Research Unit temperature and other records and "adjustments" carried out in support of IPCC conclusions), Coyle, OK, USA
57. William Happer, PhD, Professor, Department of Physics, Princeton University, Princeton, NJ, USA
58. Howard Hayden, PhD, Emeritus Professor (Physics), University of Connecticut, The Energy Advocate, Pueblo West, Colorado USA
59. Warren T. Hinds, B.S. (Engineering), M.S. (Atmospheric Sciences), PhD (Physical Ecology, U. Washington, Seattle), Sr. Scientist at Pacific Northwest National Laboratory; consultant for USA EPA research on Global Climate Change Program, Specialist for Defence Programs, Department of Energy, Climate Specialties: atmospheric physics and quantitative empirical analyses regarding climatological, meteorological, and ecological responses to environmental stresses, Gainesville, Georgia, USA
60. Art Horn, Meteorologist (honours, Lyndon State College, Lyndonville, Vermont), operator, The Art of Weather, USA
61. Douglas Hoyt, B.S. (Physics, Rensselaer Polytechnic Institute), M.S. (Astro-Geophysics, University of Colorado), co-author of the book The Role of the Sun in climate Change, previously senior scientist at Raytheon (MODIS instrument development), with earlier employment at NOAA, NCAR, World Radiation Centre and the Sacramento Peak Observatory, Berkeley Springs, West Virginia, USA
62. Warwick Hughes, MSc Hons (Geology), Founder of the "Errors in IPCC Climate Science" Blog - <http://www.warwickhughes.com/blog/>, Areas of Specialization: Jones et al temperature data, Canberra, Australia
63. Ole Humlum, PhD, Professor of Physical Geography, Department of Physical Geography, Institute of Geosciences, University of Oslo, Oslo, Norway
64. Craig D. Idso, PhD, Chairman of the Board of Directors of the Centre for the Study of Carbon Dioxide and Global Change, Tempe, Arizona, USA
65. Sherwood B. Idso, PhD, President, Centre for the Study of Carbon Dioxide and Global Change, Tempe, Arizona USA
66. Larry Irons, BS (Geology), MS (Geology), Sr. Geophysicist at FairfieldNodal (Areas of Specialization: Paleoclimate), Lakewood, Colorado, USA
67. Terri Jackson, MSc (plasma physics), MPhil (energy economics), Director, Independent Climate Research Group, Northern Ireland and London (Founder of the energy/climate group at the Institute of Physics, London), United Kingdom
68. Albert F. Jacobs, Geol.Drs., P. Geol., Calgary, Alberta, Canada
69. Zbigniew Jaworowski, PhD, DSc, professor of natural sciences, Senior Science Adviser of Central Laboratory for Radiological Protection, researcher on ice core CO₂ records, Warsaw, Poland

70. Bill Kappel, BS (Physical Science-Geology), BS (Meteorology), Storm Analysis, Climatology, Operation Forecasting, Vice President/Senior Meteorologist, Applied Weather Associates, LLC, University of Colorado, Colorado Springs, USA
71. Olavi Kärner, Ph.D., Extraordinary Research Associate; Dept. of Atmospheric Physics, Tartu Observatory, Toravere, Estonia
72. Madhav L. Khandekar, PhD, consultant meteorologist, (former) Research Scientist, Environment Canada, Editor "Climate Research" (03-05), Editorial Board Member "Natural Hazards, IPCC Expert Reviewer 2007, Unionville, Ontario, Canada
73. Leonid F. Khilyuk, PhD, Science Secretary, Russian Academy of Natural Sciences, Professor of Engineering, University of Southern California, Los Angeles, California, USA
74. William Kininmonth MSc, MAdmin, former head of Australia's National Climate Centre and a consultant to the World Meteorological organisation's Commission for Climatology, Kew, Victoria, Australia
75. Gerhard Kramm, Dr. rer. nat. (Theoretical Meteorology), Research Associate Professor, Geophysical Institute, Associate Faculty, College of Natural Science and Mathematics, University of Alaska Fairbanks, (climate specialties: Atmospheric energetics, physics of the atmospheric boundary layer, physical climatology - see interesting paper by Kramm et al), Fairbanks, Alaska, USA
76. Leif Kullman, PhD (Physical geography, plant ecology, landscape ecology), Professor, Physical geography, Department of Ecology and Environmental science, Umeå University, Areas of Specialization: Paleoclimate (Holocene to the present), glaciology, vegetation history, impact of modern climate on the living landscape, Umeå, Sweden
77. Douglas Leahey, PhD, meteorologist and air-quality consultant, President - Friends of Science, Calgary, Alberta, Canada
78. Jay Lehr, BEng (Princeton), PhD (environmental science and ground water hydrology), Science Director, The Heartland Institute, Chicago, Illinois, USA
79. Edward Liebsch, B.A. (Earth Science, St. Cloud State University); M.S. (Meteorology, The Pennsylvania State University), former Associate Scientist, Oak Ridge National Laboratory; former Adjunct Professor of Meteorology, St. Cloud State University, Environmental Consultant/Air Quality Scientist (Areas of Specialization: micrometeorology, greenhouse gas emissions), Maple Grove, Minnesota, USA
80. Richard S. Lindzen, PhD, Alfred P. Sloan professor of meteorology, Dept. of Earth, Atmospheric and Planetary Sciences, Massachusetts Institute of Technology, Cambridge, Massachusetts, USA
81. William Lindqvist, PhD (Applied Geology), Independent Geologic Consultant, Areas of Specialization: Climate Variation in the recent geologic past, Tiburon, California, USA
82. Peter Link, BS, MS, PhD (Geology, Climatology), Geol/Paleoclimatology, retired, Active in Geol-paleoclimatology, Tulsa University and Industry, Evergreen, Colorado, USA
83. Anthony R. Lupo, Ph.D., Professor of Atmospheric Science, Department of Soil, Environmental, and Atmospheric Science, University of Missouri, Columbia, Missouri, USA
84. Qing-Bin Lu, PhD, Associate Professor, Department of Physics and Astronomy, cross-appointed to Departments of Biology and Chemistry, Canadian Institutes of Health Research (CIHR) New Investigator, University of Waterloo, Ontario, Canada

85. Horst Malberg, PhD, Professor (emeritus) for Meteorology and Climatology and former director of the Institute for Meteorology at the Free University of Berlin, Germany
86. Björn Malmgren, PhD, Professor Emeritus in Marine Geology, Paleoclimate Science, Goteborg University, retired, Norrtälje, Sweden
87. Oliver Manuel, BS (Chem), MS (Geo-Chem), PhD (Nuclear Chem), Post-Doc (Space Physics), Fulbright Scholar (Astrophysics), NSF Post-Doc Fellow (UC-Berkeley), Associate - Climate & Solar Science Institute, Professor (now Emeritus)/Dept Chair, College of Arts & Sciences University of Missouri-Rolla, Fulbright Scholar (Tata Institute- Mumbai), previously Research Scientist (US Geological Survey-Denver) and NASA Principal Investigator for Apollo, Climate Specialties: Earth's heat source, sample of relevant papers: "Earth's heat source - the Sun", Energy and Environment 20 131-144 (2009); "The sun: a magnetic plasma diffuser that controls earth's climate", paper presented at the V. International Conference on Non-accelerator New Physics, Dubna, Russia, 20 June 2005; "Super-fluidity in the solar interior: Implications for solar eruptions and climate", Journal of Fusion Energy 21, 193-198 (2002), Cape Girardeau, Missouri, USA
88. David Manuta, Ph.D. (Inorganic/Physical Chemistry, SUNY Binghamton), FAIC, Climate Specialties: Gas Phase Infrared Studies, Thermodynamics of Small Molecule Formation (e.g., CO₂, HF, and H₂O), President, Manuta Chemical Consulting, Inc., Chairman of the Board, The American Institute of Chemists, Past Positions include Adjunct Professor of Physics, Ohio University-Chillicothe, Ohio, Assistant Professor of Chemistry and Physical Science at Shawnee State University, Ohio, Assistant Professor of Chemistry and Physical Science at Upper Iowa University and US Enrichment Corp. (nuclear), Waverly, Ohio, USA
89. Francis Massen, PhD, Physics Lab and meteoLCD, Lycée Classique de Diekirch, 32 av. de la gare L-9233, (see interesting scientific paper by Massen et al), Diekirch, Luxembourg
90. Irina Melnikova, PhD (Physics & Mathematics), Head of the Laboratory for Physics of the Atmosphere INENCO RAN, specialization: radiative regime of the cloudy atmosphere - see interesting paper on this topic by Dr. Melnikova, St. Petersburg, Russia
91. Patrick J. Michaels, A.B., S.M., Ph.D. (ecological climatology, Senior Fellow in Environmental Studies, CATO Institute, Distinguished Senior Fellow in the School of Public Policy, George Mason University, a past president of the American Association of State Climatologists, past program chair for the Committee on Applied Climatology of the American Meteorological Society, past research professor of Environmental Sciences at University of Virginia, contributing author and reviewer of the UN IPCC, Washington, D.C., USA
92. Fred Michel, PhD, Director, Institute of Environmental Sciences, Associate Professor of Earth Sciences, Carleton University (article by Dr. Michel: "Climatic hubris: The Ellesmere Island ice shelves have been disappearing since they were first mapped in 1906", January 16, 2007, National Post), Ottawa, Ontario, Canada
93. Ferenc Mark Miskolczi, PhD, atmospheric physicist, formerly of NASA's Langley Research Centre, (in his 2010 paper, Dr. Miskolczi writes, "The data negate increase in CO₂ in the atmosphere as a hypothetical cause for the apparently observed global warming. A hypothesis of significant positive feedback by water vapour effect on atmospheric infrared absorption is also negated by the observed measurements. Apparently major revision of the physics underlying the greenhouse effect is needed."), Hampton, Virginia, USA
94. Asmund Moene, PhD, MSc (Meteorology), former head of the Forecasting Centre, Meteorological Institute, Oslo, Norway
95. Nils-Axel Mörner, PhD (Sea Level Changes and Climate), Emeritus Professor of Paleogeophysics & Geodynamics, Stockholm University, Stockholm, Sweden
96. Nasif Nahle, BSc (Biology), C-1L on Scientific Research, climatology and meteorology, physics, and paleobiology, Director of Scientific Research at Biology Cabinet (Areas of

Specialization: Climatology and Meteorology (certification), San Nicolas de los Garza, Nuevo Leon, Mexico

97. David Nowell, M.Sc., Fellow of the Royal Meteorological Society, former chairman of the NATO Meteorological Group, Ottawa, Ontario, Canada
98. James J. O'Brien, PhD., Emeritus Professor, Meteorology and Oceanography, Florida State University, Florida, USA
99. Peter Oliver, BSc (Geology), BSc (Hons, Geochemistry & Geophysics), MSc (Geochemistry), PhD (Geology), specialized in NZ quaternary glaciations, Geochemistry and Paleomagnetism, previously research scientist for the NZ Department of Scientific and Industrial Research, Upper Hutt, New Zealand
100. Cliff Ollier, D.Sc., Professor Emeritus (School of Earth and Environment - see his [Copenhagen Climate Challenge](#) sea level article [here](#)), Research Fellow, University of Western Australia, Nedlands, W.A., Australia
101. [R. Timothy Patterson](#), PhD, Professor, Dept. of Earth Sciences (paleoclimatology), Carleton University, Chair - International Climate Science Coalition, Ottawa, Ontario, Canada
102. Alfred H. Pekarek, PhD, Associate Professor of Geology, Earth and Atmospheric Sciences Department, St. Cloud State University, St. Cloud, Minnesota, USA
103. Stanley Penkala, BS (Chemical Engineering, Univ. of PA), PhD (Chemical Engineering, Univ. of PA.), Asst. Prof. Air Engineering and Industrial Hygiene, University of Pittsburgh GSPH (1970-1973), Environmental Scientist, DeNardo & McFarland Weather Services (1973-1980), Air Science Consultants, Inc. (VP 1980-1995, President 1995-Present), Areas of Specialization: Air Dispersion Modelling, Anthropogenic Sources of Global CO₂, Quality Assurance in Air Pollution Measurements, Pittsburgh, PA, USA
104. Ian Plimer, PhD, Professor of Mining Geology, The University of Adelaide; Emeritus Professor of Earth Sciences, The University of Melbourne, Australia
105. Oleg M. Pokrovsky, BS, MS, PhD (mathematics and atmospheric physics - St. Petersburg State University, 1970), Dr. in Phys. and Math Sciences (1985), Professor in Geophysics (1995), principal scientist, Main Geophysical Observatory (RosHydroMet), St. Petersburg, Russia. Note: Dr. Pokrovsky carried out comprehensive analysis of many available long climate time series and came to conclusion that anthropogenic CO₂ impact is not main contributor in climate change as declared by IPCC.
106. Daniel Joseph Pounder, BS (Meteorology, University of Oklahoma), MS (Atmospheric Sciences, University of Illinois, Urbana-Champaign); Meteorological/Oceanographic Data Analyst for the National Data Buoy Centre, formerly Meteorologist, WILL AM/FM/TV, Urbana, USA
107. [Brian Pratt](#), PhD, Professor of Geology (Sedimentology), University of Saskatchewan ([see](#) [Professor Pratt's article](#) for a summary of his views), Saskatoon, Saskatchewan, Canada
108. Tom Quirk, MSc (Melbourne), D Phil (physics), MA (Oxford), SMP (Harvard), Member of the Scientific Advisory Panel of the Australian climate Science Coalition, Member Board Institute of Public Affairs, Melbourne, Areas of Specialization: Methane, Decadal Oscillations, Isotopes, Victoria, Australia
109. Vijay Kumar Raina, Ex. Deputy Director General, Geological Survey of India, author of 2010 MoEF Discussion Paper, "[Himalayan Glaciers - State-of-Art Review of Glacial Studies, Glacial Retreat and Climate Change](#)", the first comprehensive study on the region. Mr. Raina's field activities covered extensive research on the geology and the glaciers of the Himalayas, Andaman Islands that included research on the volcanoes in the

Bay of Bengal. He led two Indian Scientific Expeditions to Antarctica that earned him the National Mineral Award and the Antarctica Award. He has authored over 100 scientific papers and three books: 'Glacier Atlas of India' dealing with various aspects of glacier studies undertaken in the Himalayas; 'Glaciers, the rivers of ice' and 'Images Antarctica, Reminiscences', Chandigarh, India

110. Denis Rancourt, B.Sc., M.Sc., Ph.D. (Physics), Former physics professor, University of Ottawa (then funded by NSERC in both physics and environmental science), Climate Specialties: global carbon cycle and environmental nanoparticles science, statistical physics, as well as the politics, sociology and psychology of the climate debate, current research includes radiative effects and phenomena (albedo, greenhouse effect), Ottawa, Ontario, Canada
111. Oleg Raspopov, Doctor of Science and Honoured Scientist of the Russian Federation, Professor - Geophysics, Senior Scientist, St. Petersburg Filial (Branch) of N.V.Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radiowaves Propagation of RAS (climate specialty: climate in the past, particularly the influence of solar variability), Editor-in-Chief of journal "Geomagnetism and Aeronomy" (published by Russian Academy of Sciences), St. Petersburg, Russia
112. S. Jeevananda Reddy, M.Sc. (Geophysics), Post Graduate Diploma (Applied Statistics, Andhra University), PhD (Agricultural Meteorology, Australian University, Canberra), Formerly Chief Technical Advisor -- United Nations World Meteorological Organisation (WMO) & Expert-Food and Agriculture Organisation (UN), Convenor - Forum for a Sustainable Environment, author of 500 scientific articles and several books - here is one: "Climate Change - Myths & Realities", Hyderabad, India
113. George A. Reilly, PhD (Geology, University of Michigan, Ann Arbor), areas of specialization: Geological aspects of paleoclimatology, Retired, Winnipeg, Manitoba, Canada
114. Robert G. Roper, PhD, DSc (University of Adelaide, South Australia), Emeritus Professor of Atmospheric Sciences, School of Earth and Atmospheric Sciences, Georgia Institute of Technology, Atlanta, Georgia, USA
115. Nicola Scafetta, PhD (Physics, 2001, University of North Texas), Laurea (Dottore in Physics, 1997, Università di Pisa, Italy), Active Cavity Radiometer Irradiance Monitor Experiment (ACRIM), Climate Specialties: solar and astronomical causes of climate change, see interesting paper by Scafetta on this), Research Scientist - Physics, Duke University, Durham, NC, USA
116. Rob Scagel, MSc (forest microclimate specialist), Principal Consultant - Pacific Phytometric Consultants, Surrey, British Columbia, Canada
117. Tom V. Segalstad, PhD (Geology/Geochemistry), secondary Web page here, Head of the Geological Museum, Natural History Museum and Associate Professor of Resource and Environmental Geology, University of Oslo, Norway
118. Gary Sharp, PhD, Centre for Climate/Ocean Resources Study, Salinas, California, USA
119. Thomas P. Sheahan, PhD (Physics, Massachusetts Institute of Technology), specialist in renewable energy, research and publication (applied optics) in modelling and measurement of absorption of infrared radiation by atmospheric CO₂, National Renewable Energy Laboratory (2005-2008); Argonne National Laboratory (1988-1992); Bell Telephone labs (1966-73), National Bureau of Standards (1975-83), Oakland, Maryland, USA
120. S. Fred Singer, PhD, Professor Emeritus (Environmental Sciences), University of Virginia, former director, US. Weather Satellite Service, Science and Environmental Policy Project, Charlottesville, Virginia, USA

121. Jan-Erik Solheim, MSc (Astrophysics), Professor, Institute of Physics, University of Tromsø, Norway (1971-2002), Professor (emeritus), Institute of Theoretical Astrophysics, University of Oslo, Norway (1965-1970, 2002- present), climate specialties: sun and periodic climate variations, scientific paper by Professor Solheim "[Solen varslar et kaldere tiår](#)", Baerum, Norway
122. Roy W. Spencer, PhD, climatologist, Principal Research Scientist, Earth System Science Centre, The University of Alabama, Huntsville, Alabama, USA
123. H. Leighton Steward, Master of Science (Geology), Areas of Specialization: paleoclimates and empirical evidence that indicates CO₂ is not a significant driver of climate change, Chairman, [PlantsNeedCO2.org](#) and [CO2IsGreen.org](#), Chairman of the Institute for the Study of Earth and Man (geology, archeology & anthropology) at SMU in Dallas, Texas, Boerne, TX USA
124. Peter Stilbs, TeknD, Professor of Physical Chemistry, Research Leader, School of Chemical Science and Engineering, Royal Institute of Technology (KTH), member of American Chemical Society and life member of American Physical Society, Chair of "Global Warming - Scientific Controversies in Climate Variability", International seminar meeting at KTH, 2006, Stockholm, Sweden
125. Edward (Ted) R. Swart, D.Sc. (physical chemistry, University of Pretoria), B.Sc. (chem eng.) and Ph.D. (math/computer science, University of Witwatersrand). Dean of the Faculty of Science, Professor and Head of the Department of Computer Science, University of Rhodesia and past President of the Rhodesia Scientific Association. Set up the first radiocarbon dating laboratory in Africa with funds from the Gulbenkian Foundation. Professor in the Department of Combinatorics and Optimisation at the University of Waterloo and Chair of Computing and Information Science and Acting Dean at the University of Guelph, Ontario, Canada. Now retired in Kelowna, British Columbia, Canada
126. Roger Tanner, PhD (Analytical Chemistry, University of Illinois, Champaign-Urbana), 40-yr career in atmospheric chemistry and air quality measurement science at Tennessee Valley Authority, Desert Research Institute, Reno, and Brookhaven National Lab, Climate Specialties: atmospheric chemistry and air quality measurement science, Florence, Alabama, USA
127. George H. Taylor, B.A. (Mathematics, U.C. Santa Barbara), M.S. (Meteorology, University of Utah), Certified Consulting Meteorologist, Applied Climate Services, LLC, Former State Climatologist (Oregon), President, American Association of State Climatologists (1998-2000), Corvallis, Oregon, USA
128. Frank Tipler, PhD, Professor of Mathematical Physics, astrophysics, Tulane University, New Orleans, Louisiana, USA
129. Edward M. Tomlinson, MS (Meteorology), Ph.D. (Meteorology, University of Utah), President, Applied Weather Associates, LLC (leader in extreme rainfall storm analyses), 21 years US Air Force in meteorology (Air Weather Service), Monument, Colorado, USA
130. Ralf D. Tscheuschner, Dr.rer.nat. (Theoretical physics: Quantum Theory), Freelance Lecturer and Researcher in Physics and Applied Informatics, Hamburg, Germany. Co-author of "Falsification of The Atmospheric CO₂ Greenhouse Effects Within The Frame Of Physics, Int.J.Mod.Phys. 2009
131. Göran Tullberg, Civilingenjör i Kemi (equivalent to Masters of Chemical Engineering), Co-author - [The Climate, Science and Politics](#) (2009) (see [here](#) for a review), formerly instructor of Organic Chemistry (specialization in "Climate chemistry"), Environmental Control and Environmental Protection Engineering at University in Växjö; Falsterbo, Sweden
132. Brian Gregory Valentine, PhD, Adjunct professor of engineering (aero and fluid dynamics specialization) at the University of Maryland, Technical manager at US Department of Energy, for large-scale modelling of atmospheric pollution, Technical referee for the US Department of Energy's Office of Science programs in climate and atmospheric modelling conducted at American Universities and National Labs, Washington, DC, USA

133. Gerrit J. van der Lingen, PhD (Utrecht University), geologist and paleo-climatologist, climate change consultant, Geoscience Research and Investigations, Christchurch, New Zealand
 134. A.J. (Tom) van Loon, PhD, Professor of Geology (Quaternary Geology specialism: Glacial Geology), Adam Mickiewicz University, Poznan, Poland; former President of the European Association of Science Editors
 135. Michael G. Vershovsky, Ph.D. in meteorology (macro-meteorology, long-term forecasts, climatology), Senior Researcher, Russian State Hydro-meteorological University, works with, as he writes, "Atmospheric Centres of Action (cyclones and anticyclones, such as Icelandic depression, the South Pacific subtropical anticyclone, etc.). Changes in key parameters of these centres strongly indicate that the global temperature is influenced by these natural factors (not exclusively but nevertheless)", St. Petersburg, Russia
 136. Gösta Walin, Professor, i oceanografi, Earth Science Centre, Göteborg University, Göteborg, Sweden
 137. Helen Warn, PhD (Meteorology, specialized in atmospheric fluid dynamics at McGill University), Vancouver, BC, Canada

 138. Anthony Watts, ItWorks/IntelliWeather, Founder, surfacestations.org, [Watts Up With That](http://WattsUpWithThat.com), Chico, California, USA.
 139. Charles L. Wax, PhD (physical geography: climatology, LSU), State Climatologist – Mississippi, past President of the American Association of State Climatologists, Professor, Department of Geosciences, Mississippi State University, USA
 140. Forese-Carlo Wezel, PhD, Emeritus Professor of Stratigraphy (global and Mediterranean geology, mass biotic extinctions and paleoclimatology), University of Urbino, Urbino, Italy
 141. Boris Winterhalter, PhD, senior marine researcher (retired), Geological Survey of Finland, former professor in marine geology, University of Helsinki, Helsinki, Finland
 142. David E. Wojick, PhD, PE, energy and environmental consultant, Technical Advisory Board member - Climate Science Coalition of America, Star Tannery, Virginia, USA
 143. Dr. Bob Zybach, PhD (Oregon State University (OSU), Environmental Sciences Program, EPA-sponsored peer-reviewed research on carbon sequestration in coniferous forests -- mostly in relation to climate history and quality of climate predictive models), MAIS (OSU, Forest Ecology, Cultural Anthropology, Historical Archaeology), BS (OSU College of Forestry), President, NW Maps Co., Program Manager, Oregon Websites and Watersheds Project, Inc., Cottage Grove, Oregon, USA
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Table D.3: Sample Of Historical Climate Change Counter Movement Events

Year	Name	Host	Co-sponsors	Source
2008	1 st International Conference on Climate Change	Heartland Institute	Alternate Solutions, Americans For Prosperity, Americans for Tax Reform, Asociacion de Consumidores Libres, Association for Liberal Thinking, Business and Media Institute, Carbon Sense Coalition, Capital Research Centre, Cascade Policy Institute, Cathay Institute for Public Affairs, Centre for Defence of Free Enterprise, Committee for a Constructive Tomorrow, Competitive Enterprise Institute, Congress for Racial Equality, Discovery Institute, Doctors for Disaster Preparedness, Economic Thinking, Austrian Economics Centre, Freedom Foundation of Minnesota, Free Enterprise Action Fund, Free Market Foundation, Frontiers of Freedom Institute, Centre for the Dissemination of Economic Knowledge, CO ₂ science, Citizens Alliance for Responsible Energy, Centro de Innovacion Desarrollo Humano, Centro De Investigaciones de Instituciones y Mercados, de Argentina, Citizens Alliance for Responsible Energy, Fundacion Atlas 1853, Idea Channel, Independent Institute, Institute for Public Affairs, Institute for Free Enterprise, Instituto de Libre Empresa, International Policy Network, Instituto Bruno Leoni, Junkscience.com, Liberty Institute, Lion Rock Institute, John Locke Foundation, George C Marshall Institute, Minimal Government Thinkers, National Centre for Policy Analysis, New Zealand Business Roundtable, Oregon Institute of Science and Medicine, Pacific Research Institute, Property and Environment Research Centre, Science and Environmental Policy Project, Science and Public Policy Institute, Sovereignty International.	http://climateconferences.heartland.org/iccc1/page/3/
2009	2 nd International Conference on Climate Change	Heartland Institute	60 Plus Association. Accuracy in Academia, African Centre for Advocacy and Human Development, Alternate Solutions Institute, Americans For Prosperity, Americans for Tax Reform, American Policy Centre, Atlas Economic Research Foundation, Australian Libertarian Society, Ayn Rand Institute, Business and Media Institute, Carbon Sense Coalition, Citizens Alliance for Responsible Energy, Cascade Policy Institute, CO ₂ Science, Climate Sceptics Party, Climate Strategies Watch, Committee for a Constructive Tomorrow, Competitive Enterprise Institute, Congress for Racial Equality, Cornwall Alliance, Economic Thinking, Austrian Economics Centre, Freedom Foundation	http://climateconferences.heartland.org/iccc2/

			of Minnesota, Hayek Institute, Futures of Freedom, George Marshall Institute, Grassroots Institute Hawaii, IceAgeNow.Com, ICECAP, The Idea Channel, Initiative of Public Policy Analysis, Institute for Liberty, Institute for Private Enterprise, Institute for Public Affairs, Instituto Bruno Leoni, Instituto De-Libre Empresa, Instituto Juan de Mariana, Instituto Liberdade, International Climate Science Coalition, John Locke Foundation, Liberales Institut, Manhattan Libertarian Party, Mannkal Economic Education Foundation, Minimal Government Thinkers, New Zealand Centre for Political Research, Oregon institute of Science and Medicine, Pacific Research Institute, Public Interest Institute, Science and Environmental Policy Project, Science and Public Policy Institute, Sovereignty International, Beacon Centre Tennessee, Heritage Foundation, Lavoisier Group, Young Americans Foundation	
2009	3 rd International Conference on Climate Change	Heartland Institute	Accuracy In Media, African Centre for Advocacy and Human Development, Alternate Solution Institute, Americans For Prosperity, Americans for Tax Reform, American Policy Centre, Atlas, Australian Libertarian Society, Ayn Rand Institute, Beacon Hill Institute, Carbon Sense Coalition, CO ₂ Science, The Climate Sceptics, Climate Strategies Watch, Committee for a Constructive Tomorrow, Competitive Enterprise Institute, Cornwall Alliance, Doctors for Disaster Preparedness, Economic Thinking, European Institute for Climate and Energy, Freedom Foundation of Minnesota, Free To Choose Network, George C Marshall Institute, Grassroots Institute of Hawaii, Heritage Foundation, Hispanic Leadership Fund, IceAgeNow.com, ICECAP, Initiative for Public Policy Analysis, Institute for Free Enterprise, Institute for Liberty, Instituto de Libre Empresa, Instituto Juan De Mariana, Instituto Liberdade, International Climate Science Coalition, Instituto Bruno Leoni, Libreles Institut, Minimal Government Thinkers, New Zealand Centre for Political Research, Oregon Institute of Science and Medicine, Physicians for Civil Defence, Public Interest Institute, Science and Environmental Policy Project, Science and Public Policy Institute, Sovereignty International, Young Americas Foundation,	http://climateconferences.heartland.org/iccc3/
2010	4 th International Conference on Climate Change	Heartland Institute	African Centre for Advocacy and Human Development, Alternate Solutions, American Conservative Union, American Policy Centre, Americans For Prosperity, Americans for Tax Reform, Atlas, Australian Libertarian Society, Austrian Economics Centre, Ayn Rand Centre, Carbon Sense Coalition, Cascade Policy Institute, Cathay Institute, Centre for the Defence of Free	http://climateconferences.heartland.org/iccc4/

Enterprise, CO₂ Science, Centro de Investigaciones de Instituciones y Mercados de Argentina, Citizens Alliance for Responsible Energy, Climate Sceptics Party, Climate Science Coalition of America, Committee for a Constructive Tomorrow, Competitive Enterprise Institute, Cornwall Alliance, Doctors for Disaster Preparedness, Austrian Economics Centre, European Institute for Climate and Energy, Foundation for Economic Thinking, Free to Choose Network,

2010	5 th International Conference on Climate Change	Heartland Institute	-	http://climateconferences.heartland.org/iccc5/
2011	6 th International Conference on Climate Change	Heartland Institute	The 60 Plus Association, Accuracy in Media, African Centre for Advocacy and Human Development, Alternate Solutions Institute, American Energy Freedom Centre, American Policy Centre, Americans For Prosperity, Americans for Tax Reform, E&E Legal, Australian Libertarian Society, Ayn Rand Institute, Business and Media Institute, Cascade Policy Institute, Cathay Institute for Public Affairs, Centre for the Defence of Free Enterprise, CO ₂ Science, Committee for a Constructive Tomorrow, Centro de Investigaciones de Instituciones u mercados de Argentina, Competitive Enterprise Institute, Cornwall Alliance, Citizens Alliance for Responsible Energy, Foundation for Economic Education, Freedom Foundation of Minnesota, The Heritage Foundation, ICEAGENow.com, Independent Institute, Independent Women's Forum, Institute for Liberty, Instituto De Libre Empresa, Instituto Liberdade, International Climate Science Coalition, Istituto Bruno Leoni, The Lavoisier Group, Liberty Institute, Mannkal Economic Education Foundation, George C Marshall Institute, Media Research Centre, National Centre for Policy Analysis, Power for the USA. Northern Virginia Chapter of SEEE, Science and Environmental Policy Project, Science and Public Policy Institute, TS August.	http://climateconferences.heartland.org/iccc6/

2012	7 th International Conference on Climate Change	Heartland Institute	60 Plus Association, Acton Institute, African Centre for Advocacy and Human Development, Alternate Solutions Institute, American Conservative Union, Americans For Prosperity, Americans for Tax Reform, E&E Legal, Australian Libertarian Society, Australian Taxpayers Alliance, Austrian Economics Centre, Ayn Rand Centre for Individual Rights, Beacon Hill Institute, Berlin Manhattan Institute for Free Enterprise, Capital Research Centre, Carbon Sense Coalition, Cathay Institute for Public Affairs, Centre for the Defence of Free Enterprise, Centre for Industrial Progress, CO ₂ Science, Citizens Alliance for Responsible Energy, Climate Realists, Committee for a Constructive Tomorrow, Competitive Enterprise Institute, Doctors for Disaster Preparedness, Economic Thinking, Citizens Alliance for Responsible Energy, European Institute for Climate and Energy, Freedom Foundation of Minnesota, Free To Choose Network, Frontier Centre for Public Policy, Frontiers of Freedom, Grassroots Institute of Hawaii, Heritage Foundation, ICEAGENOW, Illinois Coal Association, Independent Institute, Institute for Liberty, Institute for Private Enterprise, Instituto Liberdade, International Climate Science Coalition, ICECAP, Junk Science, Lavoisier Group, Leadership Institute, Liberty Institute, John Locke Foundation, Manhattan Project 2, George C Marshall Institute, Media Research Centre, National Centre for Policy Analysis, New Zealand Climate Science Coalition, Oregon Institute of Science and Medicine, Power for USA, Reason Foundation, Science and Environmental Policy Project, Science and Public Policy Institute, TS August, Northern Virginia Chapter of SEEE	http://climateconferences.heartland.org/iccc7/
2012	8 th International Conference on Climate Change	Heartland Institute	Heartland Institute, European Institute for Climate and Energy, Institute for Free Enterprise	http://climateconferences.heartland.org/iccc8/
2014	9 th International Conference on Climate Change	Heartland Institute	Australian Taxpayers' Alliance, Ayn Rand Institute, Blue, Carbon Sense Coalition, Centre for Industrial progress, Centre for the Defence of Free Enterprise, CO ₂ Science, Colderside.com, Committee for a Constructive Tomorrow, Competitive Enterprise Institute, Cornwall Alliance, Citizens Alliance for Responsible Energy, Energy Policy Issues and Climate Change, Freedom Fest, George C Marshall Institute, The Heritage Foundation, Hubbard Broadcasting, Illinois Coal Association, International Climate Science Coalition, Leadership Institute, Liberty Coin Service, Liberty Foundation of America, Media Research Centre, Nano-land group, Power for the USA, Science and	http://climateconferences.heartland.org/iccc-9/

Environmental Policy Project, Sovereignty International, Northern Virginia Chapter of SEEE

2015	10 th International Conference on Climate Change	Heartland Institute	American Spectator, Australian Taxpayers Alliance, Ayn Rand Institute, Carbon Sense Coalition, CO ₂ Science, Colderside.com, Committee for a Constructive Tomorrow, Competitive Enterprise Institute, European Institute for Climate and Energy, The Heartland Institute, Heritage Foundation, International Climate Science Coalition, Leadership Institute, Media Research Centre, John Locke Foundation, National Association of Scholars, Pacific Research Institute, Reality News, Science and Environmental Policy Project, Texas Public Policy Foundation, Northern Virginia Chapter of SEEE	http://climateconferences.heartland.org/iccc10/
2015	11th International Conference on Climate Change	Heartland Institute	European Institute for Climate and Energy, Heartland Institute,	http://climateconferences.heartland.org/iccc11/
2017	12th International Conference on Climate Change	Heartland Institute	CO ₂ science, Committee for a Constructive Tomorrow, Competitive Enterprise Institute, European Institute for Climate and Energy, The Heartland Institute, The Heritage Foundation, International Climate Science Coalition, Media Research Centre, Science and Environmental Policy Project	http://climateconferences.heartland.org/iccc-12/
2012	The 2012 Annual GWPF Lecture By Professor Fritz Vahrenholt	GWPF	-	https://www.thegwpf.org/gwpf-events-a-media/
2011	The 2011 Annual GWPF Lecture by Cardinal George Pell, the Archbishop of Sydney	GWPF	-	https://www.thegwpf.org/gwpf-events-a-media/
2009	Global Warming: Fact of Fiction	Linden Wood University	Presentation by David Legates	http://www.lindenwood.edu/academics/centers-institutes/the-hammond-institute/center-for-economics-and-the-

2004	Is Climate Change the 21 st Century's Most Urgent Environmental Problem	Linden Wood University	Presentation by Indur Goklany	environment/past-events/past-events-2002-2009/ http://www.lindenwood.edu/files/resources/goklanydocs.pdf
1998	Junk Science: A Hazard To Your Health	Pacific Research Institute	-	http://www.pacificresearch.org/events/1998/98-06_jun.html
2013	Book Launch – 'Give Us Back Our Country', 13 August 2013:	Bert Kelly Research Institute	Bert Kelly Research Institute	-
2016	Winter Conference	Eagle Forum	Presentations on (1) Eagles Debate Atheists Above Climate Change, and (2) Possible Civil Legal Action for Climate Change Deniers.	http://eagleforumofcalifornia.org/pg/06B_newsletter_archive.htm#.WamsQvmGOUk
2003	Science Meets Politics	The Scientific Alliance	-	https://web.archive.org/web/20040130131535/http://www.scientific-alliance.org:80/events_items/past_events/sciencemeetspolitics.htm
2003	Istituto Bruno Leoni Conference	Bruno Leoni Institute		https://cei.org/events/fred-smith-speak-istituto-bruno-leoni-conference

Table D.4. Members of the Global Climate Science Communication’s Team

Members (Organisation)	
A. John Adams (John Adams Associates)	Peter Cleary (Americans for Tax Reform)
Candace Crandall (Science and Environmental Policy Project)	Randy Randol (Exxon Corp)
David Rothbard (CFACT)	Robert Gehri (The Southern Company)
Jeffery Salmon (The Marshall Institute)	Sharon Kneiss (Chevron Corp)
Lee Garrigan (Environmental Issues Council)	Steven Milloy (TASSC)
Lynn Bouchey (Frontiers of Freedom)	Joseph Walker (American Petroleum Institute)
Myron Ebell (Frontiers of Freedom)	

Table D.5. Sample of Climate Sceptic Blogs

Name	Editor/s & Contributor/s	Example Quotes
Climate Audit https://climateaudit.org/ ;	Steve McIntyre	“Mann Misrepresents the UK Department of Energy and Climate Change” (https://climateaudit.org/2014/02/25/mann-misrepresents-the-uk-department-of-energy-and-climate-change/), “Climate Scientists should think about data quality more often” (https://climateaudit.org/2008/05/30/climate-scientists-should-think-about-data-quality-more-often-says-jones/)
Climate Depot www.climatedepot.com	Marc Marono	“New Study Confirms: The Warming Pause is Real and Revealing” (http://www.climatedepot.com/)
Air Vent https://noconsensus.wordpress.com/	Jeff Id	“Below is a collection of links from most recent to oldest of the math work I have done to demonstrate not only the creation of hockey sticks (and other patterns) but the distortions they cause in the temperature scale of the graphs.” (https://noconsensus.wordpress.com/hockey-stick-posts/)
Tom Nelson http://tomnelson.blogspot.co.uk/	Tom Nelson	“CO ₂ is not the climate change control knob”
Climate Etc. https://judithcurry.com	Judith Curry and other contributors	“A Beneficial Climate Change Hypothesis” (https://judithcurry.com/2017/04/07/a-beneficial-climate-change-hypothesis/)
Watts up with that Wattsupwiththat.com	Anthony Watts, John Goetz, Evan Jones, Frank Lansner, Bill Illis, Jeff Id, Bob Tisdale, Indur Goklany	Global temperatures plunge in April – “the pause” returns (https://wattsupwiththat.com/2017/05/01/global-temperatures-plunge-in-april-the-pause-returns/)

<p><i>World Climate Report</i> www.worldclimate.com</p>	<p>Basil Copeland, Alec Rawls, Verity J. Willis Eschenbach Eric Worrall</p>	<p><i>“World Climate Report, a concise, hard-hitting and scientifically correct response to the global change reports which gain attention in the literature and popular press. As the nation’s leading publication in this realm, World Climate Report is exhaustively researched, impeccably referenced, and always timely. This popular web log points out the weaknesses and outright fallacies in the science that is being touted as “proof” of disastrous warming. It’s the perfect antidote against those who argue for proposed changes to the Rio Climate Treaty, such as the Kyoto Protocol, which are aimed at limiting carbon emissions from the US...”</i></p>
<p><i>IceAgeNow</i> http://iceagenow.com/ <i>Science of Doom</i> www.scienceofdoom.com</p>	<p>Robert Felix N/A</p>	<p><i>“Sun drives climate change”</i> (https://www.iceagenow.info/iceagenow-com/dissenters/), <i>“Sun Spots and Global Cooling”</i> (https://www.iceagenow.info/iceagenow-com/sunspots-global-cooling/).</p> <p><i>“Some aspects of current “Climate Science” have become more like a faith. The science has been pressed into a political agenda and consequently the spirit of free inquiry has been squashed”</i> (https://scienceofdoom.com/about/).</p>
<p><i>Die Klimazwiebel (The Climate Website)</i> http://klimazwiebel.blogspot.co.uk/</p>	<p>Hans von Storch</p>	<p><i>“Climate change is a „constructed“ issue...Different constructions interact and compete...One class of constructions is scientific...Another class of constructions is cultural, in particular maintained and transformed by the media and the Zeitgeist...Climate science operates in a post-normal situation, which goes along with politicising science, and scientising politics.”</i> (http://klimazwiebel.blogspot.co.uk/2015/10/22-october-2015-seminar-on-feedback.html)</p>
<p><i>Climate Realists</i> http://climaterrealists.com/</p>	<p>Piers Corbyn, Svend Hendriksen, Dr Don Parkes, Hans Schreuder, Stephen Wilde LLB.</p>	<p><i>“It is safe to assume that many people have started to become sceptical concerning the dynamics of so called man made climate change. In recent years there have been seen to be many inconsistencies in the proposition that we have changed the Earth’s climate with our pollution.”</i> (http://climaterrealists.com/about.php)</p>

Figure D.1. Leipzig Declaration On Global Climate Change (<http://www.fao.org/FOCUS/E/96/06/more/declar-e.htm>)

The Leipzig Declaration on Global Climate Change

As scientists, we - along with our fellow citizens - are intensely interested in the possibility that human activities may affect the global climate; indeed, land clearing and urban growth have been changing local climates for centuries. Historically, climate has always been a factor in human affairs - with warmer periods, such as the medieval "climate optimum", playing an important role in economic expansion and in the welfare of nations that depend primarily on agriculture. For these reasons we must always remain sensitive to activities that could affect future climate.

Attention has recently been focused on the increasing emission of "greenhouse" gases into the atmosphere. International discussions by political leaders are currently underway that could constrain energy use and mandate reductions in carbon dioxide emissions from the burning of fossil fuels. Although we understand the motivation to eliminate what are perceived to be the driving forces behind a potential climate change, we believe this approach may be dangerously simplistic. Based on the evidence available to us, we cannot subscribe to the so-called "scientific consensus" that envisages climate catastrophes and advocates hasty actions.

As the debate unfolds, it has become increasingly clear that - contrary to conventional wisdom - there does not exist today a general scientific consensus about the importance of greenhouse warming from rising levels of carbon dioxide. On the contrary, most scientists now accept the fact that actual observations from earth satellites show no climate warming whatsoever. And to match this fact, the mathematical climate models are becoming more realistic and are forecasting temperature increases that are only 30 percent of what was considered the "best" value just four years ago.

We consider the Global Climate Treaty concluded in Rio de Janeiro at the 1992 "Earth Summit" to be unrealistic; its goal is stabilization of atmospheric greenhouse gases, which requires that fuel use be cut by 60-80 percent worldwide! Energy is essential for all economic growth, and fossil fuels provide today's principal global energy source. In a world in which poverty is the greatest social pollutant, any restriction on energy use that inhibits economic growth should be viewed with caution. For this reason, we consider "carbon taxes" and other drastic control policies - lacking credible support from the underlying science - to be ill-advised, premature, wrought with economic danger, and likely to be counterproductive.

This statement is based on the International Symposium on the Greenhouse Controversy, held in Leipzig, Germany on November 9-10, 1995, under the sponsorship of the Prime Minister of the State of Saxony. For further information, contact the Europaeische Akademie fuer Umweltfragen (fax +49-7071-72939) or The Science and Environmental Policy Project in Fairfax, Virginia (fax +1-703-352-7535).

Figure D.2. Oregon Global Warming Petition (<http://www.petitionproject.org/>)

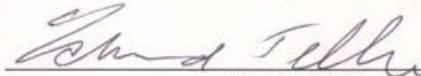
Global Warming Petition Project

*31,487 American scientists have signed this petition,
including 9,029 with PhDs*

Petition

We urge the United States government to reject the global warming agreement that was written in Kyoto, Japan in December, 1997, and any other similar proposals. The proposed limits on greenhouse gases would harm the environment, hinder the advance of science and technology, and damage the health and welfare of mankind.

There is no convincing scientific evidence that human release of carbon dioxide, methane, or other greenhouse gases is causing or will, in the foreseeable future, cause catastrophic heating of the Earth's atmosphere and disruption of the Earth's climate. Moreover, there is substantial scientific evidence that increases in atmospheric carbon dioxide produce many beneficial effects upon the natural plant and animal environments of the Earth.


Please sign here

Please send more petition cards for me to distribute.

My academic degree is B.S. M.S. Ph.D. in the field of PHYSICS

Figure D.3. Manhattan Declaration On Climate Change
(<http://www.climate-science-international.org/index.php?Itemid=54>)

Manhattan Declaration on Climate Change

"Global warming" is not a global crisis

We, the scientists and researchers in climate and related fields, economists, policymakers, and business leaders, assembled at Times Square, New York City, participating in the 2008 International Conference on Climate Change,

Resolving that scientific questions should be evaluated solely by the scientific method;

Affirming that global climate has always changed and always will, independent of the actions of humans, and that carbon dioxide (CO₂) is not a pollutant but rather a necessity for all life;

Recognising that the causes and extent of recently-observed climatic change are the subject of intense debates in the climate science community and that oft-repeated assertions of a supposed 'consensus' among climate experts are false;

Affirming that attempts by governments to legislate costly regulations on industry and individual citizens to encourage CO₂ emission reduction will slow development while having no appreciable impact on the future trajectory of global climate change. Such policies will markedly diminish future prosperity and so reduce the ability of societies to adapt to inevitable climate change, thereby increasing, not decreasing human suffering;

Noting that warmer weather is generally less harmful to life on Earth than colder:

Hereby declare:

That current plans to restrict anthropogenic CO₂ emissions are a dangerous misallocation of intellectual capital and resources that should be dedicated to solving humanity's real and serious problems.

That there is no convincing evidence that CO₂ emissions from modern industrial activity has in the past, is now, or will in the future cause catastrophic climate change.

That attempts by governments to inflict taxes and costly regulations on industry and individual citizens with the aim of reducing emissions of CO₂ will pointlessly curtail the prosperity of the West and progress of developing nations without affecting climate.

That adaptation as needed is massively more cost-effective than any attempted mitigation, and that a focus on such mitigation will divert the attention and resources of governments away from addressing the real problems of their peoples.

That human-caused climate change is not a global crisis.

Now, therefore, we recommend –

That world leaders reject the views expressed by the United Nations Intergovernmental Panel on Climate Change as well as popular, but misguided works such as "An Inconvenient Truth".

That all taxes, regulations, and other interventions intended to reduce emissions of CO₂ be abandoned forthwith.

Agreed at New York, 4 March 2008.

Figure D.4. Cornwall Alliance Evangelical Declaration On Global Warming
(<http://cornwallalliance.org/2009/05/evangelical-declaration-on-global-warming/>)

PREAMBLE

As governments consider policies to fight alleged man-made global warming, evangelical leaders have a responsibility to be well informed, and then to speak out. ***A Renewed Call to Truth, Prudence, and Protection of the Poor: An Evangelical Examination of the Theology, Science, and Economics of Global Warming*** demonstrates that many of these proposed policies would destroy jobs and impose trillions of dollars in costs to achieve no net benefits. They could be implemented only by enormous and dangerous expansion of government control over private life. Worst of all, by raising energy prices and hindering economic development, they would slow or stop the rise of the world's poor out of poverty and so condemn millions to premature death.

WHAT WE BELIEVE

1. We believe Earth and its ecosystems—created by God's intelligent design and infinite power and sustained by His faithful providence—are robust, resilient, self-regulating, and self-correcting, admirably suited for human flourishing, and displaying His glory. Earth's climate system is no exception. Recent global warming is one of many natural cycles of warming and cooling in geologic history.
2. We believe abundant, affordable energy is indispensable to human flourishing, particularly to societies which are rising out of abject poverty and the high rates of disease and premature death that accompany it. With present technologies, fossil and nuclear fuels are indispensable if energy is to be abundant and affordable.
3. We believe mandatory reductions in carbon dioxide and other greenhouse gas emissions, achievable mainly by greatly reduced use of fossil fuels, will greatly increase the price of energy and harm economies.
4. We believe such policies will harm the poor more than others because the poor spend a higher percentage of their income on energy and desperately need economic growth to rise out of poverty and overcome its miseries.

WHAT WE DENY

1. We deny that Earth and its ecosystems are the fragile and unstable products of chance, and particularly that Earth's climate system is vulnerable to dangerous alteration because of minuscule changes in atmospheric chemistry. Recent warming was neither abnormally large nor abnormally rapid. There is no convincing scientific evidence that human contribution to greenhouse gases is causing dangerous global warming.
2. We deny that alternative, renewable fuels can, with present or near-term technology, replace fossil and nuclear fuels, either wholly or in significant part, to provide the abundant, affordable energy necessary to sustain prosperous economies or overcome poverty.
3. We deny that carbon dioxide—essential to all plant growth—is a pollutant. Reducing greenhouse gases cannot achieve significant reductions in future global temperatures, and the costs of the policies would far exceed the benefits.
4. We deny that such policies, which amount to a regressive tax, comply with the Biblical requirement of protecting the poor from harm and oppression.

A CALL TO ACTION

In light of these facts,

1. We call on our fellow Christians to practice creation stewardship out of Biblical conviction, adoration for our Creator, and love for our fellow man—especially the poor.
2. We call on Christian leaders to understand the truth about climate change and embrace Biblical thinking, sound science, and careful economic analysis in creation stewardship.
3. We call on political leaders to adopt policies that protect human liberty, make energy more affordable, and free the poor to rise out of poverty, while abandoning fruitless, indeed harmful policies to control global temperature.

Figure D.6. Cross Country Variation in Organisations Adopting of Denial of Responsibility at Time One



Figure D.7. Cross Country Variation Organisation Adopting Denial of Responsibility at Time Two



Figure D.8. Cross-Country Variation In Organisation Adopting Denial Of Injury One at Time One.



Figure D.9. Cross Country Variation On Organisations Adopting Denial Of Injury One Time Two.



Figure D.10. Cross Country Variation In Organisation Adopting Denial Of Injury Two At Time One



Figure D.11. Cross Country Variation In Organisation Adopting Denial Of Injury 2 At Time Two



Figure D.12. Cross-Country Variation In Organisations Adopting Denial Of Victim One At Time One



Figure D.13. Cross Country Variation In Organisations Adopting Denial Of Victim One at Time Two



Figure. D.14. Cross Country Variation In Organisations Adopting Condemnation Of The Condemner At Time One



Figure D.15. Cross Country Variation In Organisations Adopting Condemnation Of The Condemner At Time Two



Figure D.16. Cross Country Variation In Organisations Adopting Appeal To Higher Loyalties At Time One



Figure D.17. Cross Country Variation In Organisations Adopting Appeal To Higher Loyalties At Time Two

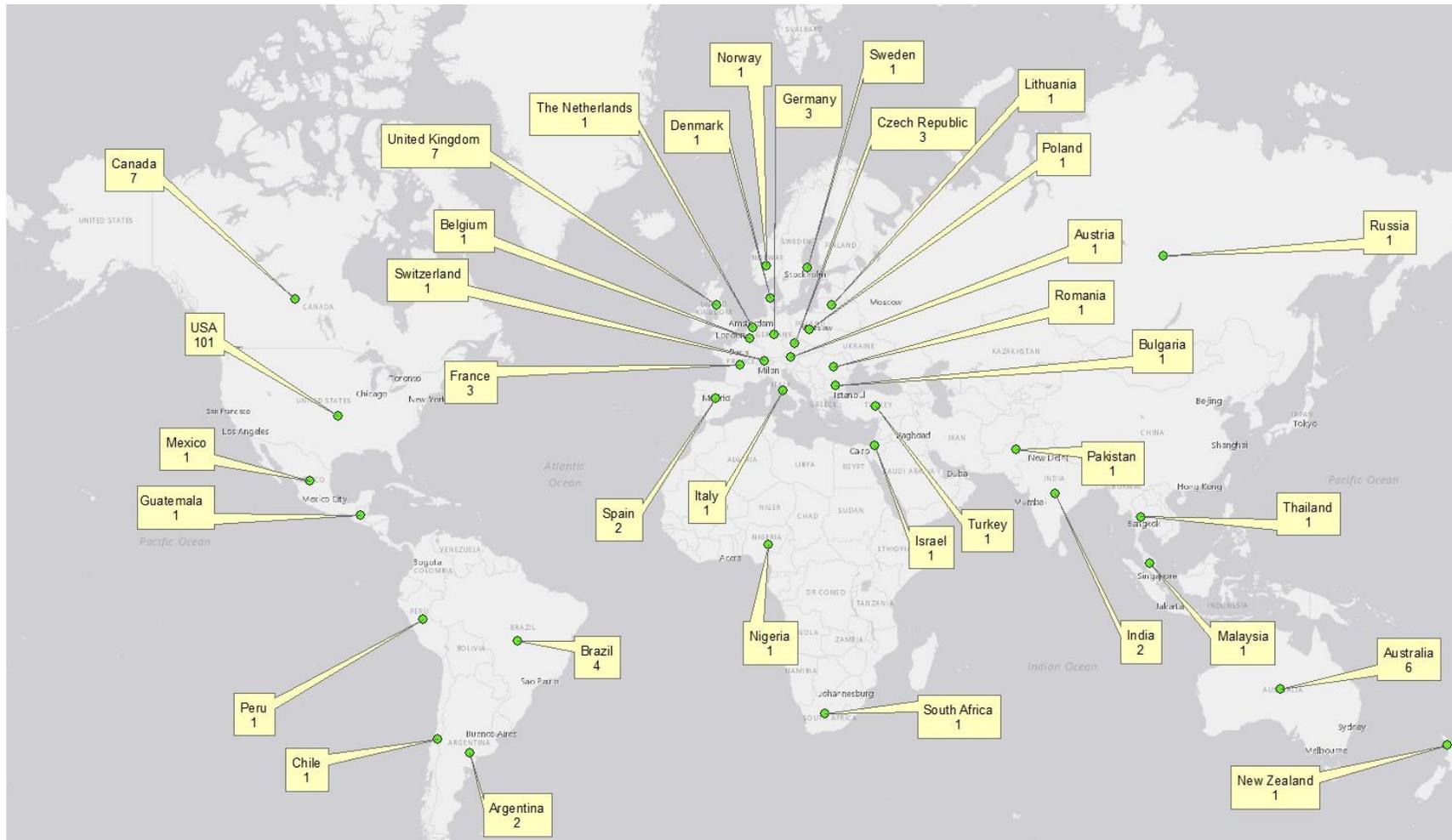


Figure D.18. Cross Country Variation In Organisations Adopting Justification By Comparison At Time Two



Appendix E
Raw Cross National Data

Country	ENGO	Population Growth	Fossil Fuel Energy Consumption	Total GHGKT	Total Natural Resource Rents (% of GDP)	Count of Climate and Earth Science Research	Ecological Footprint (per capita)	Terrestrial and Marine Protected Land	Economic Freedom Index	Count of (Global) Fortune 500	GDP per capita	FDI stocks (annual)
Afghanistan	4	2.8029863	52.896869	17981.307	0.70283402	0	0.8888043	0.46	0	0	584.0259	1261.331
Albania	18	-0.15518381	56.377338	8898.6409	37.954128	0	2.294673	2.34	7.4	0	3954.023	4331.021
Algeria	2	1.8630998	88.376164	176471.23	11.842198	0	2.381949	7.86	5.15	0	4132.76	26232.29
American Samoa	0	0.18743472		58.765519	1.6401554	0		12.64	0	0	11541.85	
Andorra	0	-3.2293971			15.253047	0		19.5	0	0		
Angola	0	3.2265057	41.319588	41657.165	11.265969	0	0.9790649	6.98	5.08	0	3695.794	35181.91
Anguilla	0					0			0	0		1227.999
Antigua and Barbuda	1	1.0048356		552.74791		0	4.102637	5.49	0	0	13566.91	2850.756
Argentina	3	1.010993	88.914994	380295.32	1.1864584	0	3.730747	6.8	4.81	0	13467.1	85127.74
Armenia	6	0.38374075	75.492844	12319.39	3.4859055	0	2.069789	24.75	7.71	0	3609.655	4336.489
Aruba	0	0.43216196		616.9287	0.00192187	0	6.361364	0.48	0	0		4049.721
Australia	17	1.3423052	88.914994	761686.27	1.1864584	7	8.802467	14.63	7.93	8	56554.04	535917.7
Austria	3	0.81052581	93.321903	90460.21	4.8026955	0	6.113294	28.35	7.56	1	43665.01	165031.9
Azerbaijan	16	1.2120174	98.211233	56537.082	13.319833	0	2.301771	13.97	6.55	0	5500.311	22229
Bahamas, The	0	1.2878336	64.658749	4865.2068	0.13286594	0	4.296589	13.31	7.38	0	22888.13	19184.12
Bahrain	1	1.1176507	99.989349	32849.106	4.9478124	0	6.434736	2.86	7.6	0	22688.88	28324.47
Bangladesh	144	1.198571	73.165301	183300.56	1.0255063	0	0.7493957	4.6	6.35	0	1210.158	12912.14
Barbados	0	0.29422409		1540.6157	0.05079823	0	3.362386	0.23	6.65	0	15557.83	6561.961

Belarus	1	0.31585623		109647.24	0.02075526	0	4.626102	8.57	0	0	5949.111	17972.1
Belgium	8	0.48415212	90.67204	133373.68	1.0093931	0	6.889777	22.86	7.51	1	40356.88	455366
Belize	1	2.1325913		1569.8585	0.82158112	0		36.66	6.34	0	4849.998	2054.913
Benin	24	2.6199741	42.877935	33533.097	6.7266892	0	1.314165	28.07	6.22	0	783.9471	1665.832
Bermuda	0	0.14737715		632.87699		0	5.874336	5.77	0	0		2542.536
Bhutan	0	1.2757359		3296.9637	5.5215998	0	4.61089	47.3	7.07	0	2613.645	167.3595
Bolivia	3	1.5298003	85.096917	621726.73	7.9233751	0	3.060625	24.83	6.34	0	3077.026	11632.85
Bosnia and Herzegovina	2	-	92.504002	27108.4	0.95224789	0	3.214771	1.28	6.85	0	4574.091	6791.695
Botswana	4	0.18715339	69.130829	82110.277	2.7115947	0	3.068884	29.15	7.27	0	6532.061	5018.245
Brazil	11	1.898495	72.74105	2989418	0.01887594	0	3.015156	28.44	6.27	7	8757.206	468671.5
British Virgin Islands	0	0.85505295		74.447471		0	2.874439	8.78	0	0		574609.6
Brunei Darussalam	0	1.782232	99.994379	14828.967	8.5437394	0	5.174062	44.1	7.25	0	30967.89	6060.85
Bulgaria	8	-	58.021068	67942.696	2.9568178	0	3.127256	40.52	7.39	0	6993.478	42907.8
Burkina Faso	2	0.63806947	70.186895	43910.402	1.886367	0	1.18975	15.47	6.02	0	615.5922	1744.96
Burundi	2	2.8934662		6254.371	16.756861	0	0.6319464	6.89	6.05	0	303.681	219.527
Cabo Verde	0	3.2923923		376.40042	0.63156935	0	2.204241	2.6	6.89	0	2954.119	1565.886
Cambodia	12	1.2753361	28.63599	127399.59	2.0286566	0	1.21326	25.96	7.2	0	1163.19	14738.58
Cameroon	83	1.6163085	29.279398	100922.14	6.1692837	0	1.160212	10.86	6.25	0	1244.429	6798.349
Canada	24	2.4771421	72.314064	1027063.9	1.886367	2	8.755507	9.38	7.98	11	43315.7	760669.1
Cayman Islands	0	0.86313061		307.34596		0	5.521903	8.74	0	0		308599.9
Chad	6	1.3345954		109796.02		0	1.374502	17.78	5.12	0	777.2487	4859.933
Channel Islands	0	0.47457446				0			0	0		221986.1
Chile	0	1.0388775	72.314064	120687.89	18.997168	0	4.350051	18.34	7.83	1	13653.23	221986.1
China	1	0.50813675	67.539906	12454711	0.8890256	1	3.594809	17.03	6.45	96	8069.212	1220903

Colombia	17	0.9108802	75.798201	173411.77	3.5786078	0	1.887173	23.06	6.43	1	6044.525	149157
Comoros	1	2.3720605		564.22066	3.4014242	0	1.048538	10.17	0	0	727.6464	107.071
Congo, Dem. Rep.	83	3.1417381	4.3190508	802271.3	34.016579	0	0.7533282	12.08	5.49	0	474.936	
Congo, Rep.	1	2.5286675	37.01676	35743.919	23.367273	0	1.2645	35.24	4.8	0	1712.121	23875.68
Costa Rica	4	1.0505398	88.137233	12274.134	12.195877	0	2.48074	27.44	7.56	0	11406.36	31107.15
Cote d'Ivoire	0	2.4275166	25.634643	33502.16	5.4831076	0	1.217984	22.9	6.01	0	1420.627	7381.014
Croatia	3	-	78.462191	30421.049	0.66290851	0	3.773108	37.73	7	0	11579.67	25950.61
Cuba	0	0.33050584 0.09180158	87.334287	52418.456	2.2141548	0	1.8555	12.4	0	0	7602.261	
Curacao	0	1.3575662	99.999945			0			0	0		922.5363
Cyprus	1	1.0040801	92.99081	7431.1935	0.06287335	0	3.306502	18.37	7.32	0	23075.11	173709.2
Czech Republic	2	0.24550501	48.966474	138957.42	1.2828068	0	5.290895	21.11	7.53	0	17556.92	116627.8
Denmark	3	0.57471011	75.281891	53703.224	1.2561849	2	6.108376	18.33	7.67	1	53014.64	100131.8
Djibouti	0	1.3250498		2766.3038	0.91861147	0	2.785256	1.34	0	0	1862.167	1629.482
Dominica	1	0.46751935		222.83558	0.06596594	0	2.246179	21.54	0	0	7069.503	793.355
Dominican Republic	72	1.1698428	86.389524	33395.084	1.9779321	0	1.525481	22.95	7.32	0	6468.472	30557.99
Ecuador	6	1.506846	68.134725	52746.573	1.2561849	0		25.75	5.76	0	6205.062	15627.12
Egypt, Arab Rep.	9	2.1298921	96.349869	295499.75	3.8502842	0	1.955079	11.23	6.05	0	3547.713	94307
El Salvador	1	0.30859194	45.750711	12577.79	0.91232681	0	1.894186	8.44	7.4	0	4127.118	9001.799
Equatorial Guinea	0	2.9024604		6374.1711	15.973181	0	3.118604	25.04	0	0	10347.31	13356.96
Eritrea	0	2.1079281	21.76648	4977.888	19.215179	0	0.5045039	5.04	0	0		886.476
Estonia	5	-0.1939432	14.813714	23292.779	0.88244712	0	7.010229	20.66	7.7	0	17074.92	19011.18
Ethiopia	18	2.4773606	5.6396306	185292.17	14.280958	0	1.012355	18.4	5.6	0	645.4637	10503.19
Faroe Islands	0	-				0		0	0	0		
Fiji	0	0.04563369 0.64039531		2258.1731	1.4748684	0	3.325069	4.43	6.99	0	4921.896	3801.501

Finland	1	0.37466948	42.585388	69072.939	0.5884645	0	6.734858	14.81	7.68	0	42405.4	80508.98
France	10	0.46877034	89.767128	499146.63	0.36244838	2	5.062796	25.33	7.3	29	36526.77	688879.3
French Polynesia	0	1.0605473		610.09538	0.0009642	0	4.035521	1.97	0	0		864.333
Gabon	0	2.2045654	43.414477	34570.627	13.118211	0	2.447503	20.49	5.71	0	7388.984	6763.428
Gambia, The	8	3.2011409		3529.2315	6.2959963	0	0.9187813	4.16	7.11	0	474.7166	319.4821
Georgia	4	-1.2962644	68.934496	14627.749	0.95593334	0	1.728668	8.34	7.98	0	3764.641	12853.57
Germany	15	0.53036645	46.27473	-	0.52790316	8	5.460761	37.4	7.55	28	41176.88	786940.4
Ghana	183	2.3002319	80.023912	107784.29	3.8585741	0	1.920397	15.05	6.41	0	1361.114	26397.4
Gibraltar	0	0.68521151	100	473.00573		0			0	0		20104.87
Greece	11	-	85.676021	100571.17	0.09376795	0	4.20715	34.86	6.93	0	18007.79	23405.95
Greenland	0	0.63253611				0		41.16	0	0	39569.11	
Grenada	1	0.32203855		726.18542		0	3.050373	2.14	0	0	9212.192	1512.699
Guam	0	0.44658428		85.869458		0		27.14	0	0	35439.47	
Guatemala	0	1.3881703				0				0		
Guinea	2	2.023674	52.697384	31515.45	0.04186429	0	1.697179	31.77	7.5	0	3923.573	13176.3
Guinea-Bissau	4	2.6770722		101348.99	27.627798	0	1.373767	29.2	5.1	0	554.0409	2171.1
Guyana	1	2.4041733		7604.7345	16.979241	0	1.308168	16.37	6.08	0	596.8717	134.1889
Haiti	3	0.41698896		6140.6873	18.472842	0	3.316525	8.69	5.98	0	4136.69	2915.166
Honduras	3	1.3065766	18.683971	8835.4669	1.1997998	0	0.6071987	0.32	6.99	0	814.5464	1270
Hong Kong SAR, China	4	1.4140267	32.653707	49.154536	0.06751234	0	1.706809	21.59	7.24	0	2326.158	12704.42
Hungary	2		51.351343	57.389743	17.08759	1		41.84	9.03	3	42351.02	1591627
Iceland	9	-	67.835626	62988.4	0.30499642	0	3.262772	22.55	7.3	0	12365.63	84460.47
India	0	0.22101201	10.661992	5514.854	0.0002948	0		16.68	7.06	0	50734.45	7851.015
Indonesia	882	1.0443586	93.698665	116.44486	2.2922083	0	1.063334	5.35	6.5	7	1613.189	282608.9
	24	1.2144384	65.928219	780550.76	2.324363	0	1.447695	14.65	7.02	2	3336.107	222410

Iran, Islamic Rep.	8	1.2281364	98.864944	650956.81	24.293756	0	3.00395	7.26	5.27	0	4957.581	45096.89	
Iraq	3	3.2085183	97.330026	155529.51	28.642259	0	1.901047	0.38	0	0	4974.027	15408.71	
Ireland	3	0.50719881	85.17053	62433.014	0.04609614	1	4.8037	14.39	7.98	2	60664.11	866217.3	
Isle of Man	0	0.74668599				0	5.958426		0	0		104102.7	
Israel	8	1.9848688	72.443963	112.18343	2.4945198	0	4.503643	19.85	7.39	0	35729.37	337083.1	
Italy	5	0.02129266	706820	-	0.00127125	0	1.888481	21.47	7.17	9	30049.15	14170.91	
Jamaica	0	0.19781536	82.540255	5.1361524	15474.32	1.3564888	0	4.986517	15.9	7.21	0	4965.99	170698.5
Japan	9	-	94.737165	1478858.9	0.01832276		2	2.054003	19.35	7.42	54	34474.14	30628.52
Jordan	3	0.13643027	97.618268	27198.595	1.1862135	0		2.1	7.82	0	4096.099	120187.4	
Kazakhstan	2	2.377947	99.192658	366502.2	9.1641021	0	6.489188	3.29	7.35	0	10509.98	10838.85	
Kenya	98	1.4635776	96.68275	39.439488	1.8710176	0	1.028096	12.37	7.14	0	1349.97	11.91095	
Kiribati	1	2.6107924		52.699117	0.08744051	0		22.21	0	0	1424.484		
Korea, Dem. People's Rep.	0	1.7524552	84.298913	109894.97		1	2.484665	2.53	0	0		721.389	
Korea, Rep.	10	0.38220175	78.881177	668989.65	0.22219605	0	5.852987	7.6	7.4	17	27105.08	179544.4	
Kosovo	0	-	90.210791			0			0	0	3574.482		
Kuwait	1	0.86539806	99.999997	96788.194	39.131223	0	8.220631	18.4	7.14	0	28975.4	14603.67	
Kyrgyz Republic	1	3.6364951	72.200777	13794.741	7.704982	0	1.866238	6.94	7.16	0	1121.083	4637.745	
Lao PDR	0	2.0607047		161718.74	17.293271	0	1.464044	16.66	6.85	0	2159.423	4749.068	
Latvia	0	1.6710833	58.98272	13943.922	0.98938275	0	6.527117	18.22	7.57	0	13666.58	14746.44	
Lebanon	9	0.77246822	95.780757	18270.36	0.00178781	0	3.380472	2.66	7.06	0	8046.633	58454.82	
Lesotho	1	4.1644393		3472.7075	4.3701731	0	1.428849	0.54	6.66	0	1073.828	251	
Liberia	20	1.2169645		2833.9428	50.387423	0	1.135818	2.51	7.22	0	452.0381	7056.497	
Libya	2	2.4020053	98.977137	82129.134	50.860491	0	4.410867	0.25	4.58	0		19237.16	

Liechtenstein	0	0.65493371				0		44.29	0	0			
Lithuania	1	-0.7588483	18.132535	-	0.07673281	0	6.182828	16.79	7.81	0	14252.43	14693.98	
Luxembourg	1	2.3725907	83.684825	45.823046	12610.998	0.05826352	0	13.09159	34.61	7.65	1	101909.8	227073.3
Macao SAR, China	0	1.6631587		1686.0489	0.00071276	0		0	0	0	75573.48	29034.75	
Macedonia, FYR	9	0.13615538	82.041336	12992.247	3.977131	0	3.059623	9.7	7.22	0	4834.137	4790.385	
Madagascar	0	2.776657		117932.6	8.3422793	0	0.951186	4.97	6.54	0	401.8576	5619.144	
Malawi	10	3.0670146		21632.132	9.6101152	0	0.8241104	16.81	5.79	0	362.6575	1060.53	
Malaysia	8	1.4245255	82.458839	40.54172	3.2912252	0	4.214037	18.41	7.25	1	9643.645	117643.8	
Maldives	12	2.0152182		351.8023	0.01005929	0		0.66	0	0	8395.785	2767.623	
Mali	3	2.9620813		77437.932	16.621197	0	1.301237	8.38	5.97	0	729.7205	3013.531	
Malta	0	0.92443045	98.255679	3227.6427		0	4.454708	23.09	7.74	0	23819.46	165467.6	
Marshall Islands	0	0.17942984		4.6970076		0		7.87	0	0	3385.904	248.936	
Mauritania	4	2.4372663		13343.163	31.798381	0	2.430427	0.96	5.63	0	1158.256	6478.351	
Mauritius	8	0.13243308	83.781171	1834.3625	0.00125629	0	3.33315	4.51	7.98	0	9252.11	4275.408	
Mexico	11	1.2927052	70.022336	34.255506	0.0186523	0	2.557922	12.92	6.88	3	9143.129	509292	
Micronesia, Fed. Sts.	0	0.39903364		58.091752		0		4.29	0	0	3016.011	235.3064	
Moldova	9	-	86.331212	11350.63	0.39787726	0	1.735964	3.82	6.72	0	1832.499	16679.9	
Monaco	0	0.06320189				0				0			
Mongolia	7	1.6787908	95.175002	24860.378	16.515532	0	7.478023	17.21	7.39	0	3944.18	4569.743	
Montenegro	1	0.09291126	61.127472		0.7185172	0	3.63563	4.14	7.27	0	6461.192	142.687	
Morocco	4	1.3362324	88.1048	80436.715	2.5658422	0	1.696764	33.64	6.42	0	2847.286	49670.52	
Mozambique	3	2.7598414	9.2073279	380308.29	13.054836	0	0.8389299	17.21	5.81	0	528.3126	28736.53	
Myanmar	2	0.85713096	30.096591	528416.22	4.8441075	0	1.444477	7.17	5.39	0	1194.59	20475.94	
Namibia	1	2.3026765	66.512762	38049.271	2.3221845	0	2.105912	37.86	6.8	0	4737.67	3763.332	

Nauru	0	0.45102538				0	2.917858	0	0	0	8052.888		
Nepal	112	1.195941	15.465298	40762.715	1.4671289	0	0.931459	22.93	6.54	0	743.7653	950.9351	
Netherlands	6	0.42312943	94.802484	-	0.36888792	3	5.796274	11.56	7.63	13	44292.88	719426.6	
New Caledonia	0	1.8484815		12.738704	1821.3398	5.8627995	0	2.260402	54.25	0		12740.07	
New Zealand	1	1.8890451	89.602214	18.939256	4.8401879	0	5.113247	32.53	8.35	0	38201.89	66838.86	
Nicaragua	0	1.1263232	39.628715	16323.043	4.1147456	0	1.434767	37.11	7.39	0	2095.967	9034.1	
Niger	0	4.0268689	24.938795	11460.916	14.774124	0	1.494954	17.61	6.05	0	358.997	5165.371	
Nigeria	235	2.6280444	91.053706	14.18	2.264835	0	1.070578	14.18	6.45	0	2655.158	89735.4	
Northern Mariana Islands	0	0.96523909		12.488586		0		3.4	0	0	16819.91		
Norway	3	1.1359482	60.743081	-	0.50926778	0	5.764605	29.24	7.51	1	74505.25	138243.9	
Oman	1	5.8340301	100	5.8242107	62201.551	22.930794	0	5.666169	10.7	7.27	0	16627.37	18405.74
Pakistan	327	2.0754264	18.163416	114.27518	0.87023402	0	0.7290214	10.78	6.01	0	1431.245	32088.02	
Palau	0	0.91535979				0		15.98	0	0	13500.56	360.6967	
Panama	1	1.5803474	75.414406	16248.772	0.18649588	0	2.81141	20.57	7.47	0	13134.04	39629.4	
Papua New Guinea	3	2.0652468		11087.457	23.514268	0	1.513098	3.12	6.7	0		4468.163	
Paraguay	6	1.3130473	59.74378	-	4.7132162	0	4.011465	6.5	6.88	0	4109.368	4410.944	
Peru	11	1.2943988	60.075107	20.349095	74806.957	195.2	0	2.343716	31.44	7.35	0	6030.343	84617.52
Philippines	41	1.5620013	33.615104	73.62544	5.3962325	0	1.006934	10.96	7.01	0	2878.338	58521.89	
Poland	3	-0.0322084	76.509965	228374	1.2182892	0	4.272482	30	7.42	1	12565.99	182527.6	
Portugal	4	-	74.258738	72524.219	0.25961866	0	3.870712	22.09	7.49	0	19220.01	116908.9	
Puerto Rico	0	0.50520332					0						
		-1.732256		3293.2549			0	10.28	0	0			
Qatar	0	2.8721724	100	103155.12	11.291538	0	12.57356	3.2	7.91	0	66346.52	33169.23	
Romania	11	-	61.24636	-	2.1975859	0	2.626783	23.8	7.66	0	8958.789	70147.84	
		0.38544267		50.759241									

Russian Federation	0	0.19258584	89.837701	-	6.2913853	0	5.721059	11.36	6.66	5	9329.299	262747.9
Rwanda	3	2.3365583		21.988741	6.5668042	0	0.8743187	9.43	7.38	0	710.3484	1401.8
Samoa	0	0.71830845		356.08696	0.47135376	0	2.325371	6.77	0	0	4149.363	72.70683
San Marino	0	0.58697467				0		0	0	0		
Sao Tome and Principe	0	2.1249266		195.48696	3.0591393	0	1.618144	0	0	0	1624.604	404.71
Saudi Arabia	0	2.0947724	99.996461	514967.26	23.373917	0	5.613992	31.27	6.95	2	20732.86	224049.8
Senegal	9	3.0652598	52.172708	54185.372	5.7885017	0	1.10537	25.2	6.42	0	908.7256	3431.089
Serbia	5	-	88.577697		1.2118862	0	3.100533	6.76	6.68	0	5237.255	29042.46
Seychelles	2	0.45441644		910.28736	0.15220981	0		42.13	7.48	0	15390.04	2761.783
Sierra Leone	12	1.6278167		11810.887	23.631868	0	1.211305	10.9	5.92	0	587.5038	1592.41
Singapore	3	2.1546614		11810.887	23.631868	0	1.211305	10.9	5.92	0	587.5038	1592.41
Singapore	3	1.1863769	97.429438	55910.281	0.00045183	1	6.798994	5.79	8.71	2	53629.74	1082014
Sint Maarten (Dutch part)	0	2.9596158				0			0	0		348.3261
Slovak Republic	3	0.09962465	62.790594	46301.274	0.28793401	0	4.444552	36.63	7.45	0	16089.75	43688.24
Slovenia	3	0.0866752	59.593025	21074.748	0.26192596	0	4.697498	53.59	6.73	0	20729.86	12590.27
Solomon Islands	17	1.9762497	0	4591.4645	23.005434	0	1.191243	2.21	0	0	1922.041	536.6849
Somalia	11	2.530425		21916.323		0	1.24283	0.6	0	0	426.0099	1622.52
South Africa	39	1.6480093	73.429536	43.793636	1.6373659	1	3.372412	8.85	6.64	0	5769.772	126755.5
South Sudan	0	3.5352993	72.375988		15.862548	0	1.721226	20.8	0	0	758.7206	
Spain	10		72.239127	348257.29	0.0661316	0	4.028159	27.97	7.38	8	25683.85	557385.7
Sri Lanka	58	0.93442949	45.87418	30451.826	0.15618964	0	1.431339	23.19	6.52	0	3844.891	10021.51
St. Kitts and Nevis	0	1.1364993		102.93773		0	4.418849	3.32	0	0	16144.98	2094.186
St. Lucia	2	0.73458735		598.76592	0.03132693	0	2.358608	16.88	0	0	8076.113	2553.821
St. Martin (French part)	0	0.70792281				0			0	0		348.3261

St. Vincent and the Grenadines	1	0.09322646		319.21809	0.04430984	0	3.424966	22.46	0	0	6739.606	1900.256
Sudan	7	2.2231393	32.102899	491982.27	4.2028643	0	1.430112	1.74	0	0	2513.885	
Suriname	1	0.87438579		2657.8776	17.6839	0	4.014183	14.72	6.73	0	8818.982	1678.609
Swaziland	2	1.3973175		3478.0345	2.8763501	0	2.035253	4.02	6.77	0	3136.925	555.118
Sweden	8	1.0542401	90.72257	195558	0.850271	0	6.532878	14.78	7.46	3	50585.26	302525.1
Switzerland	7	1.1936199	86.714961	3522	1.0302316	5	5.283186	9.93	8.25	12	80989.84	839827.3
Syrian Arab Republic	0	-1.4490865	98.299765	77118.712	20.750752	0	1.444568	0.69	5.59	0		10742.91
Taiwan	1					0			7.65	8		66679
Tajikistan	4	2.2174992	43.522859	15364.575	2.0396548	0	0.9258035	21.92	6.97	0	918.6771	2039.57
Tanzania	58	3.1301851	14.362777	235353.12	6.8621123	0	1.253281	32.02	6.84	0	872.2941	
Thailand	3	0.34400214	30.754367	2704304	10.279578	0	2.568315	18.76	6.56	1	5814.863	183277
Timor-Leste	0	2.678741		959.3474	0.29516591	0	0.7435154	8.72	6.14	0	1161.761	350.098
Togo	16	2.6273134	17.166292	22931.855	24.667357	0	1.011911	25.04	5.89	0	551.1309	1568.396
Tonga	1	0.55157963		155.2906	0.04559239	0	2.891801	15.93	0	0	4093.775	414.873
Trinidad and Tobago	7	0.41295718	99.929949	61308.525	7.4928855	0	8.761353	32.48	6.77	0	17321.83	9771.433
Tunisia	3	1.006143	88.289816	39721.009	3.0278916	0	2.182421	5.44	6.54	0	3828.092	34689.45
Turkey	1	1.462405	48.70146	536516	4.1997329	0	3.188948	0.23	6.86	1	10979.53	149803.1
Turkmenistan	0	1.2417709		92178.075	18.928012	0	5.537069	3.15	0	0	6432.669	31718.59
Turks and Caicos Islands	0	1.7597657		7.8319111		0		44.39	0	0		
Tuvalu	0	0.23221778		5.2399168		0		2.41	0	0	2970.028	
Uganda	98	3.2533136		80725.085	12.420753	0	1.224391	16	7.34	0	693.8964	10367.97
Ukraine	4	-0.36373273	78.230292	404900.3	3.899654	0	3.236214	4.04	6	0	2124.663	47049
United Arab Emirates	2	0.7764508	99.90762	204888.72	11.949324	0		18.56	7.98	0	39101.75	108958.7

United Kingdom	50	0.80935527	80.428864	-	0.39650406	15	5.050002	28.43	7.93	30	43929.69	1408276	
United States	313	0.78442263	90.165744	24.633756	5410350.5	0.00949969	47	8.591255	13.88	7.75	128	56207.04	18452.56
Uruguay	1	0.35144906	82.789166	31.121298	1.2473396		0	3.299615	2.68	7.08	0	15524.84	5571207
Uzbekistan	1	1.7461754	97.65671	177223.75	9.3691177		0	2.156815	3.44	0	0	2137.577	21750.06
Vanuatu	0	2.2039533		446.2206	0.90097839		0	3.557023	4.2	0	0	2805.834	8890.194
Venezuela, RB	3	1.3406129	83.261533	34.182694	0.35733263		0	3.28832	53.86	3.29	1		500.936
Vietnam	2	1.0687879	66.242447	310664.07	2.5564544		0	1.655281	6.51	6.43	0	2107.013	28370
Virgin Islands (US.)	3	-		61.492776			0		15.33	0	0	36350.82	102791.3
West Bank and Gaza	0	0.57378469					0			0	0	2865.805	
Yemen, Rep.	0	2.4467055	98.697018	40924.628	2.2983013		0	0.9710358	0.77	6.44	0	1401.903	
Zambia	13	3.0718121	12.122466	320254.22	14.379475		0	0.9672144	37.85	7.04	0	1313.89	14467.79
Zimbabwe	11	2.3139582	33.586331	72057.803	8.6914545		0	1.143684	26.61	5.28	0	1018.693	3966.75