Mini sector presentation

SPPI for Waste Management in the UK

Aspasia Papa

26th Voorburg Group meeting
Newport, 19-23 September 2011
Synopsis

- Definition of the service
- Pricing unit of measure
- Market size
- Market description
- Price determining characteristics
- Aggregation structure
- Pricing methods
- Index movements
- Evaluation of current methods

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SPPI for Waste Management in the UK
## Definition of the service

<table>
<thead>
<tr>
<th>Division</th>
<th>Group</th>
<th>Class</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>37</td>
<td>37.0</td>
<td>37.00</td>
<td>Sewerage</td>
</tr>
<tr>
<td></td>
<td>38.1</td>
<td>38.11</td>
<td>Collection of non-hazardous waste</td>
</tr>
<tr>
<td>38</td>
<td></td>
<td>38.12</td>
<td>Collection of hazardous waste</td>
</tr>
<tr>
<td></td>
<td>38.2</td>
<td>38.21</td>
<td>Treatment and disposal of non-hazardous waste</td>
</tr>
<tr>
<td></td>
<td></td>
<td>38.22</td>
<td>Treatment and disposal of hazardous waste</td>
</tr>
<tr>
<td></td>
<td>38.3</td>
<td>38.31</td>
<td>Dismantling of wreck</td>
</tr>
<tr>
<td></td>
<td></td>
<td>38.32</td>
<td>Recovery of sorted materials</td>
</tr>
<tr>
<td>39</td>
<td>39.0</td>
<td>39.00</td>
<td>Remediation activities and other waste management</td>
</tr>
</tbody>
</table>
Pricing unit of measure

- **Nature of the service:** Long term contract agreements where price and delivery are well-specified for a number of periods

- **Pricing method:** Direct use of repeated services

  - **Sewerage activities**
    - Price per cubic meter
    - Mogden formula
  
  - **Waste disposal**
    - Price per household
    - Price per tonne
    - Price per cubic meter
## Market size

### Sewerage activities

<table>
<thead>
<tr>
<th>Employment band</th>
<th>Percentage of companies (%)</th>
<th>Market share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9</td>
<td>77.51</td>
<td>2.89</td>
</tr>
<tr>
<td>10-49</td>
<td>19.05</td>
<td>4.51</td>
</tr>
<tr>
<td>50-299</td>
<td>2.44</td>
<td>2.33</td>
</tr>
<tr>
<td>300+</td>
<td>1.01</td>
<td>90.26</td>
</tr>
</tbody>
</table>

### Waste management and disposal

#### Percentage of turnover and employment by SIC code

- **SIC code**: 38110 38120 38210 38220 38310 38320
- **% turnover**
- **% employment**

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Market description: Sewerage industry

Sectors
- Water supply
- Sewerage services

Market structure
- England/Wales: 10 privatised water/sewerage companies (WaSCs)
- Scotland: 1 publicly owned statutory corporation
- Northern Ireland: 1 government-owned company (GoCo)

Services provided
- Foul sewerage
- Surface water drainage
- Highway drainage
- Trade effluent
Market description: Waste management

Sectors
- Waste collection
- Waste management

Services provided - Arisings
- Municipal Waste
  - Household waste
  - Commercial waste
  - Industrial waste
- Other waste
  - Minerals
  - Special waste
  - Sewage waste
  - Secondary waste

Waste collection

* ‘Other’ includes healthcare wastes, batteries & accumulators, & wastes containing PCB. Source: Defra – Waste Statistics Regulation return to Eurostat, 2004 to 2008
Market description: Waste management

Services provided: Methods of treatment and disposal
- Landfill sites
- Incineration
- Recycling
- Composting

Waste Disposal
Local authority collected waste management methods in England (thousand tonnes)
Price determining characteristics

Sewerage
- Price limit to a basket of regulated charges set as: RPI +/- K + U
- Prices vary between locations to account for local conditions
- Depending on type of service / clients metered or un-metered

<table>
<thead>
<tr>
<th>Service</th>
<th>Metered</th>
<th>Un-metered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foul Sewage</td>
<td>Volumes recorded on the water meter adjusted</td>
<td>Rateable property value</td>
</tr>
<tr>
<td>Surface Water Drainage</td>
<td>Volumes recorded on the water meter adjusted</td>
<td>Rateable property value</td>
</tr>
<tr>
<td>Highway Drainage</td>
<td>Fee within the fixed charge</td>
<td>Rateable property value</td>
</tr>
<tr>
<td>Trade Effluent</td>
<td>Mogden formula</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Charge per unit of effluent = R+[ (V + Bv) + B( Ot/Os) + S(St/Ss)]</td>
<td></td>
</tr>
</tbody>
</table>
Price determining characteristics

Waste management
- Type of waste (household, commercial, construction)
- Nature of waste depending on treatment (toxic, recyclable, etc.)
- Coverage areas (waste disposal facilities radius)
- Type of collection service (frequency, specialised equipment/staff)
- Landfill tax

Demand drivers
- Zero waste economy - emphasis on waste prevention
- Stricter EU regulations raise the cost of sending waste to landfill
- Policy instruments increase the demand for recycling
- Policies implemented in electricity and heat
- General economic, demographic and climate characteristics
Aggregation structure: Sewerage

Sewerage Activities

- Foul Sewage
  - Surface Water Drainage
  - Highway Drainage (92.6%)

- Trade effluent (7.4%)
Aggregation structure - Waste

Waste

- Household Waste (45.4%)
  - Landfill
  - Other
    - Collection & Disposal
    - Disposal
- Street and gully cleaning (7.3%)
- Commercial Waste (28.9%)
  - Landfill
  - Other
    - Collection & Disposal
    - Disposal
- Clinical Waste (1.9%)
- Industrial Waste (7.4%)
  - Landfill
  - Other
- Sewerage Wet Waste (8.9%)
Recovery of sorted materials

- Recovery and sorting of non-metals (24%)
  - Paper and Paperboard
  - Rubber
  - Glass
  - Plastics
  - Textiles

- Recovery and sorting of metals (76%)
  - Copper
  - Precious metals
    - Ferrous Metals
    - Aluminium
    - Other metals
Pricing methods

<table>
<thead>
<tr>
<th>Class</th>
<th>Sewerage</th>
<th>Collection of non-hazardous waste</th>
<th>Recovery of sorted materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sampling</td>
<td>Purposive</td>
<td>Simple Random Sampling</td>
<td>Simple Random Sampling</td>
</tr>
<tr>
<td>Periodicity</td>
<td>Yearly</td>
<td>Quarterly</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Companies</td>
<td>10</td>
<td>36</td>
<td>39</td>
</tr>
<tr>
<td>Items</td>
<td>20</td>
<td>125</td>
<td>45</td>
</tr>
</tbody>
</table>

Quality change

- Telephone queries with respondents for any atypical movement
- Methods for quality change: Direct comparison, Direct quality adjustment, Imputation
Analysis: Sewerage

![Graph showing yearly changes in sewerage analysis from 1996 to 2010. The graph displays a blue line indicating the index series and a blue dot line showing the yearly change percentage. The changes range from a decrease of 10% in 1999 to an increase of 15% in 2007.](graph.jpg)
Analysis: Waste disposal

Index Movement

Percentage difference Quarter to Quarter
Evaluation of current methods

National Accounts perspective
National Accounts (NA) use the SPPI indices for deflation purposes:
- Division 37 uses the SPPI division 37
- Division 38 uses the SPPIs for 38.11 and 38.32 and
- Division 39 applies the aggregate SPPIs for division 38

Sewerage
- Prices for un-metered supplies not included
- Northern Ireland and Scotland not covered
- New product lines bespoke to clients requirements not captured

Waste disposal
- Sewerage wet waste collected twice
- Recycling index captures product side of the industry rather than service
- Need to differentiate between businesses that recycle and those that buy and re-sell goods without processing them
Thank you for your attention

Questions and answers

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