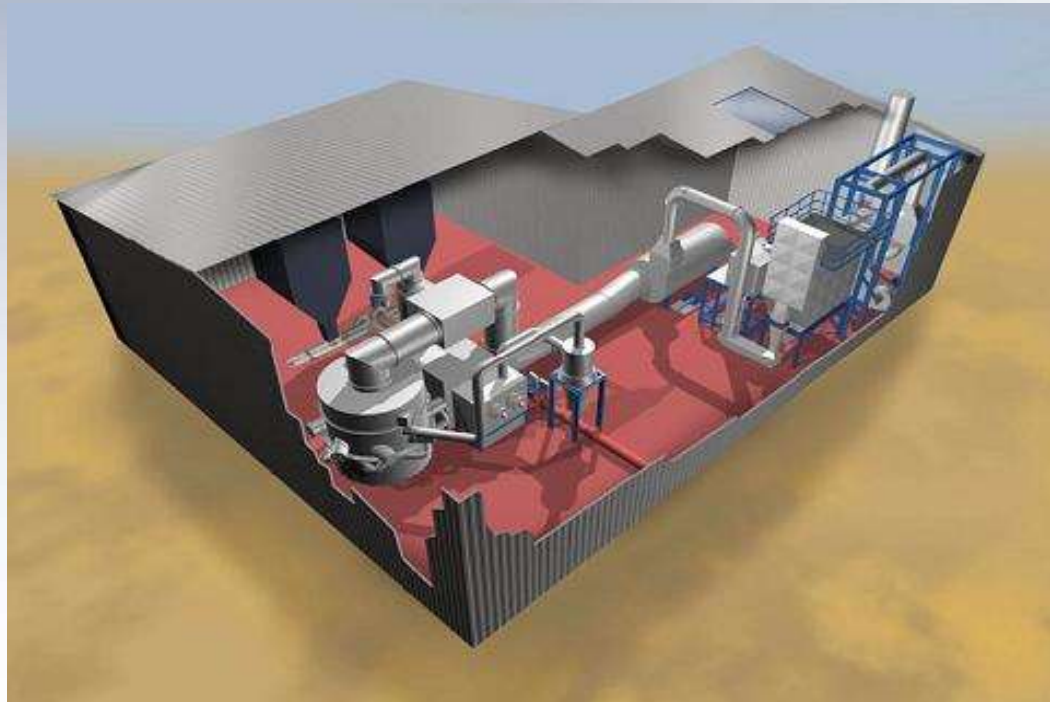


COMPACT POWER

Solutions to Waste

**Compact Power puts pyrolysis and gasification to work
for sustainable solutions**



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

Advantages of Pyrolysis and Gasification

1. Environmental
2. Higher Conversion Efficiencies
3. Compatibility with Recycling
4. Power Revenue (Market Liberalisation)
5. SME's and Social Cohesion
6. Compatibility with CHP
7. Proximity Principle
8. Public Perception

Advanced Thermal Conversion and ROC's

Definition:

“Advanced conversion technologies” means, gasification, pyrolysis or anaerobic digestion or any combination thereof

“Pyrolysis” means, the thermal degradation of a substance in the absence of any oxidising agent (other than that which forms part of the substance itself) to produce a char and one or both of gas or liquid

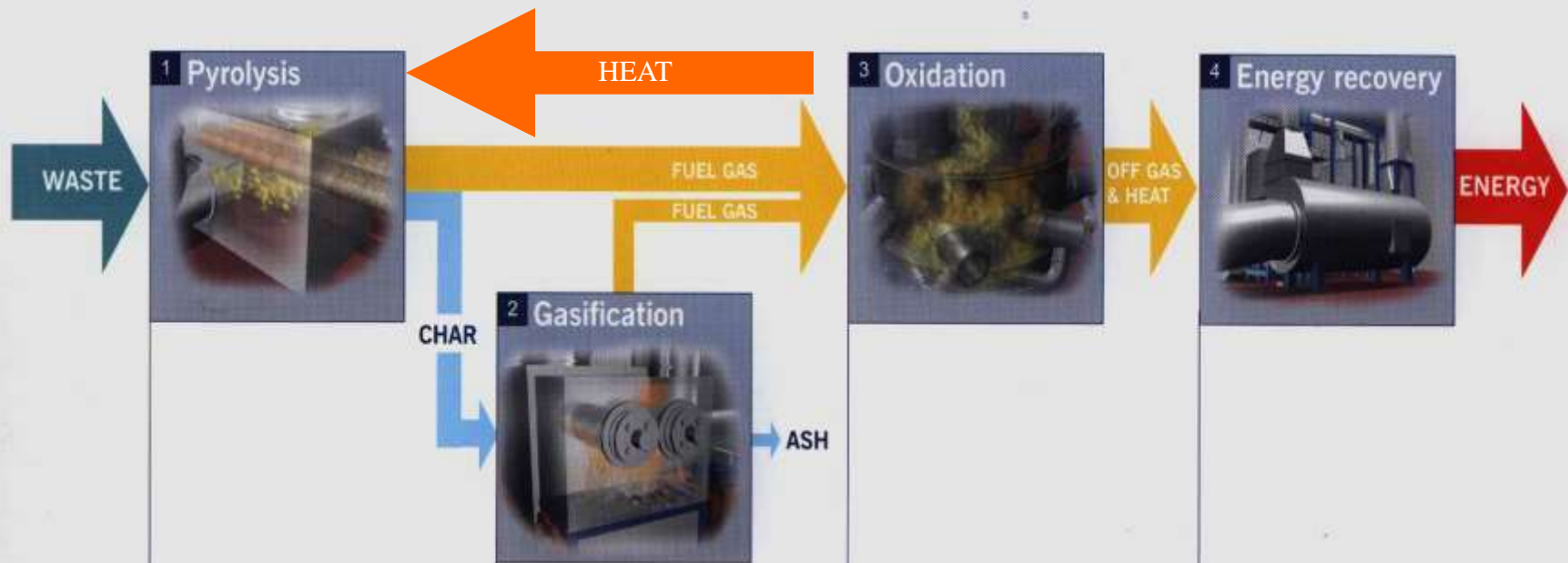
“Gasification” means the substoichiometric oxidation or steam reformation of a substance to produce a gaseous mixture containing two or all of the following: oxides of carbon, methane and hydrogen

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**

COMPACT POWER'S COMBINED PROCESS

A revolutionary technology for processing a wide range of waste that remains after recycling and composting to create heat and power.



1 Pyrolysis

Waste is heated in the absence of oxygen to about 800°C.

Hydrocarbons are converted to simple gases leaving a residue of carbon char, inert materials and heavy metals (largely retained in non-leachable form in the ash).

2 Gasification

Carbon residues are totally reacted out with air and steam in the classic "water gas" reaction to produce hydrogen and carbon monoxide.

3 High temperature oxidation

Gases are reacted at high temperature (1,250°C. for more than 2 seconds) to ensure the destruction of any organic pollutants and particulates.

4 Energy Recovery

Exhaust gases pass through a steam boiler which captures up to 80% of available energy.

Steam is available for power generation and/or combined heat and power (CHP) applications.

Finham Trials Plant



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

Environmental Impact

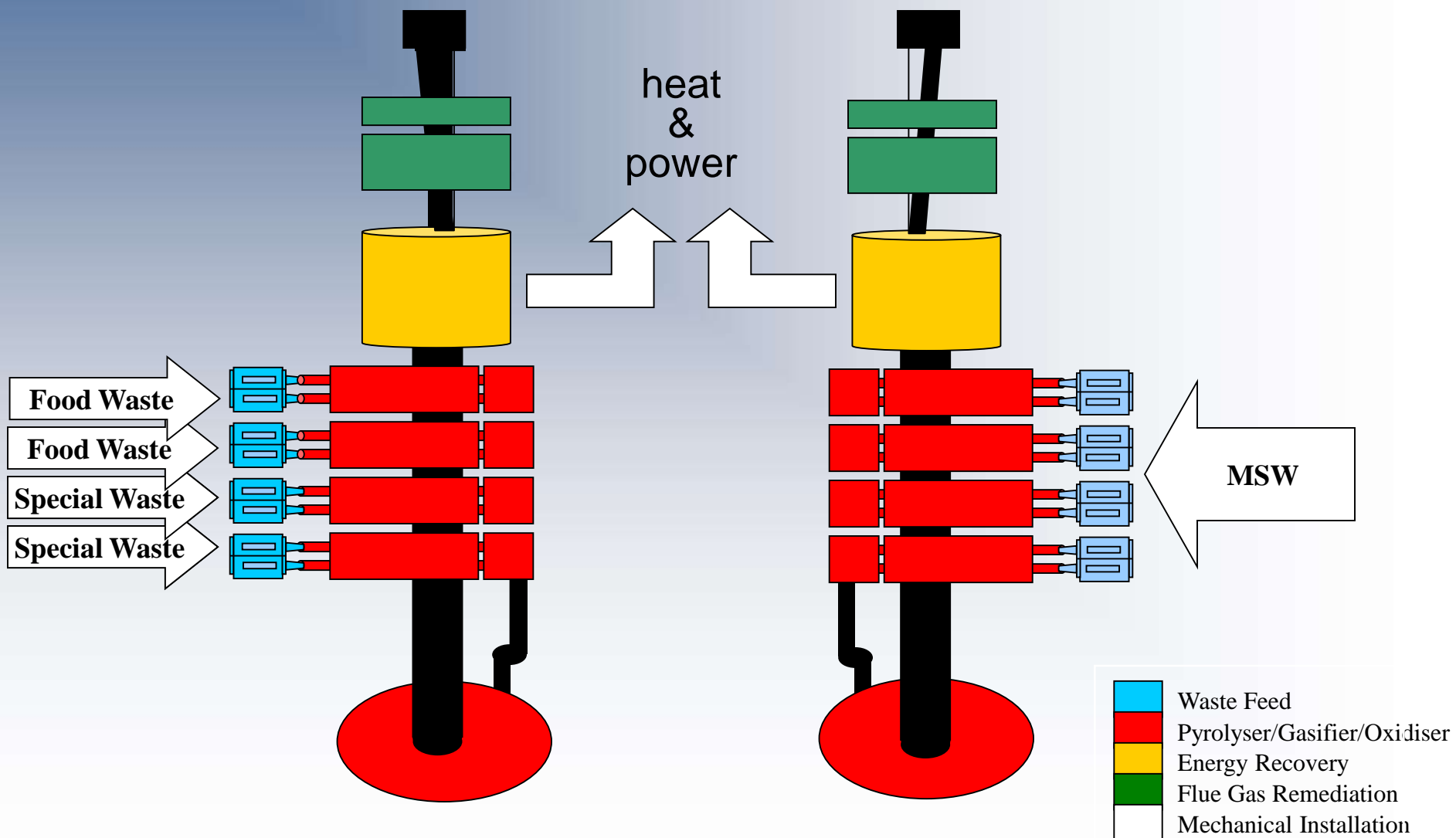
<u>mg/Nm³</u> 11% O ₂ @ 273K & 101.3kPa	<u>EU Directive</u> <u>Limits</u>		<u>Compact Power</u>
	s: spot / d:daily	½ hour	
Particulates	10 (d)	30	0.2
VOC's as carbon	10 (d)	20	Trace
NO (NO + NO ₂)	200 (d)	400	<37
HCl	10 (d)	60	2
HF	1 (d)	4	<0.1
SO ₂	50 (d)	200	< 2.5
CO	50 (d)	150	Trace
Cd & Tl	0.05 (s)		0.006
Mercury	0.05 (s)		0.006
Pb Cr Cu Mn Ni As Sb Co V Sn	0.5 (s)		0.006
Dioxins TEQ ng/Nm ³	0.1 (s)		<0.003
N ₂ O	30 (d)		Trace
NH ₃	10 (d)	20	< 1

MT8 - 2G

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Modularity



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

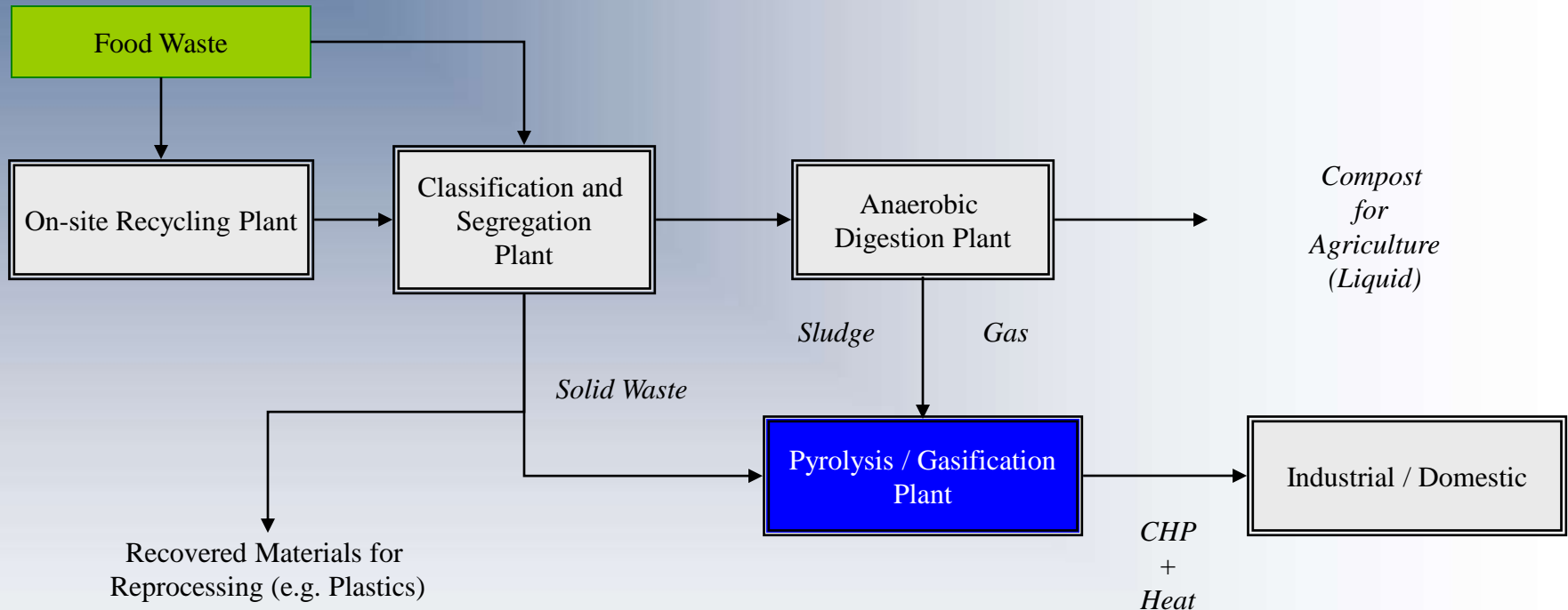
Technology

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

Funding Structure EfW

Capital equipment- million	6.3
Total project development costs- million	8.4
Design configuration	MT8
Annual throughput capacity- tpa	30,000
Gross electrical output- MWe	2.4
Heat output- MWh	10
Gate fee required- £/tonne	40

Food Industry Regional Solution

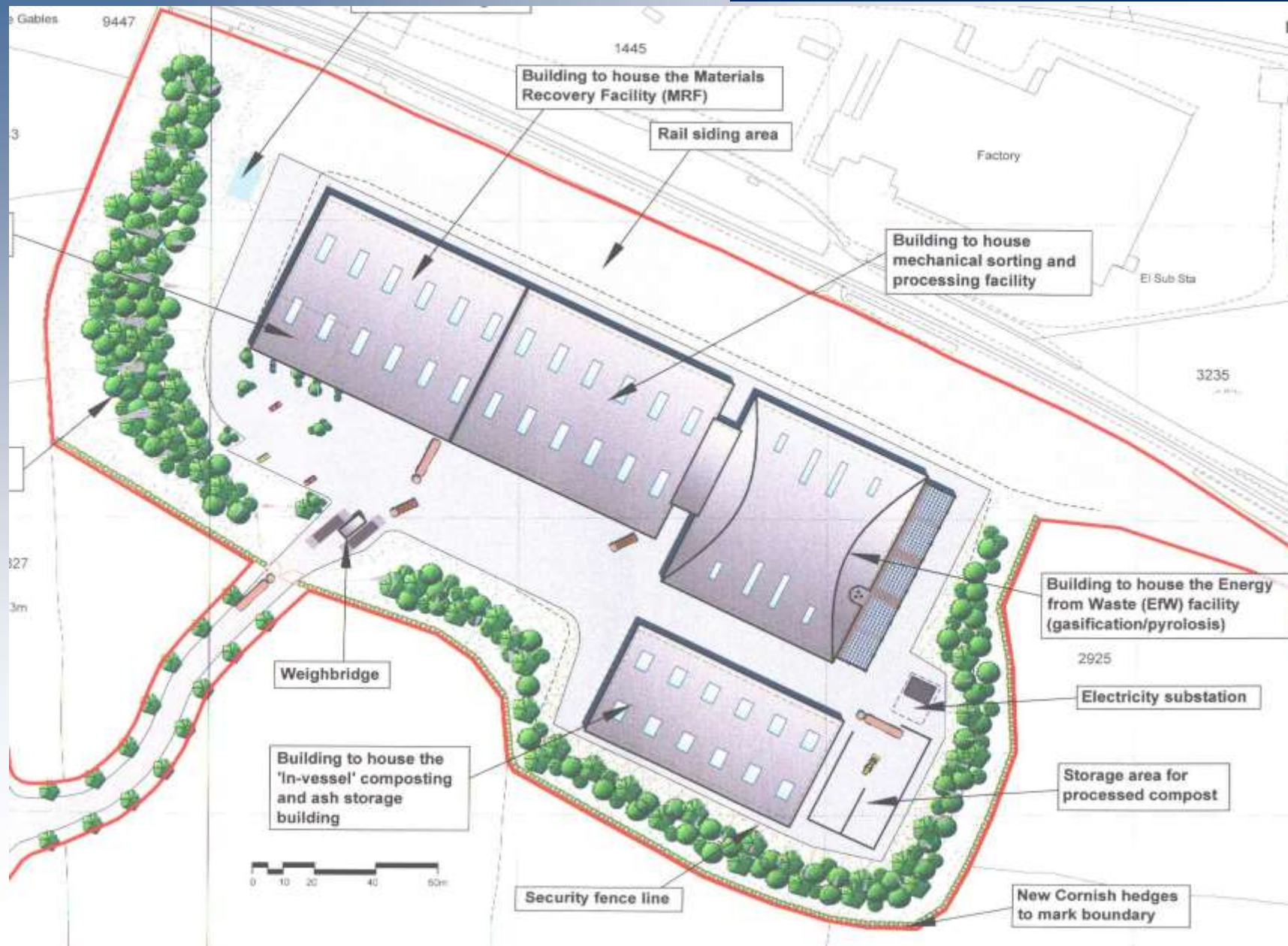


Circa £35m for 120,000 tpa turnkey facility

IWM Facility Layout

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Integrated Facility for Cornwall



Neath and Port Talbot



Experience and capability 1

- 10 years of operational experience
 - Finham pilot plant
 - Waste handling trials
 - Avonmouth commercial plant
- 10 years of development experience
 - Planning achieved
 - Avonmouth x 3
 - Dumfries x 2
 - Planning in progress
 - Wrexham
 - Bristol

Experience and capability 2

- **IPPC experience**
 - Achieved at Bristol
 - Currently in progress at Wrexham and Dumfries
- **BPEO experience**
 - Achieved BPEO at Dumfries and North Wales
- **Public affairs**
 - Over 3,000 visitors to Avonmouth
 - Ministerial and government official plant visits
 - Strong public support for planning
- **Engineering partnerships for:**
- **Integrated solutions**
- **Turnkey procurement**



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

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