

Energy from Waste: set to attract investment

Energy from waste will make an important contribution to the UK's renewable energy programme if all of the current pipeline of projects are built. The sector, which has already attracted widespread investor interest, is expected to generate substantial investment and merger and acquisition activity in the medium term.

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Energy from waste (EfW) systems convert waste into energy, generating electricity and sometimes heat energy as well. There are currently 35 new EfW projects in the pipeline in the UK, which are forecast to cost in the region of £4.7 billion to construct.

At Catalyst, we have undertaken research which demonstrates that these projects in the pipeline will add 1.2GW to today's capacity (29 plants delivering 0.5GW), providing 1.7GW of EfW generating capacity by 2015, the equivalent of 1.5% of the UK's current grid connected generating capacity. These projects are all due to be commissioned between now and 2020 - providing that the necessary funding can be secured.

If the financial crisis had not hit, the pipeline of EfW projects would have been

substantially greater. The major waste operators have put many of their EfW projects on hold due to the increased cost of capital associated with financing them, and smaller independent developers are finding it difficult to access funding. We expect this to change relatively soon, however, and the sector should see substantial further growth in the medium term.

COMPETING EFW TECHNOLOGIES

There are a number of different and competing EfW systems, each of which has its own advantages and disadvantages. Investors and funders apply different risk profiles to different systems.

Mass burn incineration (MBI), which is the most widely used technology, makes up the majority of the UK's existing infrastructure and is favoured by waste operators such as SITA. However, it is very costly and can take up to ten years to obtain planning consents.

Advanced thermal treatments such as gasification and pyrolysis are less proven

and are only now beginning to come on stream in the UK. The first full-scale UK gasification plant was commissioned on the Isle of Wight in late 2008 and was constructed by Energos (part of UK-based Ener-g). The plant cost around £10 million to build and was part of Defra's New Technology Demonstrator Programme which provided £2.7 million in funding support. It will generate 2.3MW of electricity which will power more than 3,000 local homes.

Anaerobic digestion (AD), which is currently being championed by the UK Government, is a well established technology used by the water industry for processing sewerage sludge, but has recently been applied successfully to the solid waste industry.

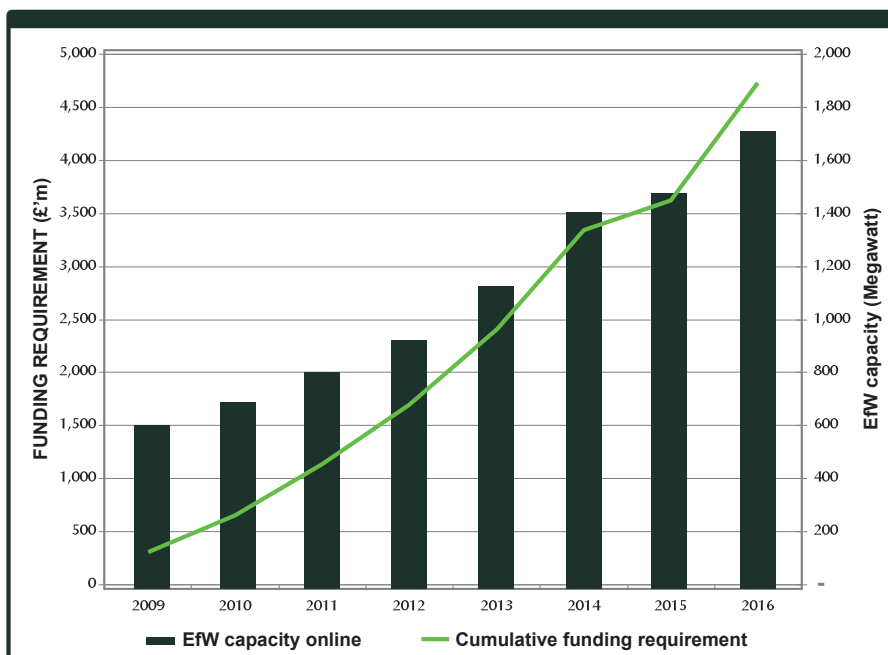
POLICY DRIVEN GROWTH

Growth in the application of these technologies is being driven by a number of factors:

- *The UK is obliged to reduce the amount of waste sent to landfill and must comply with the EU Landfill Directive requirements (1999/31/EC) enacted in 2007. EfW aids landfill diversion.*
- *There is an urgent need in the UK to improve energy security as well as to increase the contribution from renewable energy. The UK is obliged to meet targets set out by the EU Renewable Energy Directive enacted in December 2008.*
- *The escalating landfill tax is making EfW projects more attractive economically.*
- *Economic incentives are being provided through the Renewable Obligations Certificates (ROCs) and the anticipated implementation of feed-in tariffs for micro-generation.*

These factors are helping developers to justify targets of double digit returns from their plants, thus enhancing the attractiveness of EfW to a range of investors. At Catalyst we have seen evidence of interest in investment in the sector from large waste operators, water and power companies, food processing plants and retailers, infrastructure funds and private equity houses.

According to our research, over the last three years there have been around 40 acquisitions or private equity investments made in EfW companies in the UK with a value in excess of £300 million. The larger deals have been completed by the major power companies acquiring plants previously owned by independent developers or waste operators. Smaller deals have been completed by private equity funds typically investing in technology and equipment specialists or fuel suppliers.



Source: Catalyst Corporate Finance LLP

KEY EFW TRANSACTIONS

Scottish & Southern £49m purchase of Slough Heat & Power

In December 2007, Scottish & Southern Energy acquired Slough Heat & Power, a plant which can generate 35MW and processes 300,000 tonnes of wood chips and waste paper each year, for £49 million. SSE is one of the most active investors in the renewable energy space, and CEO Ian Marchant has committed the business to building its EfW capability as this is seen as a high growth area.

£28m purchase of Helius Energy Alpha by RWE Innogy

In September last year RWE Innogy (German-owned sister company of npower) acquired Helius Energy Alpha in a £28 million deal. The Helius Energy Alpha plant, which is not yet built, is designed to produce 73MW of power and will process wood and wood waste. RWE will invest a further £206 million in developing the new plant.

Monsal MBO funded by Matrix

Matrix Group, the private equity investor, funded the management buyout of Monsal, the anaerobic digestion technology specialist, to support its transition from waste water to the solid waste industry.

Biogen acquisition of Greenfinch – first consolidation in AD

We also saw the first consolidation within the AD sector when Biogen, a subsidiary of Bedfordia Group plc, acquired Greenfinch, designer and constructor of anaerobic digesters. Biogen has received £18 million from its parent to develop the business.

It is widely recognised that the EfW sector has some real advantages for investors over other renewable energy sectors, such as wind. Unlike wind, whose generating efficiency can often fall below 35%, EfW is not an intermittent source: there is an ample supply of feedstock to ensure constant generation. For example, the existing EfW plants dispose of six million tonnes of municipal and commercial waste each year. Whilst we expect that wind will dominate renewable investment, estimated by Catalyst at £85 billion over the next ten years, we believe that more and more investors will be attracted to EfW.

FRUSTRATIONS

There are, however, a few important issues causing frustration within the industry at present, notably funding availability and planning consents. Steve Lee from the Chartered Institution of Wastes Management (CIWM) pointed out at an Institute of Directors event in

Northampton in April 2008 that “the funding tap has been turned off just as the industry is poised to take off”. It is clear that we are faced with an extremely challenging financing environment and the planning process is also a major inhibitor.

At the large scale end of the market, Private Finance Initiative (PFI) projects aimed at helping Local Authorities secure long term contracts to dispose of municipal solid waste (MSW) – typically 25 years in length – are taking an extremely long time to be granted consent and then commissioned. PFI projects have almost ground to a halt as it has become nearly impossible to secure long term (25 year) project financing. The announcement that the Greater Manchester Waste Disposal Authority (GMWDA) PFI project has finally reached a financial close does not disguise the fact that many other PFI projects are many years away from a start date. The backbone of the GMWDA's £4.4 billion waste PFI contract will be a 100MW EfW plant. £400 million of funding has now been secured by Ineos Chlor to build the plant: however, it will not be commissioned until 2013.

Projects aimed at the commercial and industrial (C&I) waste market have seen changing project financing structures. Traditional 25% equity/75% debt structures have moved closer to 40%/60% ratios, and debt will be lent only on contracted waste inputs – so limiting funding for merchant capacity. For example, if an operator has 80% contracted base load inputs and will secure 20% on a merchant basis, the banks are now prepared to lend only 60% of the 80% contracted waste stream – 48% of the total cost. For a £100 million plant, the developer must now invest £52 million of equity compared to the £25 million previously required. This effect on the cost of capital has meant that many operators have shelved plans for EfW in the short term, which will certainly impact the overall ability of the industry to migrate from a landfill economy.

INDUSTRY STILL DEVELOPING DESPITE FUNDING ENVIRONMENT

There are a number of new companies developing compelling businesses in spite of the challenge of funding. Refgas, a North Wales-based business set up three years ago by entrepreneur George Willacy, has recently commissioned a 4MW CHP (combined heat and power) advanced gasification system at the University of East Anglia (UEA). This will provide electrical power and heat for the Norwich campus.

Willacy told us that: “working on a proximity basis our system is very flexible, able to use renewable feedstock from a range of biomass - including waste otherwise destined for landfill. Unlike many other renewable energy technologies, gasification is able to provide power 24/7 with no dependence on weather conditions”.

Monsal, a company based in Mansfield, Nottinghamshire, has pioneered a new high rate process of anaerobic digestion which it has installed in some of the largest digestion sites treating sewerage in the UK water industry. It will shortly begin construction of a food waste plant for Scottish Water. Monsal's managing director Aidan Cumiskey states that: “it is worth reminding ourselves of the pedigree of anaerobic digestion in the UK, where the water industry has already built an impressive portfolio of high quality digestion infrastructure”. The commercial opportunity for AD in the waste sector is substantial as the UK produces 100 million tonnes of organic material each year. Local authorities, food manufacturing, retail and service companies generate almost 20 million tonnes of food annually. In addition, 90 million tonnes of manure and slurry are generated by the agricultural industry.

Electricity recovered from the Refgas and Monsal systems can be fed into the national grid and recovered steam exported to adjacent industrial premises or district heating schemes. CHP plants such as these, which recover both heat and electricity, are recognised as being amongst the most efficient EfW plants in existence, although they have yet to find widespread use in the UK.

OUTLOOK

At Catalyst we anticipate a very bright future for the EfW industry. There is now substantial momentum behind EfW and the direction of travel is positive. In particular we predict:

- *There will be substantial growth in the number of EfW plants over the next ten years as the 35 plants currently planned come on stream;*
- *Funding EfW projects will remain challenging for the rest of 2009, especially on long term PFI projects. This will gradually become easier from early 2010 onwards;*
- *Merger and acquisition activity in the industry will increase due to consolidation and the desire of new investors to enter the EfW market;*
- *There will be a significant increase in the number of gasification and anaerobic digestion plants within the UK over the next five years.*

Catalyst Corporate Finance is an award winning corporate finance advisor and winner of the 2008 BVCA/Real Deals award for Financial Advice of the Year. Catalyst has recently published a report on “Clean Technology” which provides information on EfW investment activity as well other renewables, and can be obtained by contacting Mark Wilson on 0121 654 5000 or by email markwilson@catalystcf.co.uk.

