

# COMPACT POWER

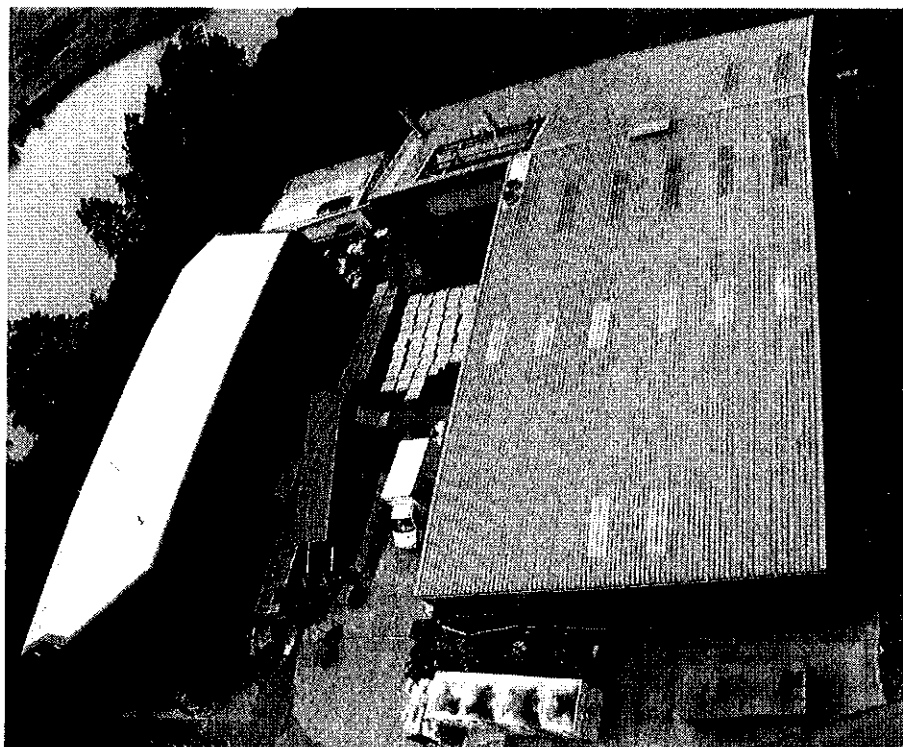
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Solutions to Waste

**Jersey Shadow Scrutiny Panel**

**Friday 15th October 2004**

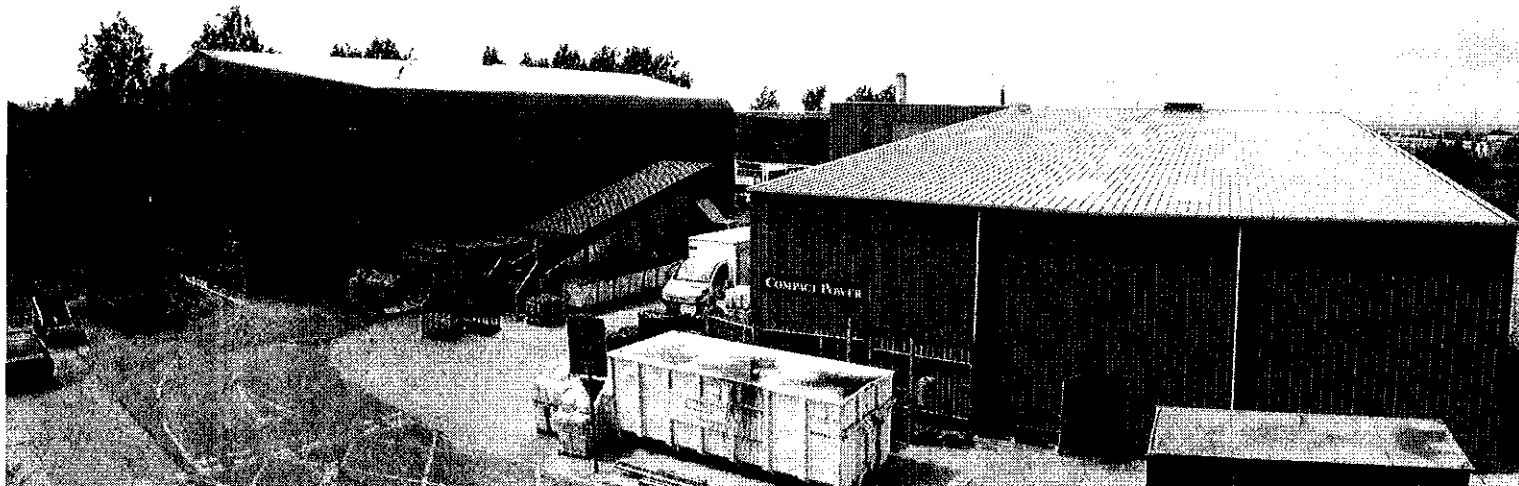
**John M Acton : CEO**



## Company Overview

1. UK company supplying an innovative, proprietary and proven pyrolysis & gasification technology
2. Company successfully listed in April 2002 on the London Stock Exchange's Alternative Investment Market
3. In-house expertise & associated professionals to address all aspects of project cycle (engineering, financing, planning, etc.)
4. On-going research and development to maintain leadership in advanced thermal recycling
5. Expansion in international markets through partnerships with waste management companies, engineering companies, EPC contractors and project developers

## The Avonmouth Plant

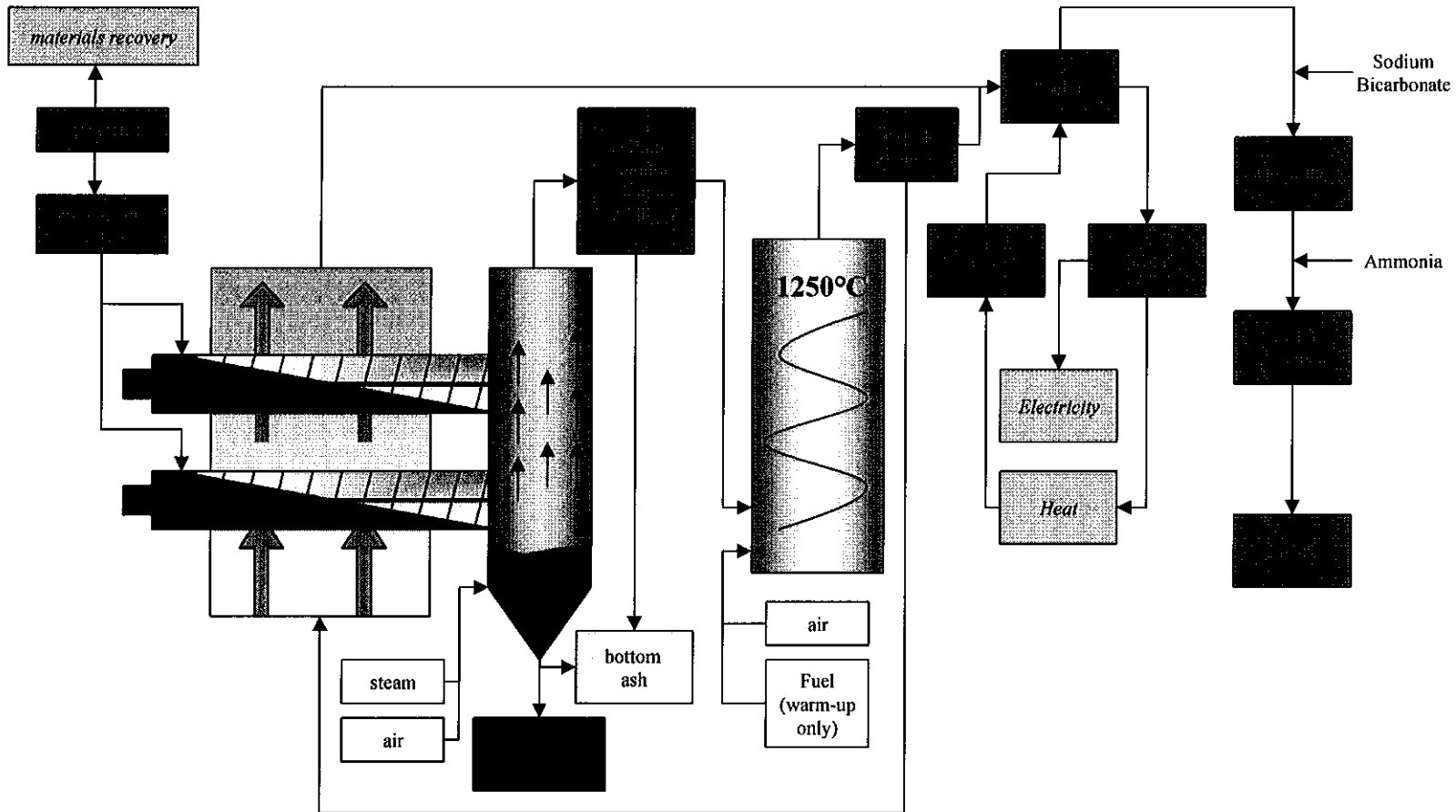


- First operational plant in the UK to receive IPPC certificate
- Tested on RDF, unsorted MSW, sewage sludge
- Commercial facility currently processing clinical, pharmaceutical & confidential waste
- Provides energy for “Tempico” sterilisation plant for maximum efficiency and flexibility.

# Process description

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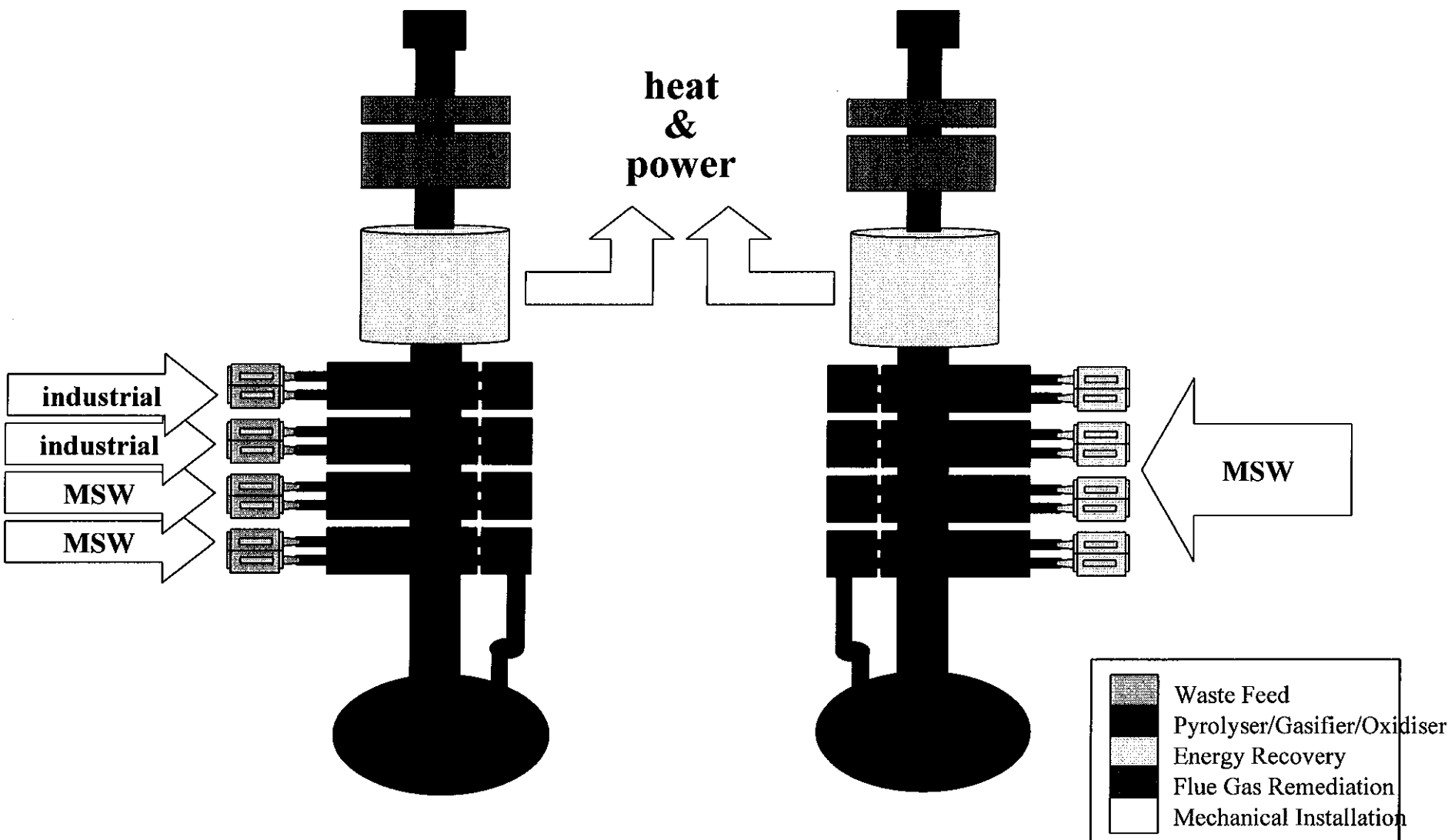


MT8 - 2G

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## Modularity



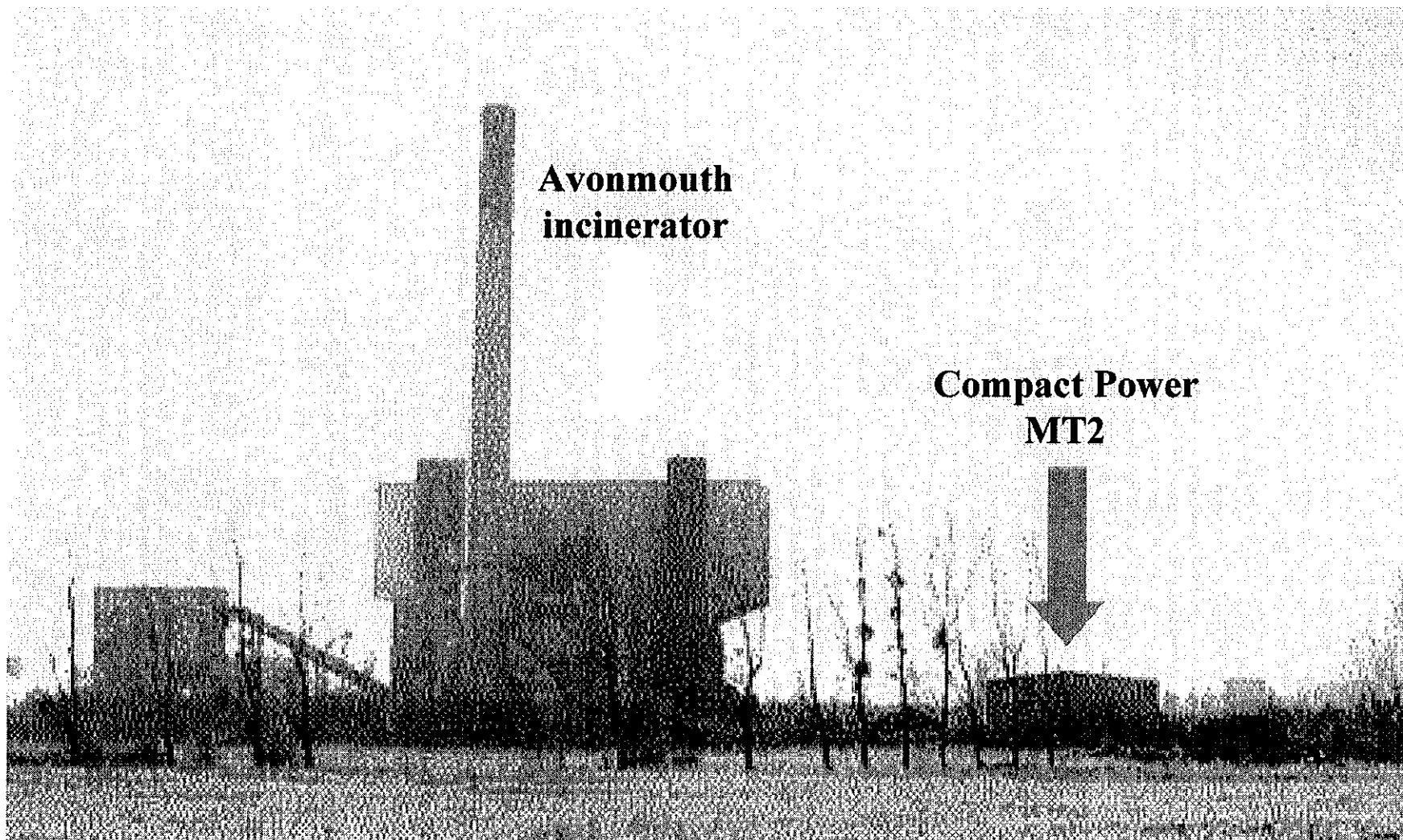
## **Principal Technical Features**

- **Essentially a fuel gas production plant coupled with a gas fired boiler**
- **Combined pyrolysis, gasification and high temperature oxidation**
- **Continuous process**
- **Each stage separately controlled**
- **Minimises production of pollutants**
- **Immediate combustion of gases avoids production of noxious by-products**

# Visual Impact

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# Environmental Impact

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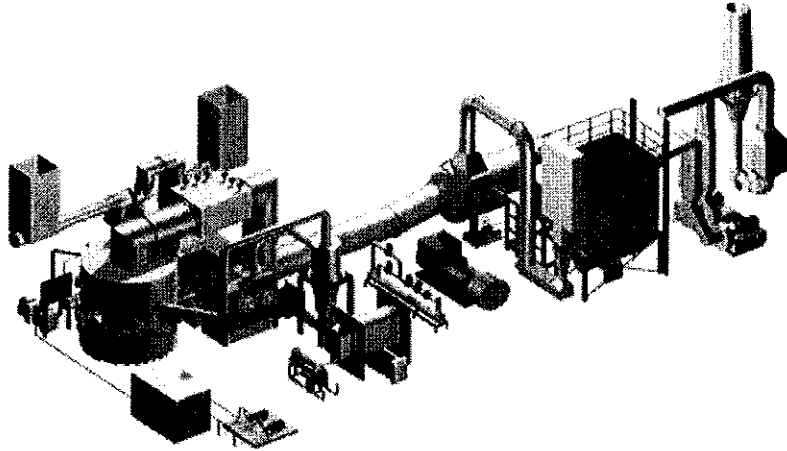
mg/Nm <sup>3</sup> 11% O <sub>2</sub> @ 273K & 101.3kPa	EU Directive Limits		
	spot / d daily	½ hour	
Particulates	10 (d)	30	<b>0.2</b>
VOC's as carbon	10 (d)	20	<b>Trace</b>
NO (NO + NO <sub>2</sub> )	200 (d)	400	<b>&lt;37</b>
HCl	10 (d)	60	<b>2</b>
HF	1 (d)	4	<b>&lt;0.1</b>
SO <sub>2</sub>	50 (d)	200	<b>&lt; 2.5</b>
CO	50 (d)	150	<b>Trace</b>
Cd & Tl	0.05 (s)		<b>0.006</b>
Mercury	0.05 (s)		<b>0.006</b>
Pb Cr Cu Mn Ni As Sb Co V	0.5 (s)		<b>0.006</b>
<sup>Sn</sup> Dioxins TEQ ng/Nm <sup>3</sup>	0.1 (s)		<b>&lt;0.003</b>
N <sub>2</sub> O	30 (d)		<b>Trace</b>
NH <sub>3</sub>	10 (d)	20	<b>&lt; 1</b>



# RDF Trial Results

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**Emission results from the  
ABB FTIR CEMAS system**

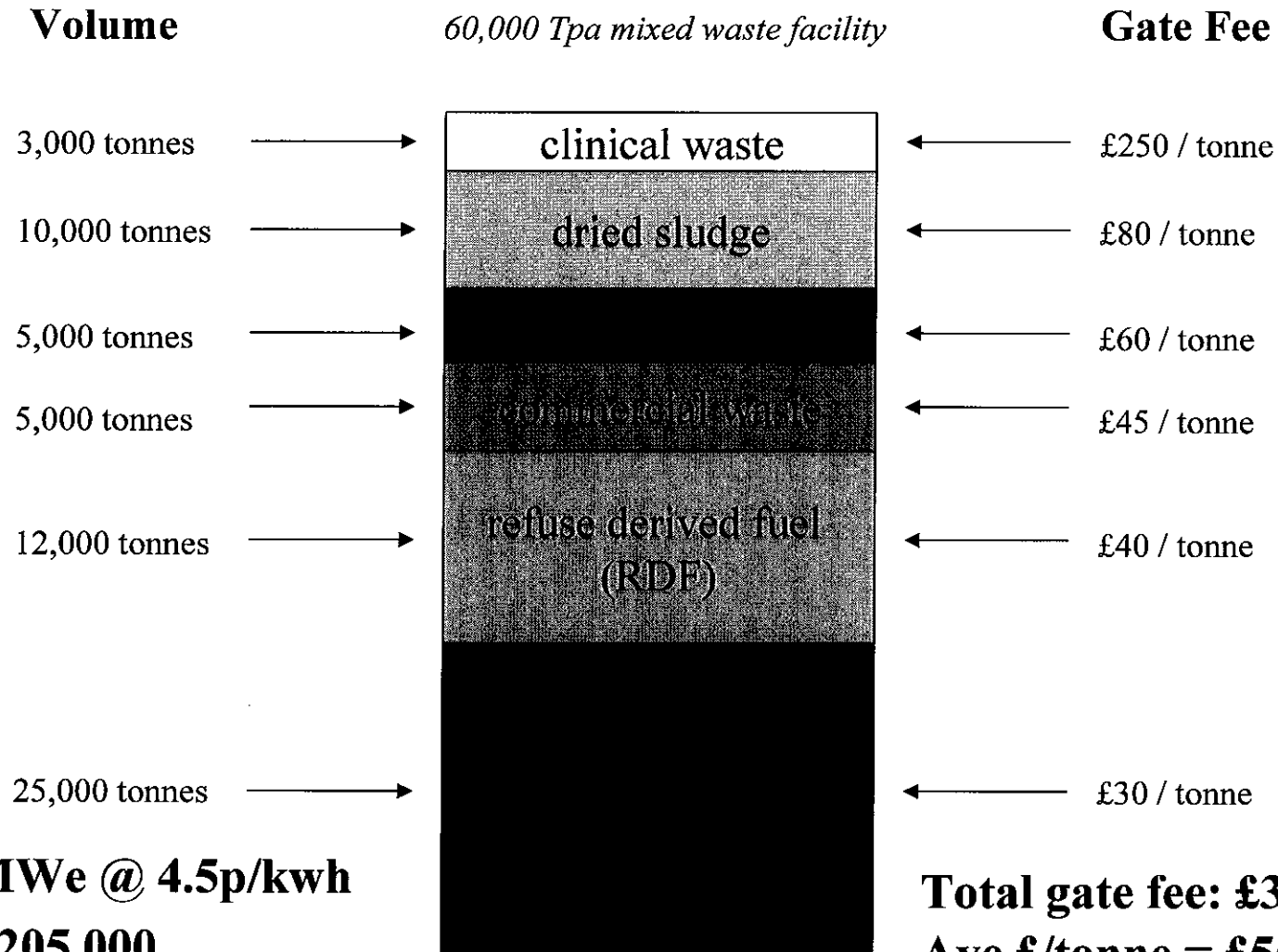
**Data for week 13/06/02**

	HCl mg/m3		CO mg/m3		SO2 mg/m3		NOx mg/m3		VOC mg/m3		NH3 mg/m3		Particulate mg/m3	
	<i>Day Avg.</i>	<i>Max 1/2hr</i>	<i>Day Avg.</i>	<i>Max 1/2hr</i>	<i>Day Avg.</i>	<i>Max 1/2hr</i>	<i>Day Avg.</i>	<i>Max 1/2hr</i>	<i>Day Avg.</i>	<i>Max 1/2hr</i>	<i>Day Avg.</i>	<i>Max 1/2hr</i>	<i>Day Avg.</i>	<i>Max 1/2hr</i>
<b>WID limit</b>	10	60	50	100	50	200	200	400	10	20	10	20	10	30
<b>Trial Avg.</b>	0.91	1.73	1.45	20.74	0.34	3.22	30.3	61.5	0.34	2.1	0.29	0.83	2.13	4.7
<b>% of WID</b>	<b>9.08</b>	<b>2.88</b>	<b>2.91</b>	<b>20.74</b>	<b>0.69</b>	<b>1.61</b>	<b>15.15</b>	<b>15.38</b>	<b>3.36</b>	<b>10.51</b>	<b>2.91</b>	<b>4.14</b>	<b>21.29</b>	<b>15.67</b>
<b>Trial day Max</b>	3.05	4.42	2.86	58.67	1.25	13.06	33.89	89.86	0.39	7.57	0.45	1.82	2.44	12.66
<b>% of WID</b>	<b>30.5</b>	<b>7.37</b>	<b>5.72</b>	<b>58.67</b>	<b>2.5</b>	<b>6.53</b>	<b>16.95</b>	<b>22.47</b>	<b>3.9</b>	<b>37.85</b>	<b>4.5</b>	<b>9.1</b>	<b>24.4</b>	<b>42.2</b>
<b>Trial day Min</b>	0.24	0.58	0.26	1.94	0.05	0.76	24.58	42.68	0.3	0.66	0.19	0.4	1.75	3.09
<b>% of WID</b>	<b>2.4</b>	<b>0.97</b>	<b>0.52</b>	<b>1.94</b>	<b>0.1</b>	<b>0.38</b>	<b>12.29</b>	<b>10.67</b>	<b>3</b>	<b>3.3</b>	<b>1.9</b>	<b>2</b>	<b>17.5</b>	<b>10.3</b>

# Project economics

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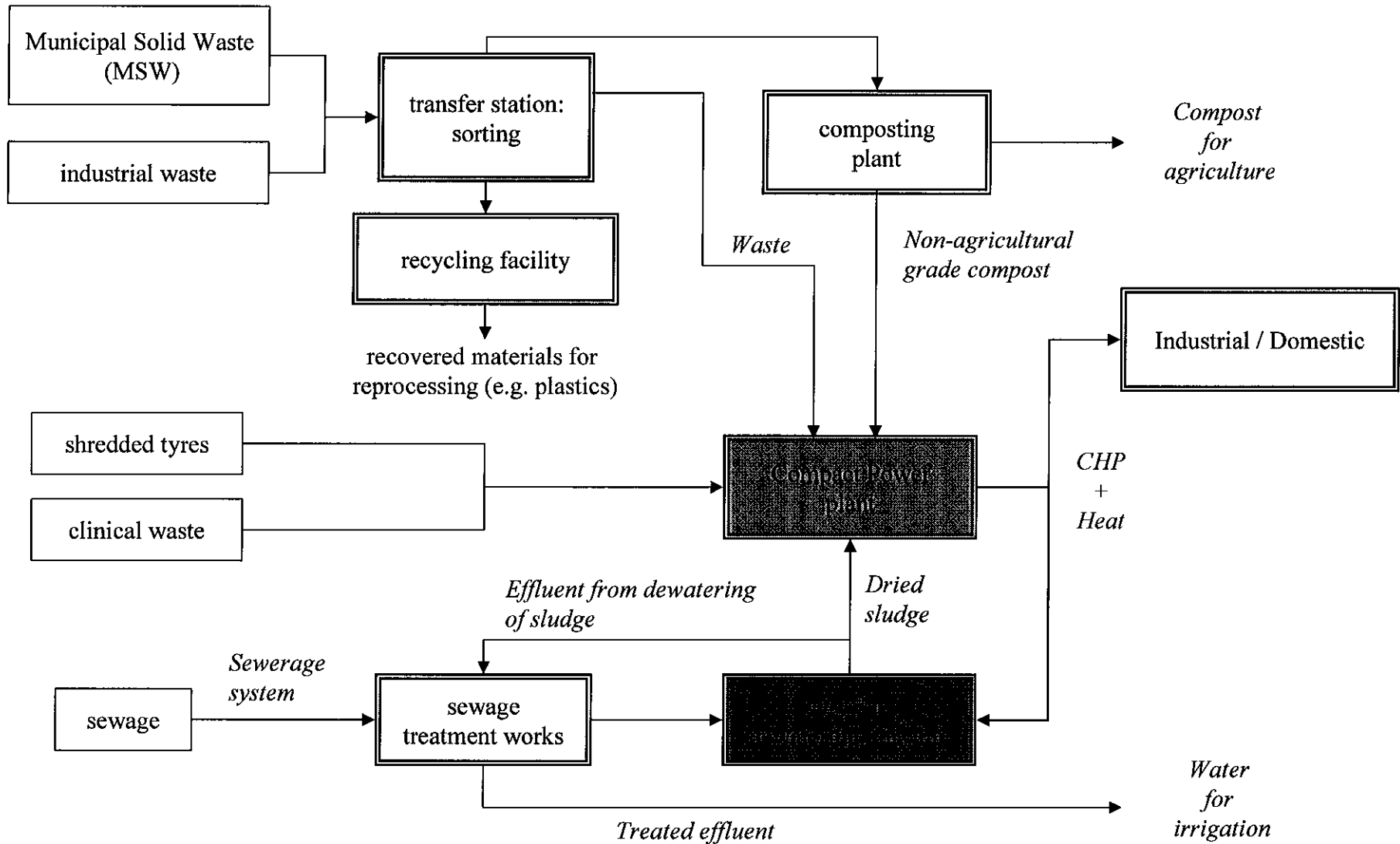
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**3.3 MWe @ 4.5p/kwh  
= £1,205,000**

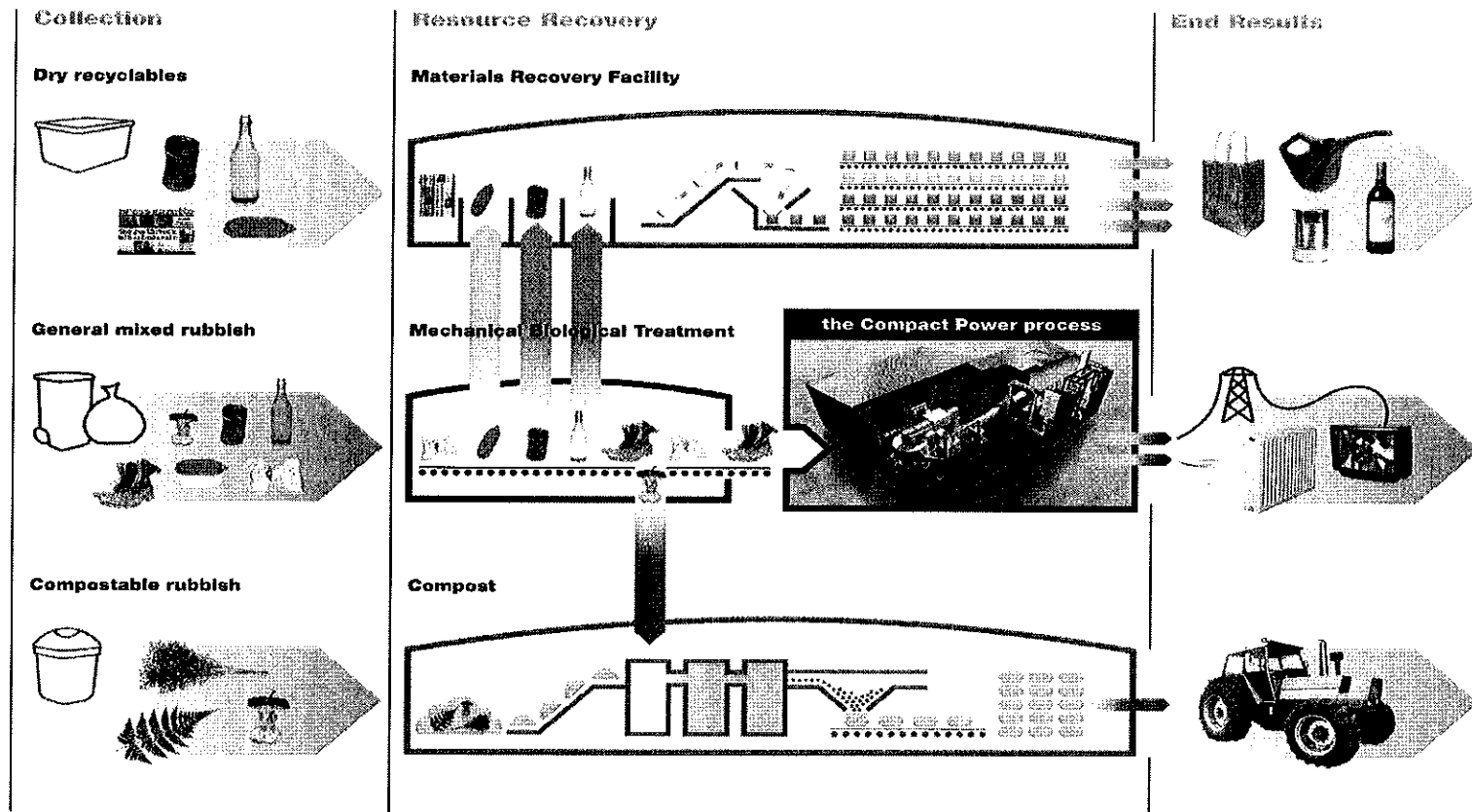
**Total gate fee: £3,305,000  
Ave £/tonne = £55**

# Integrated Solution



## Integrated waste management

### the resource recovery centre



# Proposed Project in Cornwall

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## Resource Recovery Centre

### Input:

106,000 Tpa

Unsorted household waste, separated recyclables, organic wastes, small amount of trade waste  
(45% total household waste in Cornwall)

### Process Operations:

- Materials recycling
- Composting
- Mechanical Biological Treatment
- CPL pyrolysis-gasification (64 ktpa)



*Environmental audit completed*

## Key Benefits

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### Process

- ⇒ Proprietary technology
- ⇒ Configuration based on modularity
- ⇒ Waste processing versatility

### Image

- ⇒ 'Best Practicable Environmental Option' (BPEO)
- ⇒ Environmentally friendly
- ⇒ Low stack / low profile building

### Economics

- ⇒ Competitive gate fee
- ⇒ Size / proximity reduces waste transportation impact
- ⇒ Renewable energy benefits

### Energy & gas clean-up

- ⇒ Energy recovery: heat and/or electricity
- ⇒ Low emissions

### Technology

- ⇒ Research & development in recovery of valuable by-products

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***If you have any question, do not  
hesitate to contact us:***

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