

Land use planning for Waste Management

The role for New Technologies



What are the “New Technologies”?

- Assume everything except:
 - Landfill
 - Incineration
 - Windrow composting
 - Conventional MRF’s



Examples

- Mechanical / biological treatments
- Anaerobic digestion
- Pyrolysis
- Gasification
- Autoclaving



Planning attributes of new technologies

- Size / capacity (tonnes per annum)
- Specific capacity
 - i.e. throughput per hectare
- Inventory / residence time
- Location / proximity
- Transport
- Effects on BPEO
- Political considerations



Size

- Are new technologies more viable at a smaller scale?
 - Little evidence to support this
- Does small scale confer BPEO benefits?
 - SEEDA draft strategy suggests not necessarily

Specific Capacity

- Some technologies need large plots
 - biological processes
 - bio reactions are slow, generally
- Some processes are potentially compact
 - e.g. gasification plants (& “incinerators”!)
- Larger plants have a greater specific capacity

Residence time

- A function of process rate
- Also we need to consider buffering, e.g.
 - maturing of composts
 - need to stockpile recovered materials
 - need to accumulate input materials

Location / Proximity & Transport

- Strategic view is imperative
- For small plants traffic impacts are local
- Materials recovery has direct traffic impacts
- Proximity assessment should include logistics & ultimate destination of materials

BPEO assessmant

- Choice of technology could be a significant comparator -practicability
- Transport is a major determinant
 - i.e. strategic site selection
- Small plants may not be commercially practicable

Political considerations

- Do new technologies have greater acceptability? Or.....
- Is waste planning a problem irrespective of technology, scale or location?
- Small plants don't justify a costly planning campaign

Conclusions

- Size is important
 - WLP's should recognise implications
 - Site size will inform technology choice
 - Plant size will affect “Practicability”
- Transport strategy and plant size are the key determinants of BPEO
- “Buy-in” by officers and politicians is essential - i.e. “ownership” of the problem & it's solution.