

# A role for public procurement in system innovation: the transformation of the Greater Manchester (UK) waste system

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# Overview

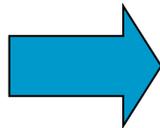
- Empirical context
  - Transformation of a municipal waste management system
- Literature
  - Sustainability transitions: policy driven > market driven
    - Ltd attn to public procurement for system innovation
  - The role of major buyers in system innovation
    - (buying +)
- Analysis
- Conclusions
  - Implications for understanding of the potential for public buyers to steer system innovation

# The Greater Manchester Municipal Waste System

1999

2005

2011



## In-Vessel Composter (IVC)



IVC facilities break down garden and food waste\* in sealed vessels to produce quality compost.



This reduces the amount of waste we send to landfill, and the harmful greenhouse gases produced.



Paper and cardboard



Baling and bulking



Glass, plastics and cans



## Materials Recovery Facility (MRF)



MRFs receive, separate and prepare kerbside materials.



The clean, sorted materials are sent for recycling into new products.



Mixed waste



## Mechanical Biological Treatment (MBT)



MBT facilities separate and treat mixed waste to extract valuable recyclable materials.



Some of the remainder is treated onsite by Anaerobic Digestion, with the rest taken away for use as fuel in a combined heat and power plant. Both processes produce green electricity.



- EU Landfill Directive
- Incineration plan (GM)
- GMWDA: 9 Local Authorities, 1 m homes, 5% UK's municipal waste.

# System Characteristics

	<b>Landfill-based</b>	<b>Recycling-based</b>
<b>Main ethos</b>	Disposal	Recovery
<b>Skills required</b>	Low skilled	Skilled and highly skilled
<b>Collection</b>	Single waste stream	Multiple waste streams
<b>Solution</b>	Homogenous	Heterogeneity (adaptable)
<b>Scale</b>	Large scale, inflexible	Diverse, flexible
<b>Governance</b>	Top-down control	Bottom up coordination
<b>Management</b>	Information poor	Information rich
<b>Organisation</b>	Centralised	Decentralised, local, networks

Adapted from Murray (1999)

# Focus on: transformation process

- Major (public) buyers :
  - Potential to effect system change through their buying power
- What was the role of the public buyer in the transformation?
- To what degree was the transformation planned, managed or emergent?
- What does this tell us about the potential for governments to steer system innovation?

# Conceptual Framing

- Identify the role of state in sustainability transitions
  - Possible to steer transitions (Kemp and Rotmans, 2009; Loorbach, 2007 etc)
  - Planned transitions not possible (Elzen et al 2004; Shove & Walker 2007 etc)
  - Public procurement as a tool for creating niches
- Public procurement for innovation
  - e.g Rothwell, 1983; Edquist, 1994; Dalpe et al 1992; Elder & Georghiou, 2007
  - Discrete technological solutions (e.g. Ruttan, 2006; Phillips, 2007)
  - Ltd attention on orchestrating systemic change
- Ability of powerful actors to orchestrate systemic change
  - System builders (Hughes, 1983), prime movers (e.g Jacobsson and Bergek, 2004), focal actors (Huber, 2008)

# How the buyer orchestrated the transformation

- Developed the required independencies between technologies, institutions and practices
  - Organisational, institutional and managerial aspects
    - Organisational renewal / political engagement
  - Coordination of a common stakeholder vision
    - GM Municipal Waste Management Strategy (matching practices)
  - Market preparation and creation
    - industry / finance / secondary materials/ renewing collection infrastructure
  - Overcoming regulatory, planning and other barriers
    - Site visits / aligning policy mix (e.g. ROCs) /
- De-instituted old system
- Instituted new system

# Conclusions

- It is possible to orchestrate system innovation through public procurement
  - Open search, close search (select a solution), institute the solution
- Involves developing inter-dependencies between technologies, institutions & practices
  - Procurement motivated interaction, provided momentum
  - Buying power +: political authority, legitimacy, strong vision
  - *Co-ordinating the co-evolutionary process itself*
  - Creating (and breaking) mutually reinforcing interdependencies
- System transformation can be orchestrated from within the incumbent regime
  - Required complete organisational renewal

# COMMENTS, QUESTIONS & SUGGESTIONS

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