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Media release

£250million zero-to-landfill Energy Park

A £250million energy park which turns waste into reuseable products or energy leaving nothing in landfill is planned for Peterborough.

The park earmarked for land behind Peterborough Power Station in Fengate aims to be an environmental answer to dumping waste in landfill sites.

It will create 300 jobs during its two year construction and a further 105 when it starts operation, which could be as soon as 2010. Chris Williams, managing director of Peterborough Renewable Energy Ltd which will build and run the park, said, "this energypark really is the answer to Peterborough's problems – both environmentally and it terms of power production. It adds to the green credentials of the city while reducing pollution and landfill, boosting recycling and creating electricity."

Using market leading technology, the plant will turn waste into reuseable materials including glass, aggregates, acids and metals as well as creating enough electricity to power 60,000 homes a year. The 25-acre energypark would comply with strict Environment Agency guidelines which mean sound, smell, and emissions are negligible and there is no adverse effect on the surrounding environment and wildlife. The plans were unveiled to the public today (Oct 4) and Peterborough Renewable Energy Ltd has a range of public consultation planned including exhibitions in the city centre, public meetings and liaison with neighbours and key stakeholders in the city

Father-of-three Mr Williams, 36, said, "we have already held one-to-one or round table discussions with interested parties including community leaders, environmental groups, MPs and Flag Fen to keep them updated of our intentions. We're eager to hear what the public has to say and hope we can answer any queries they may have."

The firm originally submitted plans in 2005 but after listening to local concerns has revised the application and dramatically cut the size of the scheme to just half the waste capacity and a third of the energy production. It also no longer uses Global Olivine technology.

The energypark off Storey's Bar Road will consist of a research and development centre and two three-story (17m) main buildings each housing a waste receiving hall, combustion chamber and plasma treatment chamber. It will take up to 650,000 tonnes of waste per year from the county and an area in a 20-mile radius of Peterborough including Cambridge, Wisbech and Stamford.

The waste enters the park where it is immediately sorted into recyclables (plastic, glass, metals) and leftovers. The recyclables are recycled while the biomass residues are gasified, creating electricity. Residue from this process goes into the plasma chamber at temperatures at up to 6000C which reduces them to their original atoms, allowing them to be recombined and recycled as metal, glass and acid. Some items separated in the recycling facility, like glass, metals or lightbulbs, are also put through the plasma to create new products, increasing the amount of recycling within the city.

The site also benefits farmers by providing a use for biomass crops (either agricultural waste or specially grown) which are turned into energy, powering the plant and feeding the National Grid - removing the reliance on fossil fuels. All the products which come out of the plant are then sold on. For example, metals go to steel manufacturers, aggregate goes to construction firms for hardcore, acid goes to chemical users like the steel industry or for swimming pools, while glass goes to water companies for filtration or is made into lightweight tiles. Crystal-type glass is also made on site.

The facility uses cutting-edge technology which will put Peterborough at the forefront of environmental waste management, building on its Environment Capital aspirations. While the combustion technology is already used in the UK, it will be the first time this PEM plasma unit is used in the country although it is currently in use in Japan, the

United States, and Taiwan¹. Peterborough Renewable Energy Ltd has a similar plant under consideration in Italy.

The energypark, which will only receive waste between 7am and 7pm, does draw the line at certain wastes and will not take radioactive and explosive substances, or hazardous materials such as hydroflourocarbons used in the chemical industry.

Its doors will be open from 7am to 7pm, hosting 140 Lorries a day – increasing the traffic flow in the area by just one per cent at peak times. A permit to operate the park has been given approval by the Environment Agency, while the land, sandwiched between Peterborough Power Station and a site hoping for planning permission for three 90metre wind turbines, has already been earmarked by Peterborough City Council for a waste recycling plant.

Although the application will be discussed by councillors and will be recommended for approval or refusal, the decision lies with the Department for Business, Enterprise & Regulatory Reform (previously the DTi) Mr Williams said, "We've been in discussions about building the park for seven years. It's important to us that we get it right and the people of Peterborough are happy with our plans so we keep taking on board residents' points of view and fine-tuning our application. We hope this time we've got it spot-on."

-Ends-

Notes to editors

How much waste?

In Greater Peterborough alone, 500,000 tonnes of household, commercial and industrial waste is produced each year. 68 per cent of that waste ends up in landfill in sites including Dogsthorpe, Eye and Thornhaugh.

In the same area, more than a million tonnes of construction waste is produced, much of which again ends up in landfill.

Mr Williams said, "There's far more waste in Peterborough area than we can process, that's why there is a national drive to divert waste from landfill and find alternative solutions.

¹ Various plasma technologies exists and are in use in the UK (tectronics) and Europe

“We’ll be putting Peterborough on the map in respect of taking waste and biomass and generating power.”

The energypark, which will take a maximum of 650,000 tonnes of waste, will create 58 megawatts of power – enough to service 60,000 homes.

What kind of waste?

Commercial waste is similar to household waste - what is usually found in your black bin – but office premises rarely take the opportunity to recycle.

Industrial waste such as packaging, wood, food waste, and metals.

Suitable construction waste includes wood, glass and light plastic.

The energypark will not take radioactive waste or explosive substances and will not burn hazardous materials.

What happens in the energypark?

The park’s main processing operation is based on separating materials into fuels and recyclables and then using them for that purpose to ensure that no material need be landfilled or wasted.

Waste and materials arriving at the plant enter the waste receiving hall where it is mechanically sorted in different recyclables like plastic, glass, metal, organic material and residuals. The residuals are mainly composite materials (made of several different elements). The organic material (biomass) includes garden waste, food, paper and wood.

The recyclables go off for recycling – either within the plant or in some cases like plastics to a local recycler.

The organic material gets shredded and goes into a pre-heated combustion chamber where it burns in a reduced air environment (gasification). This gives off hot gases (min 850C) which heats a boiler full of water, turning it to steam which is used to make electricity. The ash produced (potash like) can be used as a fertiliser /soil improver. The remaining vapours are cleaned via scrubbers to remove or reduce the combustion gases and are then released into the air (meeting and exceeding Environment Agency guidelines).

Material produced during the gas cleaning stage (fly ash and filter residue) is processed in sealed plasma chamber where it falls through plasma (gas excited to temperatures of 3000C-6000C) which breaks it down into atoms and allow it to be separated into metal, glass, acid, heavy metal vapour and syngas. This is cleaned,

recovered and sold on, or in the case of syngas reused in the process as a supplementary fuel.

What's the difference between an incinerator/energy from waste and the energypark ?

There are technological differences but the principle one between a waste to energy park (be it gasification, pyrolysis, incineration or anaerobic digestion with energy recovery) and the energypark is that the energypark does not produce any waste itself. All other systems will have a residue of some description that will need further treatment or landfill. The inclusion of enhanced plasma in the energypark means not only does the energypark have no waste it has improved the quality and status of the original material received in a way that other waste to energy or energy from waste plants can not do.

How will Peterborough benefit from the energypark?

The energypark removes the city's reliance on landfill – 100 per cent recovery of waste and zero to landfill.

It provides glass and metal recycling and manufacturing in the city – a first for Peterborough.

It creates green electricity to power 60,000 homes.

It boosts the city's Environment Capital aspirations creating a clean and environmentally sustainable waste management option, moving waste up the hierarchy.

It creates 300 jobs during its construction and another 105 when the site opens.

It constitutes a £250million-plus investment in Peterborough – boosting its economic success.

It provides an outlet for some of Greater Peterborough's 2 million tones of waste a year – most of which currently goes to landfill and provides over 614, tones of carbon dioxide credits. Mitigation for half the cities annual carbon dioxide emissions.

For more information visit www.peterboroughenergypark.com

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