

## How will the partnership achieve this solution?

The partnership's preferred solution is a single EfW facility to deal with waste from the Plymouth, South Hams, Teignbridge, West Devon and Torbay areas. It will also generate electricity and heat; the electricity can either be sold back into the national grid or like the heat, sold onto nearby users, offsetting running costs.

A facility that can handle 225,000 tonnes each year is likely to cost in the region of £140million to build. We sought support from the government in the form of Private Finance Initiative (PFI) credits. As a result, PFI credits of £95 million have been awarded to the partnership; we will be working to achieve a minimum of 50 per cent recycling by 2020.

The partnership is now beginning the procurement process. Procurement is an official term for the procedure involved in purchasing a facility and its subsequent operation from a specialist contractor. The procurement process will define the specific details of the scheme, including the location and the technology for the facility.

Having established a preferred site, the appointed contractor will make a planning application for the facility at that location. Once planning consent has been obtained, and the Environment Agency has issued an operating permit, work will begin on construction. The facility should be operational by April 2014.



## Where will it be?

Plymouth City Council's Waste Development Plan Document (WDPD), which looks at possible waste management sites, has been developed over the last three years in consultation with local residents, stakeholders and independent advisors. It was formally adopted in February 2008, having been inspected and approved by the Planning Inspector. Two sites are deemed suitable for a wide range of waste management facilities, including energy from waste:

- Coypool China Clay drying works – which is in multiple private ownership
- Ernesettle – formerly an old landfill site and more recently playing pitches; owned by Plymouth City Council

Potential sites outside the city boundary are also identified in the Devon County Council Waste Local Plan at New England Quarry near Lee Mill and Wrangaton. Both sites are in private ownership.

## Timescale

Project approved for government funding	September 2008
Tender procedure	October 2008 – Sept 2010
Contract awarded	October 2010
Planning permission submitted	November 2010
Construction start on site	October 2011
Commencement of operations	April 2014

## How can I find out more?

The partnership is making communication a priority, to ensure that everyone is kept informed of developments, particularly as the procurement of the EfW facility progresses. We are keen to hear from you, so if you would like further information, visit [www.SWDWP.co.uk](http://www.SWDWP.co.uk). If you have any specific questions or queries please email [info@SWDWP.co.uk](mailto:info@SWDWP.co.uk) or write to: Information Office, South West Devon Waste Partnership, Plymouth City Council, Plymouth PL1 2AA



# Proposal for the sustainable management of South West Devon's non-recyclable waste: 2014 - 2038



October 2008



## Summary

The local authorities of Plymouth, Devon and Torbay have been working to raise domestic recycling rates. With the help of the public they have achieved rates of 31%, 50% and 28% respectively. These are significant achievements but all of the authorities aim to achieve even higher rates over the next few years.

Each authority is aiming to reduce the amount of waste landfilled due to its environmental impact, reduced landfill capacity, increasing landfill cost and to meet government legislation that obliges authorities to reduce the amount of waste landfilled or face significant fines. However, there is a limit to the amount that can economically be reused, recycled or composted, so there is a need to establish additional ways to deal with the remaining residual waste.

The councils are working in partnership to provide a long term sustainable waste management solution which:

- Uses clean and proven technology
- Reduces our carbon footprint and our reliance on landfill
- Is economical, with minimal environmental effect
- Fits the needs of the local community
- Can be located close to the source of waste

## South West Devon Waste Partnership

Plymouth City Council, Devon County Council and Torbay Council have formed a partnership to deliver an economic and environmentally sustainable long term solution to deal with the waste from the South West Devon area that cannot be reused, recycled or composted. The councils agreed to work together in September 2007 and formally signed a legal partnership agreement in April 2008.

## Background

For years, councils have used landfill as a way of disposing of our household rubbish that is not recycled or composted. However, this is not an option for the future. Concerns over the impact on the environment have led to new laws limiting waste to landfill in order to reduce potent greenhouse gas emissions. In addition, landfill sites are filling up and are becoming increasingly expensive. This is why we have to look at alternative solutions.

## What happens to our waste at the moment?

Like other authorities, Plymouth City Council, Devon County Council and Torbay Council have been working hard to increase domestic

recycling levels. Devon County Council has achieved the third highest recycling rate in the country, reaching 50 per cent in 2007, whilst Plymouth is approaching 31 per cent and Torbay 28 per cent. The remainder of the waste is currently disposed of in landfills at a number of locations.

## Recycling strategies

All the authorities are committed to continuously improving their recycling performances and each has produced a Municipal Waste Management Strategy. The investment in new infrastructure and initiatives over the next few years will help us to achieve the following targets:

Recycling and composting rates			
Authority	2009/10	2014/15	2019/20
Plymouth	36%	39%	43%
Torbay	31%	46%	51%
South West Devon	58%	59%	60%
Partnership rate	45%	49%	51%
National targets	40%	45%	50%

Even if recycling rates were increased dramatically, we could not stay within our landfill allocations in the long term. To avoid severe financial penalties, which could affect council tax bills, and address growing environmental concerns, alternative ways to deal with waste are needed, particularly in light of population growth and closure of full landfill sites such as Chelson Meadow. The partnership estimate that during the contract life of 25 years from 2014 to 2038, between 187,000 and 225,000 tonnes of household waste per year will still need to be treated from the South West Devon area.

Each council separately identified Energy from Waste or thermal treatment as their preferred option in their Municipal Waste Management Strategies. As the costs involved in building and operating a facility are high, it is clearly sensible that a single, shared facility is explored. In environmental terms, having one waste facility close to the main source of waste is better as it reduces the distance that the waste has to travel, keeping emissions down too.

## Technologies for dealing with residual waste

In deciding the preferred joint solution, six options were considered based on Energy from Waste (EfW) and Mechanical Biological Treatment (MBT). The options were assessed and modelled in detail, before being evaluated and scored against a range of technical, environmental, financial and planning criteria to assess their relative performance.



Conventional energy from waste plant.

All options underwent detailed analysis by independent consultants to assess their relative performance. The anticipated environmental impacts were modelled for each option using the Environment Agency's Life Cycle Assessment Model.

The results of this detailed modelling showed that a single EfW facility with Combined Heat and Power (CHP) in Plymouth was the most favourable option for the following reasons:

- Land take minimised
- Only one site required
- Technology has good track record in terms of performance and number of existing facilities
- Diversion of waste from landfill maximised
- Comparatively low global warming potential
- Most cost effective
- Most "bankable" solution
- Low environmental impact relative to landfill

## Global warming and carbon issues

One of the important factors in managing waste is to ensure the carbon emissions from the various processes are minimised. Taking into consideration the gases given off from landfill sites and other power generation sites, a modern EfW plant can reduce carbon emissions by up to 40% relative to landfill. Using waste to produce heat and electricity provides a reliable and environmentally sustainable local solution to help meet the future energy needs of the community.

## Energy from Waste and health

Modern EfW plants must operate to the stringent emission levels set by the European Waste Incineration Directive (WID). These limits make incineration one of the most tightly regulated processes in the EU. There is no definitive evidence that the operation of a modern EfW plant is harmful to human health. The health issues alleged by some sources have received far more public exposure than supporting sources, with little debate for any other type of waste management process, yet no health link has been established with the operation of EfW plants.