The Public Private Partnership (PPP) approach to delivering waste infrastructure - does it work?

A Street
Director, SLR Consulting Limited, UK

ISWA Beacon 2010
Format of Presentation

• Public Private Partnership (PPP) approach and use
• PPP / PFI (Private Finance Initiative) in the UK
  o Overview
  o Delays and causes of delays
  o Trends in residual waste treatment technology selection
• International perspective
• Conclusions
Background

• EU legislation:
  – Focus on improving sustainability and reduce impact of waste related activities (notably GHG emissions)
  – Landfill Directive (reduction in reliance on landfill)
  – Renewable Energy Directive (financial incentives to produce and use energy from waste)
  – Procurement of public sector infrastructure works and services above certain thresholds

• The global economic crisis:
  – reduced finance for municipalities to fund waste infrastructure works and services
  – Some difficulty for the private sector in securing debt financing for waste treatment facilities
  – Increased interest in PPP
Public Private Partnership (PPP)

- PPP adopted in 1990s as a ‘softer’ alternative to ‘privatisation’

PPP
A mechanism enabling public organisations to control their funding and reduce their risks for the provision of services, supplies and works, and for private sector organisations to secure a market share of public service provision.

- Private sector designs, builds, finances and operates infrastructure over an extended period of time (typically 25-30 years) recouping investment and profit from public sector payments and income over the period of operation.
Public Private Partnership (PPP)

- Two principal forms of PPP:
  - Concession contracts (private sector gets paid through user charges: e.g. water services, toll roads etc)
  - Private sector gets payments from a public authority: typical of the Private Finance Initiative (PFI) in the UK, and can be applied to almost any element of public infrastructure / service

- PPP came into use following Maastricht Treaty of 1992
- EU has encouraged development of PPP units in all countries
- By 2006 most EU countries were using, or planning to use the PPP approach
PPP – advantages and disadvantages

• Advantages of PPP:
  – Can overcome central or local Government constraints on public borrowing
  – Provides access to private sector efficiencies
  – Potential to deliver better value services
  – Transfers risk to the private sector *(but at a cost!* )

• Disadvantages / limitations of PPP:
  – Capital costs are always greater
  – Public authorities can borrow money more cheaply than private sector
  – In the UK a cheaper source of public finance is available through “Prudential Borrowing”
  – Significant costs for the procurement process
  – Procurement process often takes longer
Use of the PPP / PFI process

- Spend on PPP projects across all sectors:
  - €23.6 billion signed over the period 2004-06
  - €67.6 billion in procurement in 2007
  - Transport 82%; defence 4%; healthcare 4%; 3% sports and leisure; 2% education; 2% water and waste

- In the UK the Private Finance Initiative (PFI) mechanism for procurement of major waste related infrastructure and services contracts on a PPP basis in place since late 1990s

PFI Credits

Central government financial support in the form of an annual grant payment, following the allocation of what is called a ‘PFI Credit’, is available to public authorities for projects approved by central government. PFI Credits act as a ‘promise’ that an annual PFI Grant can be claimed once the project is operational.
PFI / PPP in the UK

• For historic reasons the UK had fallen way behind other leading EU Member States in terms of alternatives to landfill
• From the late 1990s it became clear major investment was required to meet EU Landfill Directive targets for 2010, 2013 and 2020
  – Need to divert 7.5 million tonnes of BMW from landfill by 2013
  – Need to divert 10 million tonnes of BMW from landfill by 2020
• There has therefore been a need to progress the procurement of many waste treatment / processing facilities across the UK through the PPP or PFI route (for the larger contracts)
PPP / PFI in the UK – delivery to date

- 21 major contracts procured through the PFI mechanism in the UK to date
- Total of €1.33 billion of PFI credits committed to these contracts
- First PFI contract signed in 1997 (Isle of Wight)
- Latest contracts signed in 2010 (Suffolk and Staffordshire, both for EfW plants)
- Further 18 PFI contracts in procurement, total of €2.05 billion of PFI credits allocated
- PFI credits (totalling €1.03 billion) for 7 of these contracts withdrawn in recent UK Government spending review; one of these contracts already cancelled
# UK PFI waste contracts in procurement

<table>
<thead>
<tr>
<th>Project</th>
<th>Date approved</th>
<th>PFI Credits</th>
<th>Known technology preference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wakefield</td>
<td>2004 (at preferred bidder)</td>
<td>€39.6</td>
<td>Autoclave</td>
</tr>
<tr>
<td>Cheshire</td>
<td>2006</td>
<td>€48 (withdrawn 2010)</td>
<td>EfW or MBT/RDF</td>
</tr>
<tr>
<td>Merseyside</td>
<td>2007</td>
<td>€84</td>
<td>EfW or MBT/RDF</td>
</tr>
<tr>
<td>North Yorkshire</td>
<td>2007 (at preferred bidder)</td>
<td>€78</td>
<td>EfW</td>
</tr>
<tr>
<td>Leeds</td>
<td>2008</td>
<td>€82.3</td>
<td>EfW or MBT/RDF</td>
</tr>
<tr>
<td>Bradford</td>
<td>2008</td>
<td>€74.5</td>
<td>No preference</td>
</tr>
<tr>
<td>Barnsley, Doncaster, Rotherham</td>
<td>2008</td>
<td>€92.9</td>
<td>No preference</td>
</tr>
<tr>
<td>Milton Keynes &amp; Northamptonshire</td>
<td>2008</td>
<td>€165.6 (withdrawn 2010)</td>
<td>MBT/RDF</td>
</tr>
<tr>
<td>Warwickshire, Coventry, Solihull</td>
<td>2008</td>
<td>€154.9 (withdrawn 2010)</td>
<td>EfW or MBT/RDF</td>
</tr>
<tr>
<td>South London Partnership</td>
<td>2008</td>
<td>€135.5 (withdrawn 2010)</td>
<td>MBT/RDF</td>
</tr>
<tr>
<td>South Tyne &amp; Wear</td>
<td>2008 (at preferred bidder)</td>
<td>€ 88.2</td>
<td>EfW</td>
</tr>
<tr>
<td>South West Devon</td>
<td>2008</td>
<td>€114</td>
<td>EfW</td>
</tr>
<tr>
<td>Leicestershire</td>
<td>2008</td>
<td>€103.9 (withdrawn 2010)</td>
<td>EfW or MBT/RDF</td>
</tr>
<tr>
<td>Hertfordshire</td>
<td>2009</td>
<td>€138.4</td>
<td>EfW</td>
</tr>
<tr>
<td>Norfolk</td>
<td>2009</td>
<td>€109.2</td>
<td>EfW</td>
</tr>
<tr>
<td>Essex</td>
<td>2009</td>
<td>€121.1</td>
<td>MBT/RDF</td>
</tr>
<tr>
<td>Gloucestershire</td>
<td>2009</td>
<td>€110.4 (withdrawn 2010)</td>
<td>EfW or MBT/RDF</td>
</tr>
<tr>
<td>North London Waste</td>
<td>2009</td>
<td>€310 (withdrawn 2010)</td>
<td>MBT/RDF</td>
</tr>
</tbody>
</table>
## Larger waste PPP contract procurements (England and Wales)

<table>
<thead>
<tr>
<th>Project</th>
<th>Date process commenced</th>
<th>Known technology preference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buckinghamshire</td>
<td>2008</td>
<td>EfW or MBT/RDF</td>
</tr>
<tr>
<td>Derby and Derbyshire</td>
<td>2005 (preferred bidder)</td>
<td>ATT</td>
</tr>
<tr>
<td>Lincolnshire</td>
<td>2008 (preferred bidder)</td>
<td>EfW</td>
</tr>
<tr>
<td>North East Lincolnshire</td>
<td>2008</td>
<td>MBT/RDF</td>
</tr>
<tr>
<td>Oxfordshire</td>
<td>2007</td>
<td>EfW</td>
</tr>
<tr>
<td>Peterborough</td>
<td>2009</td>
<td>ATT / MBT/RDF</td>
</tr>
<tr>
<td>Sandwell</td>
<td>2008 (awarded to Serco)</td>
<td>Export to EfW</td>
</tr>
<tr>
<td>Telford and Wrekin</td>
<td>2007</td>
<td>EfW</td>
</tr>
<tr>
<td>West London Waste</td>
<td>2010</td>
<td>MBT/RDF</td>
</tr>
<tr>
<td>West of England</td>
<td>2008</td>
<td>EfW or MBT/RDF</td>
</tr>
<tr>
<td>West Sussex (non-PFI)</td>
<td>2006 (preferred bidder)</td>
<td>MBT/RDF</td>
</tr>
<tr>
<td>Windsor and Maidenhead</td>
<td>2009</td>
<td>Export</td>
</tr>
<tr>
<td>North Wales Partnership</td>
<td>2010</td>
<td>MBT/RDF</td>
</tr>
<tr>
<td>Project Gwyrrdd (SE Wales)</td>
<td>2009</td>
<td>EfW or MBT/RDF</td>
</tr>
</tbody>
</table>
Waste PFI Case Study: Greater Manchester

- €4.4 billion contract
- PFI Credit of €143 million
- 1.5 million tonnes/a of waste
- 2.2 million population
- Provision of 42 individual waste management/processing facilities
- Residual waste treatment by MBT to RDF
- Process started in 2003 (OBC)
- OJEU notice in 2005
- Competitive Dialogue 2005-07
- Preferred Bidder in January 2007
- Financial close in April 2009
- Facility construction now well advanced
Delays to the PFI / PPP process

• A number of UK PPP / PFI procurement processes have suffered significant delays
• There have also been delays to the development and commissioning of new treatment facilities even after some contracts have been signed
• PPP / PFI procurement process required to follow EU Public Procurement Directive
• The Directive provides rules on the procurement of public services, supply and works contracts
• In recent years Competitive Dialogue has been the preferred route for waste contracts
Delays to the procurement process

- Various stages of procurement (OJEU through to preferred bidder) typically can take 18-24 months
- Delays most often occur prior to financial close (signing of contract)
- Typically associated with difficulty in securing debt finance
- Since global economic crisis banks have become much more cautious and sensitive to risk:
  - Technology risk, and extent to which technology is proven
  - Uncertainty over markets for process outputs (e.g. RDF)
  - Concern over ability to secure planning permission for proposed developments
Delays to the procurement process - examples

• Banks now unwilling to lend very large amounts of capital (typical maximum of €50-60million)
• Therefore often a need for a number of banks to work together – ‘club’ deals
• **Example: Greater Manchester** - capital outlay of €750 m:
  – €14 m loan from UK Government Treasury
  – €120 m from EIB
  – €82 m equity from authority
  – €294 m from 4 principal private banks
  – €100 equity (estimated) from the private contractor (Viridor Laing)
Delay therefore not surprising (2 years from PB to financial close)
• **Example: Wakefield PFI contract** – longest delay to date:
  – Procurement process commenced in 2004
  – VT Group named as preferred bidder in 2007; still not signed
  – Exact causes for delay not known, but thought to be concern from banks over technology risk (is it proven?) and concern over markets for outputs
Delays to development and commissioning

- Plenty of examples of delay following financial close
- Principal cause for delay, problems with securing planning permission
- Four classic examples:
  - **Hereford & Worcester**: signed in 1998, but planning permission still not secured for new facilities. Now awaiting planning for a new EfW plant (three or four previous attempts)
  - **Surrey**: signed in 1999, still no residual waste treatment facilities developed due to unsuccessful planning application for two new EfW plants; now considering alternative technology (ATT)
  - **Nottinghamshire**: signed in 2006, major delay to planning process for a new EfW facility
  - **Cornwall**: signed in 2006, major delay to planning process for a new EfW facility
Managing the planning risk

• It is inevitable that other PPP / PFI contracts will suffer some planning delay

• Evidence is that the urgent need to develop new waste treatment capacity to meet EU Targets is resulting in greater success at the planning stage
Trends in waste treatment technology selection

• No single preferred residual treatment technology choice in the UK
• Reflects UK Government’s neutrality on technology choice
• Technology selected through the PPP / PFI procurement process
• A range of approaches has therefore emerged:
  – Either direct thermal processing of residual waste, with energy recovery
  – Or pre-treatment of waste through Mechanical Biological Treatment (MBT) or Mechanical Heat Treatment (MHT – autoclave) to create RDF or CLO (compost like output)
• UK has therefore attracted interest from a wide range of technology providers from many parts of the globe
• Knowledge of technology options is therefore extensive
Risks associated with technology options

Selecting a preferred technology, and getting banks or other funders comfortable with the inherent risks, requires consideration of a number of key issues during the procurement process:

<table>
<thead>
<tr>
<th>Technology</th>
<th>Planning to Commission Risk</th>
<th>Operational Risk</th>
<th>Market Risk</th>
<th>Financing Risk</th>
<th>Regulatory Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBT (SRF output)</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>MBT (Bio-stabilised / compost like output)</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Autoclaving (Mechanical Heat Treatment)</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Incineration</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Gasification / Pyrolysis (ATT)</td>
<td>Medium</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
</tr>
</tbody>
</table>
## Treatment capacity procured through PPP/PFI

### Chart Description
- The chart compares treatment capacity procured through PFI and Non-PFI projects.
- The vertical axis represents Ktpa, with values ranging from 0 to 12,000.
- The horizontal axis categorizes the projects as PFI and Non-PFI.
- Different colored bars represent various treatment types:
  - TBC
  - Other
  - MHT
  - ATT
  - MBT
  - EfW

### Table
<table>
<thead>
<tr>
<th>Treatment Type</th>
<th>PFI Projects</th>
<th>Non-PFI Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBC</td>
<td>4,613</td>
<td>3,035</td>
</tr>
<tr>
<td>Other</td>
<td>-</td>
<td>68</td>
</tr>
<tr>
<td>MHT</td>
<td>175</td>
<td>160</td>
</tr>
<tr>
<td>ATT</td>
<td>345</td>
<td>140</td>
</tr>
<tr>
<td>MBT</td>
<td>2,302</td>
<td>1,395</td>
</tr>
<tr>
<td>EfW</td>
<td>2,812</td>
<td>6,096</td>
</tr>
</tbody>
</table>

---

*global environmental solutions*
International perspective

- UK has been trailing much of Europe on Landfill Directive targets (alongside Greece, Ireland, Portugal and CEE)
- Denmark, Germany, Netherlands, Sweden, France, Austria have already meet EU targets well ahead of schedule
- Approach in these countries has been largely on a municipal basis, using public resources, sometimes with private sector
- A few PPP deals have been closed in recent years (e.g. Spain and Italy), but exceptions rather than the rule
- No country has matched the volume and value of investment of the UK in PPPs
- Further PPP investment is likely to happen outside of the main western European countries (CEE, Greece, India)
Conclusions

• In the UK the PFI mechanism for procuring major waste infrastructure and services in use since the late 1990s
• In the UK there are over 50 large waste contracts under the PFI or non-PFI (PPP) in place or in procurement (plus Scotland and Northern Ireland)
• A number of PPP / PFI procurement processes have suffered significant delays:
  – At preferred bidder stage, due to bank / funder nervousness
  – At development stage, post closure, due to planning delays
• In spite of delays the UK is expected to meet EU targets – the PPP / PFI approach is therefore delivering
• No country has yet to match the volume and value of investment of the UK in PPPs for waste
• UK experience in PPPs is therefore a useful reference point
The Public Private Partnership (PPP) approach to delivering waste infrastructure - does it work?

A Street
Director, SLR Consulting Limited, UK

astreet@slrconsulting.com