Sustainable PPP/PFI

Delivering Sustainable Urban Public Infrastructure in China Through PPP/PFI:
Lessons from a £300 Million UK Social Housing Procurement Project.

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• PPP/PFI Context
• Opportunities in PFI
• Challenges of PFI
• Case study - NTC Sustainable PFI
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China’s Development
China’s Challenge

How to continue rapid economic development?

How to provide the necessary public infrastructure?

How to develop sustainably.....
PPP/PFI for China?

• Chinese authorities advocating funding infrastructure and public works through PPP models

• Reaction to growing concerns over rising local government debts incurred through local financing vehicles.

• Particular interest in PFI pioneered in the UK
PFI in the UK

- Has delivered new hospitals, schools, housing, and civil infrastructure over last 25 years
- Enabled public sector to retain some control
- Improved public sector project management skills
- Introduced better risk management in local government
PFI in the UK

- Often failed to meet public expectations
- Left the public purse with £20 Billion ‘extra’ borrowing costs
- Generated £4 Billion for lawyers and other consultants
- Many projects ‘tarnished by waste, inflexibility and lack of transparency’
- Many contracts too one sided
PFI in China - opportunities

• Huge opportunities to deliver much needed infrastructure

• The value of contracted projects reached nearly 1 trillion yuan 2015

• Has resulted in reduction in local government debt

• Opportunity to learn from lessons of other country’s

• Will have implications globally
PFI in China - challenges

- Developing economy means forecasting is difficult
- Changes to government plans add risk to projects
- Average returns low at around 8%
- Lack of skills and knowledge - particularly in public sector
- Pace of contract negotiation is challenging
Sustainable Development
Sustainable PPP/PFI

- Can PPP/PFI deliver sustainable public infrastructure?
Case Study

North Tyneside Council
Quality Homes for Older People
Overview of the project

• Total transformation of housing for elderly people

• Rebuild, Redesign and Refurbish of 33 housing schemes - 1000 homes

• £112 Million PFI Government Credit

• 30 year design, build and maintain contract
Overview of the problem

- Too many buildings in the wrong location
- Outdated designs
- Not compliant with regulations
- Very energy inefficient
- 42% Increase in demand from 60+ people
- No budget at local government level
Key Challenges

- Requirement for Gov sign off
- £300 Million financial commitment
- Involvement of tenants and local people
- Affordable, sustainable, desirable
Key Challenges

- How to get exemplar buildings
- Future proof designs
- Reduce CO2 emissions
- Enhance well-being
- Meet stakeholder exceptions
- Lack of capacity in local government team
## Renewable Energy Decision Tool

This section highlights the issues which must be considered for each renewable technology and is designed to assist in a preliminary decision as to which renewable technology may be suitable for further investigation.

### Small Wind
- **Is there an average wind speed of at least 10m/s on site?**
  - Yes: **Choose another renewable energy option**
  - No: **Choose another renewable energy option**
- **Wind power is likely to be a feasible option.** Carry out detailed site analysis.

### Solar Photovoltaics
- **Are the building have an east, west or south facing roof or flat roof?**
  - Yes: **Choose another renewable energy option**
  - No: **Choose another renewable energy option**
- **PV is likely to be suitable.** Undertake feasibility study to establish optimum size and location of installation.

### Solar Thermal
- **Will the building have a year round user demand?**
  - Yes: **Choose another renewable energy option**
  - No: **Choose another renewable energy option**
- **Is the roof free from obstructions for most of the day from other buildings, structures or trees?**
  - Yes: **Is there space for a hot water cylinder?**
  - No: **Is the building in a conservation area?**
  - Yes: **Solar thermal could be an option.**
  - No: **Straw bale/dry lined masonry is an alternative at possible.

### Biomass
- **Is a central heating system to be installed?**
  - Yes: **Is there a potential of heat use?**
  - No: **Choose another renewable energy option**
- **Is there adequate space for fuel delivery and storage?**
  - Yes: **Is the boiler system(s) capable of modular expansion to allow for continuous operation during shutdown and cleaning?**
  - No: **Choose another renewable energy option**
## PFI Sustainability Assessment Tool

### PFI Sustainability Evaluation Tool

*North Tyneside Council & Northumbria University 2010*

<table>
<thead>
<tr>
<th>Section</th>
<th>Heading</th>
<th>Weighting Within Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section E1</td>
<td>Energy</td>
<td>30.00%</td>
</tr>
<tr>
<td>Section E2</td>
<td>Health &amp; Wellbeing</td>
<td>20.00%</td>
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<tr>
<td>Section E3</td>
<td>Social &amp; Economic</td>
<td>24.00%</td>
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<tr>
<td>Section E4</td>
<td>Water</td>
<td>8.00%</td>
</tr>
<tr>
<td>Section E5</td>
<td>Materials &amp; Waste</td>
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<td>Section E6</td>
<td>Transport</td>
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<td>Section E7</td>
<td>Ecology &amp; Pollution</td>
<td>5.00%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>100.00%</strong></td>
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</table>

### Important Notice to Bidders:

PLEASE NOTE: The provision of any and all comments/feedback/input/response or drafts/plans/documentation etc. by the Council’s officers, members, advisors/consultants set out above as requested is provided on behalf of the Council on the specific points raised without any obligations or liability whatsoever and howsoever occasioned on the part of the Council, any of its officers, members, advisors or consultants. Any such comments/feedback/input/response provided does not operate or intend to operate in any way to exclude or limit or oblige the person/party making the request to the need in making the request for comments/feedback/input/response making own judgment, due diligence, taking and relying on own independent professional advice and assistance.
Use of established and verified metrics

<table>
<thead>
<tr>
<th>Factor</th>
<th>Description</th>
<th>Section/Level</th>
<th>Details</th>
<th>Weight</th>
<th>Impact</th>
<th>Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO2 underground</td>
<td>The building has been designed to minimize CO2 emissions.</td>
<td>Not specified</td>
<td>Detailed analysis</td>
<td>Minor</td>
<td>0</td>
<td>Weak</td>
</tr>
<tr>
<td>Wettability</td>
<td>The building has been designed to increase wettability.</td>
<td>Not specified</td>
<td>Detailed analysis</td>
<td>Minor</td>
<td>0</td>
<td>Weak</td>
</tr>
<tr>
<td>Building fabric</td>
<td>The building fabric has been designed to increase its energy efficiency.</td>
<td>Not specified</td>
<td>Detailed analysis</td>
<td>Minor</td>
<td>0</td>
<td>Weak</td>
</tr>
<tr>
<td>Insulation</td>
<td>The building fabric has been designed to increase its thermal efficiency.</td>
<td>Not specified</td>
<td>Detailed analysis</td>
<td>Minor</td>
<td>0</td>
<td>Weak</td>
</tr>
<tr>
<td>Air permeability</td>
<td>The building has been designed to increase its air permeability.</td>
<td>Not specified</td>
<td>Detailed analysis</td>
<td>Minor</td>
<td>0</td>
<td>Weak</td>
</tr>
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<td>Thermal bridging</td>
<td>The building has been designed to minimize thermal bridging.</td>
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<td>Detailed analysis</td>
<td>Minor</td>
<td>0</td>
<td>Weak</td>
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<tr>
<td>Water</td>
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<td>Not specified</td>
<td>Detailed analysis</td>
<td>Minor</td>
<td>0</td>
<td>Weak</td>
</tr>
</tbody>
</table>

Note: The table above is an example of how established and verified metrics are used in the assessment of a project.
User friendly Outputs - Used in dialogue
# Easy comparison of results

## Master Results Page

<table>
<thead>
<tr>
<th>Scheme Name</th>
<th>ISDS Schemes</th>
<th>1st Review</th>
<th>2nd Review</th>
<th>Final Review</th>
<th>Description</th>
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</thead>
<tbody>
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<td>Victoria Court</td>
<td>Refurb</td>
<td>62%</td>
<td>79%</td>
<td>88%</td>
<td>Good Above Expectations</td>
</tr>
<tr>
<td>Crummock Court</td>
<td>New Build</td>
<td>64%</td>
<td>78%</td>
<td>85%</td>
<td>Good Above Expectations</td>
</tr>
<tr>
<td>Phoenix Court</td>
<td>New Build</td>
<td>56%</td>
<td>77%</td>
<td>85%</td>
<td>Good Above Expectations</td>
</tr>
<tr>
<td>Rosebank Hall</td>
<td>Refurb</td>
<td>45%</td>
<td>65%</td>
<td>65%</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Canville House</td>
<td>Refurb</td>
<td>54%</td>
<td>67%</td>
<td>78%</td>
<td>Good Above Expectations</td>
</tr>
<tr>
<td>Roseberry Court</td>
<td>Refurb</td>
<td>45%</td>
<td>66%</td>
<td>89%</td>
<td>Good Above Expectations</td>
</tr>
<tr>
<td>Preston Court</td>
<td>Refurb</td>
<td>45%</td>
<td>50%</td>
<td>57%</td>
<td>Satisfactory but Below Expectations</td>
</tr>
<tr>
<td>Chawton View</td>
<td>Refurb</td>
<td>65%</td>
<td>68%</td>
<td>73%</td>
<td>Meets Expectations and Satisfactory</td>
</tr>
<tr>
<td>Tamar Court</td>
<td>Refurb</td>
<td>79%</td>
<td>80%</td>
<td>85%</td>
<td>Good Above Expectations</td>
</tr>
<tr>
<td>Clifton Bungalows</td>
<td>New Build</td>
<td>76%</td>
<td>84%</td>
<td>85%</td>
<td>Good Above Expectations</td>
</tr>
<tr>
<td>Bristol Drive</td>
<td>New Build</td>
<td>67%</td>
<td>74%</td>
<td>74%</td>
<td>Meets Expectations and Satisfactory</td>
</tr>
<tr>
<td>Broadway Court</td>
<td>New Build</td>
<td>45%</td>
<td>56%</td>
<td>68%</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Bisley Court</td>
<td>New Build</td>
<td>47%</td>
<td>69%</td>
<td>90%</td>
<td>Very Good Well Above Expectations</td>
</tr>
<tr>
<td>Rudyard Court</td>
<td>Refurb</td>
<td>78%</td>
<td>79%</td>
<td>83%</td>
<td>Good Above Expectations</td>
</tr>
<tr>
<td>Skipsey Court</td>
<td>Refurb</td>
<td>75%</td>
<td>76%</td>
<td>78%</td>
<td>Meets Expectations and Satisfactory</td>
</tr>
<tr>
<td>Eccles Court</td>
<td>Refurb</td>
<td>76%</td>
<td>77%</td>
<td>78%</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Femmone</td>
<td>Refurb</td>
<td>65%</td>
<td>67%</td>
<td>89%</td>
<td>Meets Expectations and Satisfactory</td>
</tr>
<tr>
<td>Feetham Court</td>
<td>Refurb</td>
<td>70%</td>
<td>70%</td>
<td>83%</td>
<td>Good Above Expectations</td>
</tr>
<tr>
<td>Emmerson Court</td>
<td>Refurb</td>
<td>12%</td>
<td>20%</td>
<td>23%</td>
<td>Very Weak and Almost Unacceptable</td>
</tr>
<tr>
<td>Chapleville</td>
<td>New Build</td>
<td>55%</td>
<td>56%</td>
<td>68%</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>Marsden House</td>
<td>New Build</td>
<td>76%</td>
<td>77%</td>
<td>79%</td>
<td>Meets Expectations and Satisfactory</td>
</tr>
<tr>
<td>The Orchard</td>
<td>Refurb</td>
<td>70%</td>
<td>79%</td>
<td>85%</td>
<td>Good Above Expectations</td>
</tr>
<tr>
<td>Fernlea</td>
<td>Refurb</td>
<td>78%</td>
<td>80%</td>
<td>89%</td>
<td>Good Above Expectations</td>
</tr>
<tr>
<td>Eldon Court</td>
<td>New Build</td>
<td>70%</td>
<td>71%</td>
<td>74%</td>
<td>Meets Expectations and Satisfactory</td>
</tr>
<tr>
<td>Southgate Court</td>
<td>Refurb</td>
<td>70%</td>
<td>72%</td>
<td>79%</td>
<td>Meets Expectations and Satisfactory</td>
</tr>
<tr>
<td>Carlton Court</td>
<td>Refurb</td>
<td>74%</td>
<td>80%</td>
<td>90%</td>
<td>Very Good Well Above Expectations</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>New</strong> 10</td>
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<td><strong>75.2%</strong></td>
<td><strong>75.8%</strong></td>
<td><strong>76.9%</strong></td>
</tr>
</tbody>
</table>

*OnePlanet* management
Benefits of the sustainability evaluation tool

- Quantifying design intangibles
- User friendly - non expert
- Improved evaluation efficiency
- Reduction in procurement time and cost
- Replicable
Results....

Better places to live
Results - Environmentally Sustainable
Results - Environmentally Sustainable
Results - Economically Sustainable
Key Lessons Learnt

• Whole process is incredibly complex

• Requires political will

• Build decision making into the programme

• Requires commitment post procurement

• Consultants not always aware of context

• Private sector partners can change
Key lessons learnt

PPP/PFI can be used as a vehicle to deliver sustainable urban infrastructure

BUT.....
Critical Success Factors

- Need a capable public sector procurement team
- Use of bespoke tools and metrics can help
- Contracts need to be clear, considered and watertight
- Performance metrics should be built into the payment mechanism
- Wide consultation with stakeholders essential
- ‘Boundary spanners’ play a key role
Thank you

Questions?

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