

# **UK Eco-Innovation Forums**

## **Case Study in Efficiency Finance**

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# Case Study in Efficiency Finance

- What is “Efficiency” in Waste Treatment?
  - Carbon? Energy? Fuel? Cost?
- Policy backdrop
- Technical efficiency
- Procurement efficiency
- Contract management efficiency

# Energy and waste policy convergence

- Generating energy from that portion of waste that cannot be prevented, reused or recycled has both energy and waste policy benefits. Energy generated either directly from waste or through the use of a refuse derived fuel has benefits for security of supply. In addition, the biodegradable fraction of waste is a renewable resource. The RO will remain open to the biomass fraction of waste used in good quality CHP stations....

(Energy White Paper 2007, paragraph 5.3.44)

- Coalition's Energy Consultation due before Christmas and White Paper to follow in Spring 2011

# Policy - Redefinition of Municipal Waste

- Agreed an approach to defining municipal waste with the European Commission and the Devolved Administrations based on the “European Waste Catalogue”
- Includes all biodegradable waste landfilled that is coded under Chapter 20 – which is entitled “Municipal Waste (household waste and similar commercial, industrial and institutional wastes)”.
- Include some waste coded under chapters 19 (waste landfilled that has been through some form of treatment process) and 15 (packaging waste)
- Municipal Waste now includes 49% of all C&I waste, doubling the volume of waste classed as municipal waste.

# Revised Targets

Landfill Diversion Targets ('000 tonnes)			
	2010	2013	2020
<b>Previous Targets</b>			
England	11,200	7,460	5,220
Scotland	1,320	880	620
Wales	710	470	330
Northern Ireland	470	320	220
<b>UK</b>	<b>13,700</b>	<b>9,130</b>	<b>6,390</b>
<b>New Targets</b>			
England	21,773	14,515	10,161
Scotland	2,697	1,798	1,258
Wales	1,378	919	643
Northern Ireland	919	612	429
<b>UK</b>	<b>26,766</b>	<b>17,844</b>	<b>12,491</b>

# Policy Review

- **All aspects of waste policy and delivery in England:** towards a 'zero waste' economy, with waste moving up the **waste hierarchy**.
- Maximising the **green and economic** contributions from waste and waste management.
- **Goals / targets** for short, medium, long term
- How **communities and local government** can participate and benefit from increased engagement on waste
- ***but*** everything is subject to tackling the **fiscal deficit**.
- Preliminary findings due to be published in spring 2011.

# Policy - Planning

- Regional Strategies have been revoked
- Policy on Regional Strategies (Feb 2010) is cancelled
- All other PPS continue to apply until replaced by National Policy Framework
- In determining planning applications, Authorities must follow Adopted DPDs; Saved Policies; and old style plans that have not lapsed. Authorities to continue preparing LDFs
- Localism Bill will be introduced to devolve greater powers to councils and local communities.
- Further guidance available from DCLG.

# Policy - PFI funding

- Policy context
- Efficient use of central government funds
- Forecasting
- Prioritisation
- Infrastructure need
- Not saying we don't need infrastructure



# CHP and other RE incentives

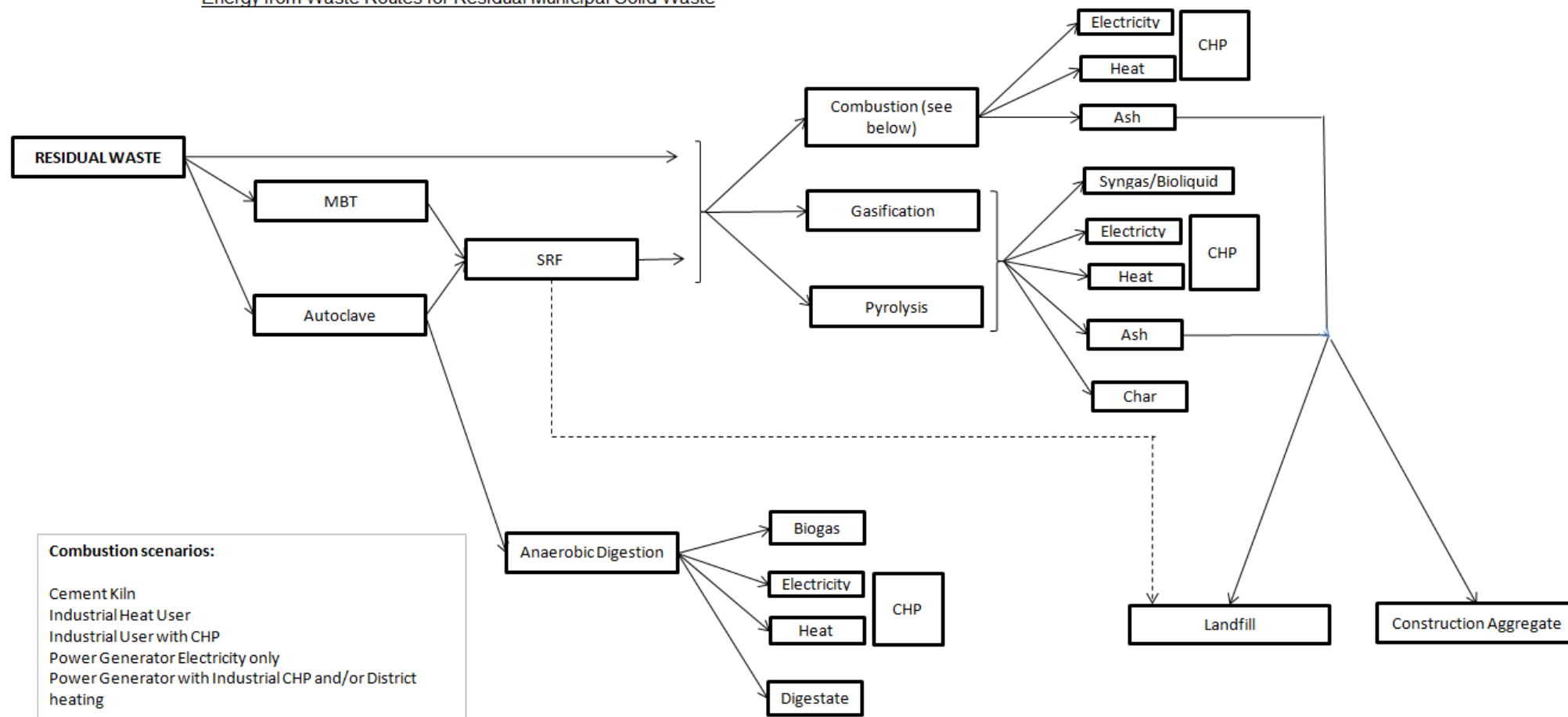
- Renewables Obligation Order (ROO)
- Renewable Heat Incentive (RHI / HEM)
- LEC exemption for CHP
- Enhanced Capital Allowances (ECA)
- CHP Quality Assurance (CHPQA)
  - ❖ *Carbon Reduction Commitment (CRC)*
  - ❖ *Non Fossil Fuel Obligation (NFFO)*
  - ❖ *Feed-in Tariff [FIT]*
- EUETS and Business Rates Exemption

# EfW routes

- Residual waste EfW / CHP
- Residual waste EfW / electricity-only
- Residual waste MBT / SRF to fuel user with / without CHP
  - ROC and / or gate fee model(s)
  - Fuel mixing to produce > / < 90% material
  - Cement kilns / CLO to Landfill / export

# Routes to energy recovery

Energy from Waste Routes for Residual Municipal Solid Waste



# CHP – environmental and cost efficiency

- Levellised cost analysis
- Offshore wind £157-£186/MWh
- Coal £105/MWh; coal with CCS £143/MWh
- Large biomass £102/MWh
- Onshore wind £94/MWh
- **Biomass CHP (50% heat offtake) <£70/MWh**
- Read the report and note the assumptions!

Source: UK Electricity Generation Costs Update, Mott MacDonald, June 2010

<http://www.decc.gov.uk/assets/decc/statistics/projections/71-uk-electricity-generation-costs-update-.pdf>

# Waste PFI and non-PFI project - technology choice

	EfW / [CHP]	MBT / [CHP]
Projects for 2013	12	13
Projects for 2020	15	11
<b>Total</b>	<b>27</b>	<b>24</b>

# Key players – who are they?

- Fuel producers / Fuel users
- Fuel aggregators
- Equipment suppliers
- Civils contractors
- Waste management contractors
- Energy service companies (ESCO)
- PFI equity / PFI conversancy
- Financial institutions
- Advisers – technical, legal, financial

# Efficiency - Procurement

- Role of WIDP
  - Transactors
  - Commercial Team
  - Guidance & Support
- Improving competition
  - Development of the contractor supply chain
- Improving the likelihood of success
  - Planning efficiency

# Efficiency – Contract Management

- NAO and HMT Interest
- Buy-In from senior management
- Planning consent
- Construction and Commissioning
- Ongoing VFM in service provision



# Pointers for the future

- “Efficiency” has many dimensions
- Heat use can significantly improve efficiency
- Waste technologies must fit local needs
- Waste technology solutions must reflect need for financial efficiency

# Points of contact

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