

# **Lessons For Extracting Energy From Landfill Waste from experience in the wood processing industry**

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# Drivers for Electricity Generation

- Post Maui opportunities
  - multiple gas supplies
- Integrated energy solutions
  - Paradigm shifts in thinking about energy
- Distributed generation
  - reliability and security of supply
  - reduction in electricity network connection costs
- Requirements for heat
  - cogeneration
  - waste disposal costs
- High spot market prices

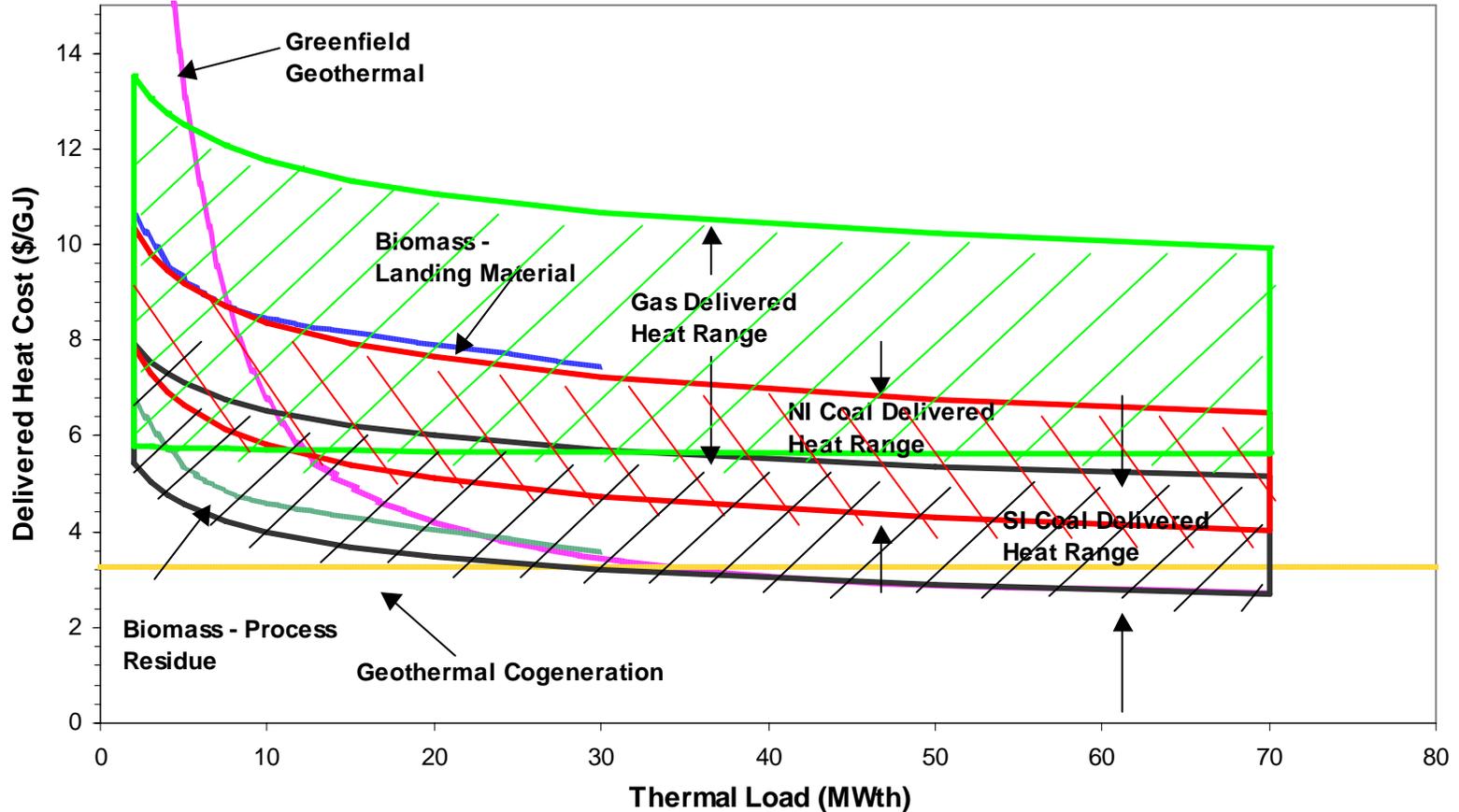


# Drivers for Heat

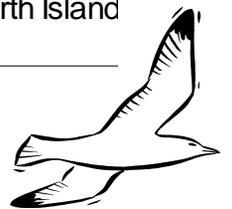
- Demand for heat in wood processing
- Cogeneration
- Cost effective now
- Disposal of waste
- Environmentally sound disposal option



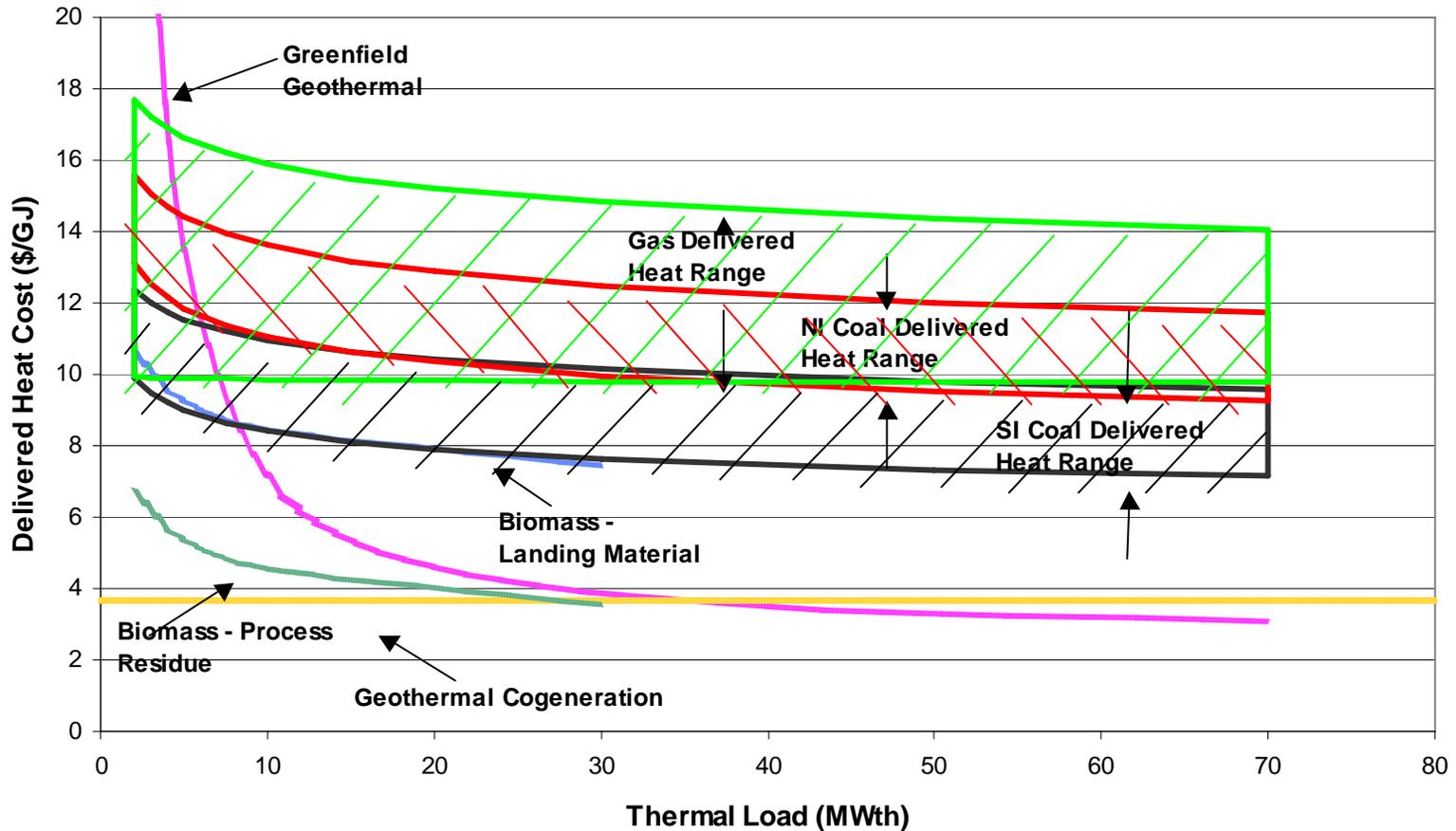
# Cost of Heat



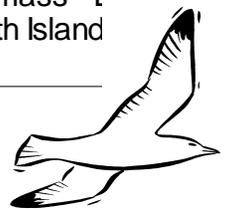
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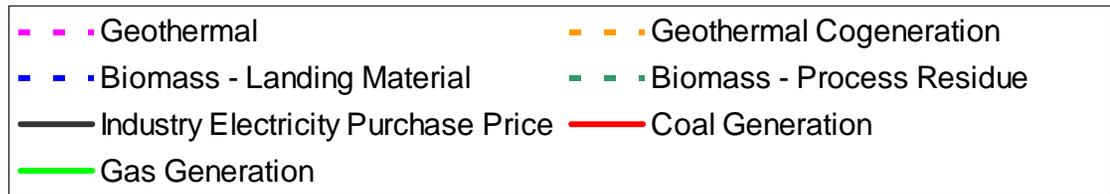
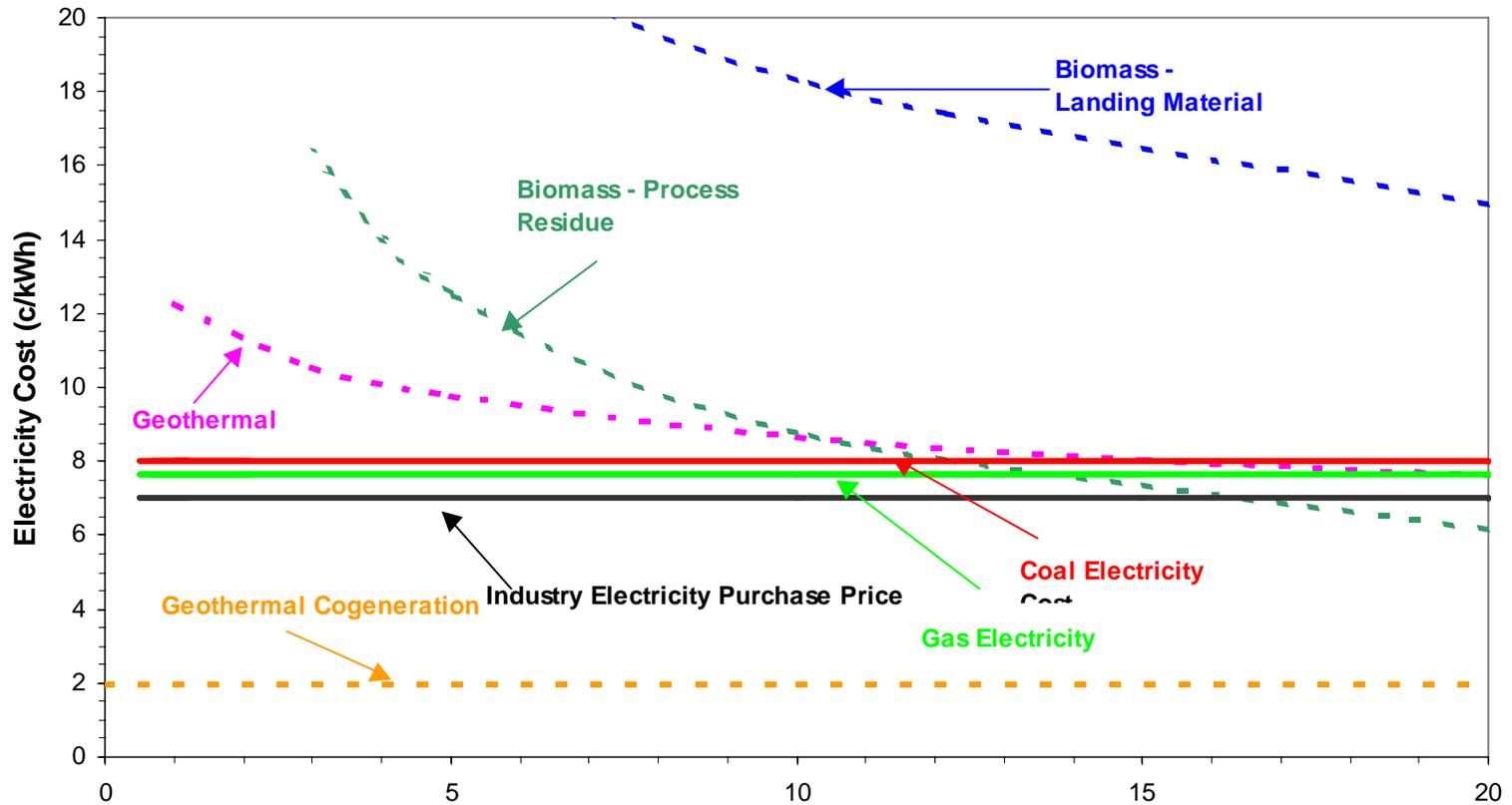
# Future Heat Costs (post 2007)



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# Future Electricity Cost (post 2007)



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# Barriers to Generation from Landfill Waste

- Waste is usually contaminated
- Waste is not homogenous
- Labour intensive processing into a fuel
- Needs to be transported to combustor
- Needs a heat customer (cogeneration) or to be embedded generation
- Requires attitudinal changes



# Distributed Generation Benefits

- Can meet supply requirements
- Can provide security and reliability
- Controllable
- Can assist reduce network connection costs
- Can be part of an energy price risk strategy
- Can be integrated with demand management



# Fuel Processing

- Boilers operate best if fuel is homogenous and standard moisture content
- Ensure no rubbish in waste
- Design efficient waste handling into hogger
- Design efficient fuel storage/transport



# Combustion

- A good boiler design is hassle free
- Could be fully operated remotely if it wasn't for the fuel
- Good design and well managed fuel quality means no emission problems
- A well designed facility means no dust or mess - can operate in urban areas without being noticed



# **Electricity generation needs to be part of total integrated energy solutions**

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