Development Drivers for Waste Management

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Scope of this Keynote Presentation

- Development Drivers
  - historically
  - around the world
  - from different perspectives
- Aim to draw out
  - common threads
  - how to move towards a more sustainable future

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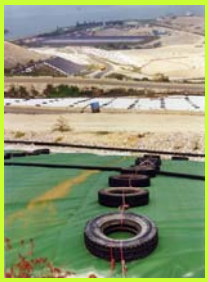
Drivers for Waste Management over the last Millennium



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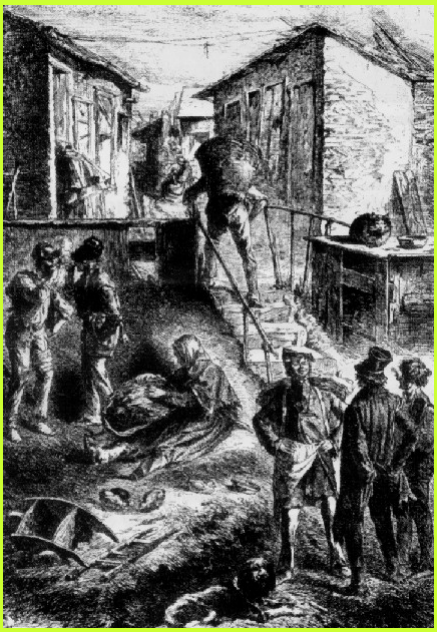
1000- 1850

- Drivers relatively weak
  - Disgust
  - Keep streets clear
- Legislation failed
  - Poor were hungry
  - Rich unwilling to pay to clean up for the poor
- One constant driver
  - Resource value of the waste

19th Century Paris

La Cité des Chiffonniers (Ragpickers City) c 1860



London 1800-50

Parishes collected waste

- Motivation largely financial/ driven by markets
- Private sector bid for franchises
- Driven by industrial revolution/ urban expansion
  - ➢ need for bricks and breeze

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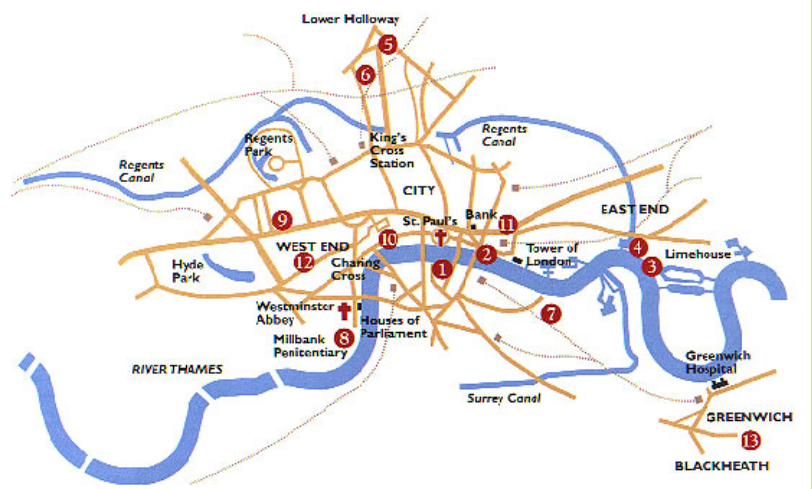
Dustyards in Dickens' London



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1850-1900: the Public Health Revolution

- 1830s Cholera Epidemic
- Miasmic theory
- Pathogenic diseases

Paris sweepers, c. 1886

1870s: Legislation requires local authorities to collect waste

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1850-1900: public collection displaces the informal sector

A ‘Runner’ on rue Mouffetard, around 1860

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Disposal

'.. each one a mini volcano deluging its neighbourhood with a sooty lava of ash, dust and charred paper'

Girling, 2005

Preston's Refuse Destructor, 1886

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1900-1970: Continued focus on collection

- Public health the main driver
- Occasional resurgence of recycling, otherwise a steady decline
- Disposal: 'out of sight, out of mind'
- Environmental concerns as early as 1929, but no action until the 1960s

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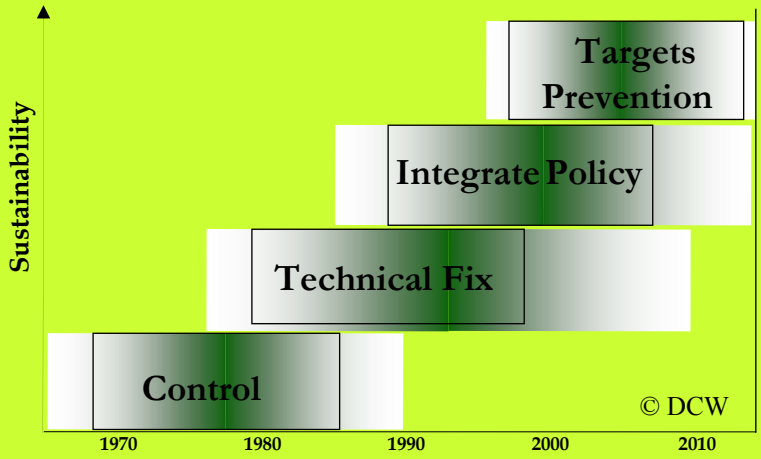
1970-2000: emergence of the environment as a driver



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Phase 1- Control (1970s)

- Focus on reducing environmental impact
- Phase out uncontrolled disposal
- Improve operational management of landfill
- Basic air pollution control

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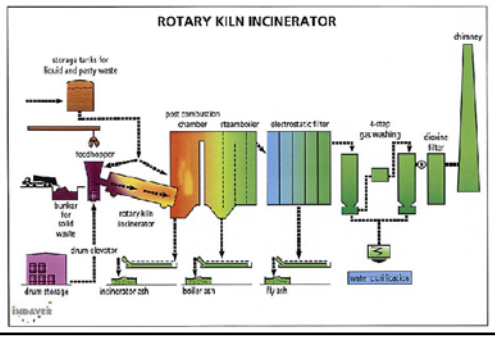
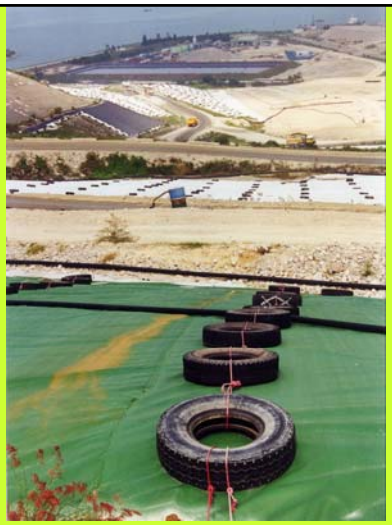
Phase II- the 'Technical Fix' (from the1980s)

- Focus on 'ramping up' technical standards

Multi-step gas cleaning





Leachate and gas control

WENT landfill, Hong Kong

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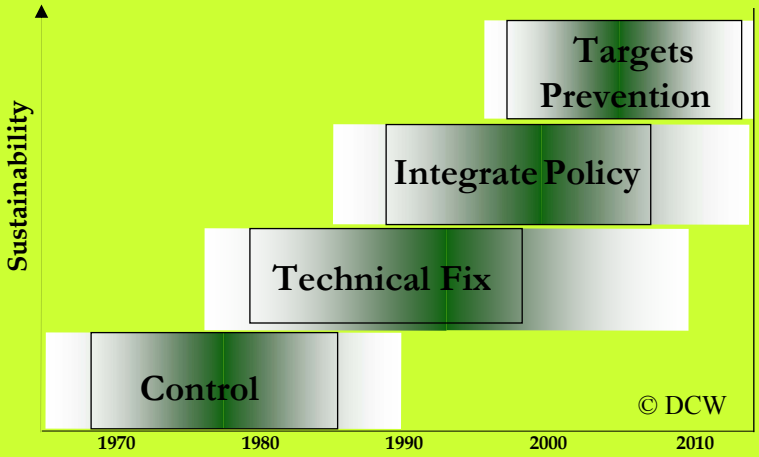
Europe has moved forward in a series of steps



Current Perspectives – Developed Countries

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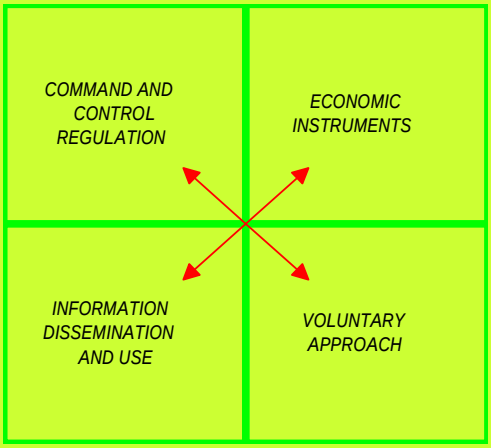
Environment → integrated policy

Technical standards (BAT) important, but not enough

- Landfill taxes etc
- 'Pay as you throw'
- Targets
- Mandatory recycling
- **Extended producer responsibility**



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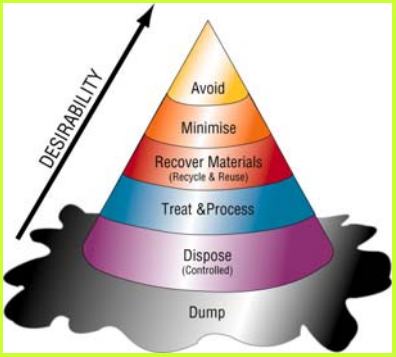
Environment → resource management

- Waste hierarchy
- Focus on waste prevention
- More integrated concept of resource management (‘*closing the loop*’)
- Climate change
  - Waste to energy



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Public awareness

- Waste and resources coming onto agenda
- But waste prevention and recycling requires a step change in behaviour
- Sins of the past make NIMBY an issue

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Different perspectives

Country/ Stakeholder group	Perceived drivers/directions
UK local authority	Landfill Directive, LATS
New EU Member States	Transposing the Acquis Availability of funding
Sweden, Switzerland	(Even) more energy recovery
Flanders	No landfill, waste prevention, maximum energy recovery
NGOs	No incineration, zero waste

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US perspectives

- **Free market is the dominant driver**
- Stringent technical standards
- Public opinion
  - High recycling levels
  - NIMBY
- Incentives for waste to energy

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Hazardous waste drivers

- Public health/ environment
- Public opinion
- US drivers here are strong:
  - ➢Strict liability
  - ➢Community right-to-know

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The rise in professionalism

-example of the UK

Association of Cleansing Superintendents 1898

Institute of Public Cleansing 1928

Institute of Wastes Management 1973

Chartered Institution of Wastes Management 1999

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Current Perspectives – 'Emerging' and Developing Countries



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Public Health

- Still the major driver
- Focus on waste collection
- Surat, India – 1994
  - ➢plague
- Lusaka, Zambia – 2004
  - ➢New peri-urban collection system eliminated cholera in the area

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Environment

- Relatively low on agenda
- Changing e.g. in China
  - 10th and 11th 5-year plans
- Phase out open dumps
- Legislation often in place, implementation weak
- Water shortages as a driver
  - e.g. South Africa

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'Image' as a driver

- Competition between cities for foreign investment
  - e.g. **India**, China, Egypt, Russia
- International showcase event
  - Beijing 2008 (Olympics)
  - New Delhi 2010 (Commonwealth Games)
- Tourism
  - Caribbean islands

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Availability of finance

- International Financial Institutions (IFIs) key
- All projects must meet environmental criteria
- Some anomalies:
  - ➢Affordability
  - ➢EU standards

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Resource value of waste

- Industry needs recycled materials
  - ➢Former centralised economies
  - ➢Now depend on imports
- 'Value' → 'livelihoods'
  - ➢Active informal sector
  - ➢Door-to-door collection
  - ➢Adding value
  - ➢Tunisia – producer responsibility

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Climate change drivers

- Focus on methane
- Clean Development Mechanism (CDM)
- Very bureaucratic…
- .. but provides a steady income, and
- an incentive to maintain your new landfill site

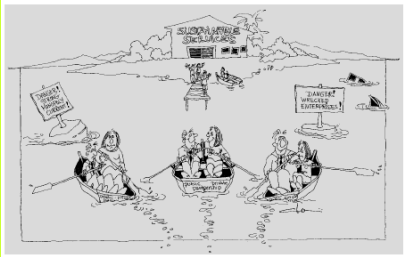
Mariannhill landfill gas recovery and flaring station (Photo: World Bank)

Institutional issues

- Weak institutions a major issue
- Recent Zambia workshop:
  - Management commitment
  - Leadership
- Waste ‘not an honourable profession’
- Major IFI focus on:
  - Capacity building
  - Good governance

Private sector participation

- An IMI requirement
- EBRD:
  - Tender collection
  - Disposal with public sector company
- Can be in conflict with existing services
- Key principles:
  - competition
  - transparency
  - accountability



➢ *Responsibility* for *providing* the service remains with the municipality

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Public awareness/ cultural issues

- Hierarchy of public concerns
  1. Survival – livelihood
  2. Public health
  3. Environment
- Moving up the agenda
- Community participation
- NIMBY is a problem
- Cultural/ climate differences important

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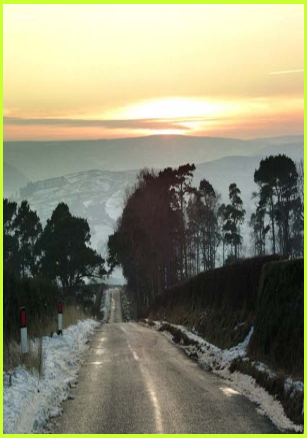
Common threads

What are the Development Drivers?



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4 groups of drivers

1. **Resource value of waste**
2. **Public Health**
3. **Environmental protection**
4. **'Closing the loop'**

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...underpinned by 2 more

1. *Resource value of waste*
2. *Public Health*
3. *Environmental protection*
4. *'Closing the loop'*
5. **Institutional and responsibility issues**
6. **Public awareness and cultural issues**

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Conclusions

- No one single driver
- Rather 6 broad groups
- Balance varies
  - between countries
  - over time
  - with point of view

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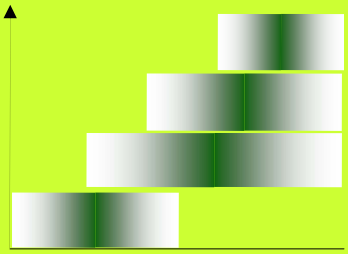
Towards Integrated Sustainable Waste Management (ISWM)

- Need to identify the next appropriate steps
- Will vary with local situation
- Helps to understand the development drivers
- Key role for us as professionals



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Thanks

- To the 20+ international colleagues who contributed their perspectives
- To you for listening!

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