



Carbon permits tip investors into generating power from rubbish

BRITAIN'S path to a low-carbon future may not be found in wind farms, but rather in our rubbish. The pressure on the government to reduce the volume of waste dumped in landfills, along with huge financial incentives for the companies involved, is fuelling a boom in the waste-to-energy sector.

Waste-to-energy is a catch-all term for ways of turning rubbish into power and by-products such as fertiliser. Investors like the idea. Unlike wind and sun, rubbish is something we produce a lot of, regardless of the time of year or the weather.

"A community waste-to-energy project generating about 30 megawatts (MW) of electricity, would be the equivalent of installing about 25 wind turbines," said Peter Wright at Covanta, which plans to build a 35MW plant near Middlewich, Cheshire, that will process about 370,000 tonnes of rubbish a year.

Energy will be created by burning the waste. This will heat water, sending steam through a turbine that generates electricity.

Waste-to-energy firms say the commercial sector is a growing part of their business, as more companies look to secure their own energy supplies and avoid future shortages and price shocks.

"In the next five to ten years there could be a significant shortage of energy in Britain because many coal-fired and nuclear power stations are coming off line," said Peter Mills at the waste-to-energy firm New Earth Solutions.

With the fate of Britain's larg-

est wind projects in the balance, the need to find new, low-carbon solutions to plug that gap is ever more urgent.

New Earth Energy, sister company of New Earth Solutions, is developing a series of projects to treat, and recover energy from, a range of municipal and commercial wastes. Its first project, Mersey Green Solution, includes the development of a 400,000 tonnes a year waste-to-energy facility.

That plant will produce 40MW of electricity through gasification, where waste such as food is processed in an environment starved of oxygen.

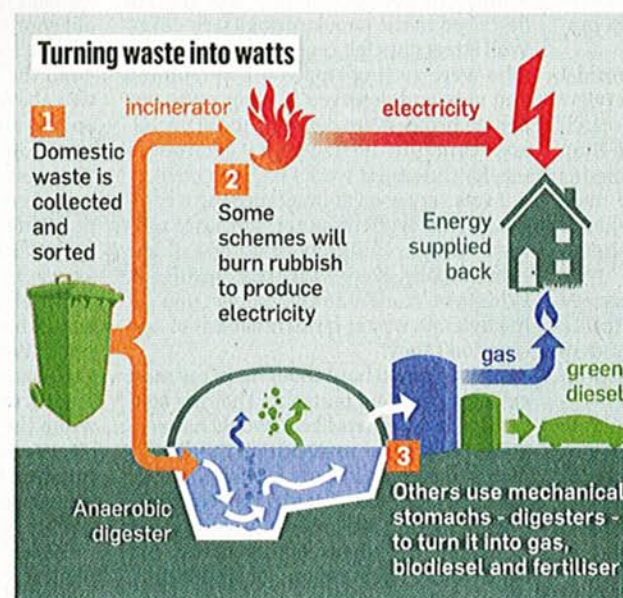
Under an update to the Renewables Obligation Certificate (ROC) scheme, which came into effect on April 1, the project will be eligible for two ROCs for every megawatt-hour of energy it produces.

ROCs now trade at about £46 each, so New Earth Solutions' 40MW waste-to-energy plant, operating at about 80% capacity, would earn £25m a year on top of its energy sales.

The idea behind double ROCs is to encourage the development of newer technologies. In the waste-to-energy sector this would include gasification, pyrolysis (similar to gasification) and anaerobic digestion, which breaks down rubbish using bacteria. The process produces a methane-rich biogas that can be used as a fuel.

In addition to double ROCs, waste-to-energy developers earn a "gate fee" of between £31 and £136 for every tonne of rubbish they take off the hands of local councils.

"Predictability of supply and



security of pricing makes waste-to-energy projects very attractive, especially in today's investment climate," said Nigel Taunt of Impax, a firm that invests in environmental projects.

Add to this the fact that Britain is struggling to meet targets on waste volumes sent to landfill and is simply running out of landfill space, and there is even more pressure to find other waste-disposal methods.

Businesses send about 60m tonnes of rubbish to landfills each year at a cost of £40 a tonne. Next year the tax will rise to £48 a tonne, but that could more than double over the next few years.

A recent report by the National Audit Office said failure to meet 2013 waste targets could result in fines of £150 a tonne.

While there are obvious

financial and environmental grounds to support the development of waste-to-energy projects, the sector has its barriers.

"Waste-to-energy is clearly an effective way of generating power, but problems with planning and characterisation of what actually is 'waste-to-energy' may make it difficult to capitalise on this," said Tom Frost at Akur Partners, a corporate-finance firm that raises money for such projects.

Waste-to-energy projects funded under the government's private-finance initiative have hit several planning and funding hurdles. The Greater Manchester scheme, which would divert 1.4m tonnes of waste from landfills, has run into several delays due to lack of funding — a problem

GREEN IDEAS



Burying carbon

Mention carbon capture and most

people think about snaffling carbon dioxide from power stations and storing it underground.

There is another method, however — turning wood or other vegetable matter into charcoal, and burying it.

A New Zealand group (which is also registered in the UK) is working on a way of making charcoal without burning anything. Carbonscape uses microwaves to heat up organic matter, reducing it quickly to a fine charcoal.

More information at Carbonscape.com

that has been made worse by the credit crunch.

Even some smaller projects have stalled. A proposed 240,000-tonnes-a-year plant in Cornwall recently had its planning application rejected by the local council, which cited an "unacceptable impact on landscape character".

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