

The Shropshire Energy from Waste Facility proposal

Some frequently asked questions

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(a) What is an Energy from Waste Facility (EFW)?

An EFW burns the rubbish left after households have separated out waste for reuse, recycling and composting to generate power.

The combustion of waste in an EFW is a safe, efficient and a modern way of treating waste that has not been reused, recycled or composted, with the additional benefits of generating electricity, diverting waste away from landfill and reducing our reliance on fossil fuels.

It is an important part of an integrated waste strategy, reducing residual waste volumes and representing an extra step in the waste management hierarchy which seeks to minimise the amount of waste going to landfill, i.e:

- i) waste reduction
- ii) waste reuse
- iii) recycling/composting
- iv) energy recovery
- v) landfill

For more information about how an EFW works, see below.

(b) What is being proposed?

Subject to the appropriate planning approval, it is proposed that an EFW would be built on Battlefield Enterprise Park in Shrewsbury on land adjoining the waste management facility/household recycling centre.

Each year it would process 90,000 tonnes of Shropshire's residual municipal waste (waste that is not reused, composted or recycled) and generate up to 8MW of electricity – enough to power over 10,000 homes.

(c) Why build the EFW at Battlefield Enterprise Park?

The Battlefield site emerged out of a wide-ranging and detailed assessment of sites for the Waste Local Plan. It was the only site identified in the exercise that was suitable for housing a significant waste treatment and recovery facility. The site itself is centrally placed, near to where the waste is produced and adjacent to the existing waste management facilities. It is easily accessible and well served by the existing road network.

(d) What would it look like?

A major consideration is to ensure that the EWF is of a high architectural standard and fits in well with its surroundings.

It would be designed by an experienced architect who has already designed a number of successful UK energy from waste facilities.

It would be designed to meet latest legislation regarding environmental impact, with tight controls on emissions, noise and odour.

In Hampshire, Veolia's Facilities have received prestigious national awards for their design:

- Integra North ERF, located near to Basingstoke, has been highly successful since its official opening by HRH The Princess Royal in 2003. It has been awarded the Brunel Medal by the Institution of Civil Engineers for its innovative design, and has also secured two internationally recognised standards – the ISO9001 and the ISO14001 – for its excellent quality and environmental management.
- Integra South East ERF, located near to Portsmouth, was officially opened by HRH The Duke of York in December, 2006. It has won both a Let's Recycle Award for Excellence in Innovation in Design for a Waste Management Facility and The Institute of Civil Engineers 'Edmund Hambly Medal' in 2006 for Creative Design in an engineering project that contributes to sustainable development. It also operates to ISO9001 and ISO14001.

(e) Would the plant accept waste from outside Shropshire?

No, there are no plans to do so.

(f) How much electricity would be generated by the EWF?

The facility would generate up to 8MW of electrical energy. Electricity would be supplied to the electricity distribution network (National Grid) and is enough to power more than 10,000 homes continuously.

(g) When would the EWF be operational?

This would depend on the time it takes to secure planning permission and Environment Agency authorisation. However, using the most realistic estimates, the facility would be fully operational early in 2013.

(h) What measures would be taken to consult and inform local residents?

There would be a period of public consultation up to, and during, the planning process.

Veolia would establish a local community liaison group to provide information and create a dialogue with local people.

Meetings would be arranged to help people find out about integrated waste management generally and, in particular, the plans for the Battlefield EWF, as they develop.

The aim would be to provide members of the group with the opportunity to feed in local views and concerns, to enable these to be carefully considered and, where practical, implemented.

Other communications activity will include:

- leaflets and updated information on the internet which would clearly explain and summarise the proposals;
- key planning application documents would also be added to the website, and the full application would be available from Veolia;
- an invitation for local residents and groups to visit an operational Energy from Waste Facility;
- targeted communication to local residents informing them of the proposals and providing summary information and points of contact; and
- a public display to give local residents the opportunity to find out more about the development, by answering individual questions and providing them with open and honest information focusing on the issues that will concern them.

Broader communications work would also be undertaken to raise awareness of all the waste issues facing everyone throughout the area, and the role householders can play to reduce, reuse and increase recycling. In addition to the above, the planning application would be subject to a statutory consultation process.

Why do we need an Energy from Waste Facility in Shropshire?

(a) Is there any alternative?

Up until now we have relied heavily upon landfill for waste disposal but landfill is running out in the county, and is the least preferred disposal option on environmental grounds.

It is a government requirement to reduce the amount of household waste that goes to landfill. From 2010 if we exceed our landfill limit, fines of £150 per additional tonne will be imposed by the Government. This will ultimately be paid for by the communities of Shropshire.

We are recycling and composting more than ever before and Shropshire Waste Partnership and Veolia are committed to meeting challenging recycling targets (see below). However, recycling and composting alone cannot reduce reliance on landfill sufficiently even in the longer term.

We consider that an EWF is the best solution for dealing with the municipal waste that has not been reused, recycled or composted, which would otherwise end up in landfill.

(b) What are the main benefits of an Energy from Waste Facility?

An EWF in Shropshire would:

- provide a safe and proven means of dealing with municipal waste that has not been reused, recycled or composted;
- reduce the amount of rubbish sent to landfill, to meet Government targets and avoid landfill fines; and
- produce more electricity for the National Grid, providing energy whilst reducing fossil fuel use.

Energy from Waste Facilities also offer the following **environmental** benefits:

- waste is managed in a sustainable manner;
- energy is recovered from the waste;
- dependence on landfill is reduced;
- release of methane (a greenhouse gas) from landfill is avoided;
- use of fossil fuels to produce electricity is reduced (one tonne of waste equals one third of a tonne of coal); and
- up to 20 per cent of the UK's renewable energy targets could be met by Energy from Waste Facilities.

In addition **jobs** could be created as local people would be recruited where possible for the construction and operation of the facility.

(c) Could this EWF plant actually inhibit further recycling in Shropshire?

No. This facility would be specifically designed around achieving high levels of recycling and composting, and would be designed to complement and not compromise them.

It would be specifically developed with a capacity much lower than the total amount of municipal waste generated. This is to ensure that recycling initiatives are not compromised by the facility and to encourage even higher recycling levels.

Under the waste contract Veolia would be obliged to increase recycling and composting rates significantly (see below) and we are looking to recycle over 50 per cent of Shropshire's municipal waste *before* the EWF would be operational. This is up with the best in Europe and well ahead of national aspirations.

The EWF would process only the waste which householders have not separated out for recycling or composting, using kerbside collection, household recycling centres or recycling banks. It would prevent waste that hasn't/can't be recycled from going to landfill sites.

Finally, high levels of energy recovery from waste and recycling are not mutually exclusive. In the Netherlands national recycling rates of over 40 per cent have been achieved, which is amongst the highest in Europe, whilst approximately 30 per cent of waste is used for energy generation.

(d) Would there be enough tonnage for the energy from waste facility to operate at capacity if recycling targets are met?

Yes. It is anticipated that waste arisings in Shropshire will grow to more than 200,000 tonnes by 2013 and significantly beyond that in successive years. This means that recycling targets can be met and there will still be sufficient residual waste available to operate the facility at capacity.

Impact of the Energy from Waste Facility

(a) Would the site be safe?

Yes. EWFs are tried and tested, highly regulated and subject to stringent government legislation, and they must meet the European Union's Waste Incineration Directive criteria.

The technology is advanced and widely accepted across the UK, continental Europe, the USA and Japan.

The Health Protection Agency, Environment Agency and Defra have concluded and endorsed the fact that energy from waste operated in compliance with relevant European legislation is a safe activity to health and the environment.

In its position statement on Municipal Waste Incineration in November, 2005, the UK Health Protection Agency says: "Incinerators emit pollutants into the environment but provided they comply with modern regulatory requirements, such as the Waste Incineration Directive, they should contribute little to the concentrations of monitored pollutants in ambient air. Epidemiological studies, and risk estimates based on estimated exposures, indicate that the emissions from such incinerators have little effect on health..."

In relation to dioxins, the Environment Agency (EA) is even more specific. In a 1996 report it states:

"...Dioxin emissions from an energy-from-waste plant operating to the new pollution control standards will not pose a health risk to people living near the plant, irrespective of the location and size of the plant, the profile of the people concerned (such as nursing children) or the activities of the surrounding area (such as other industrial processes)."

(b) Would this new facility mean extra lorries on local roads?

The facility already in place at Battlefield receives residual waste for bulking up before it is taken to landfill. Under the new arrangements this residual waste will stay on site and be treated in the EWF, with only the residues from that being taken off site, therefore any increase would be very small compared to existing waste related traffic and very small indeed to the amount of general traffic in the area.

(c) Would the EWF produce an odour?

No. In an EWF, all combustion air is drawn from the bunker area where the waste is deposited and therefore controls any risk of odour by maintaining a slight negative pressure in that area. The emissions from the chimney are odourless.

(d) How are emissions from the EWF controlled, and what are they?

An Environmental Permit (EP) application would need to be submitted by Veolia to the Environment Agency. This is a statutory regulation which is enforced by the Environment Agency to ensure that emissions are controlled to a safe level.

The EP application must be approved before the facility could operate. The Environmental Permitting Regulations set strict limits for emissions.

The main emissions from the chimney would be carbon dioxide and water vapour, with minimal amounts of oxides of nitrogen, trace elements, heavy metals, dioxins and particulate matter.

To ensure that emissions comply with these Regulations, the EWF would employ a sophisticated gas clean-up system.

(e) How are the emissions from the plant monitored?

Veolia would monitor the emissions from the facility. The majority of emissions being continuously monitored whilst some trace emissions would be monitored by sampling, which would be carried out at regular intervals. The emissions data would be recorded and reported to the Environment Agency. It would also be made available on the company website.

Emissions would be subject to strict control in accordance with the Environmental Permitting Regulations which ensure that any pollution is controlled to a safe level.

The Environment Agency would act as an independent monitor of the facility's outputs and, if limits were breached, it would have powers to shut down the facility and impose fines accordingly.

Veolia has an excellent track record of compliance with emissions regulations.

The emissions data for its three Integra Facilities currently operating in Hampshire can be viewed online at:

http://www.veoliaenvironmentalservices.co.uk/hampshire/pages/er_emissions.asp

For data relating to its Sheffield ERF see:

<http://www.veoliaenvironmentalservices.co.uk/sheffield/pages/emissions.asp>

For data relating to its Tyseley ERF see:

<http://www.veoliaenvironmentalservices.co.uk/birmingham/pages/emissions.asp>

(f) How high will the chimney be?

The most suitable height for the chimney would be determined by Environment Agency following extensive dispersion modelling assessment, taking into account factors such as the topography of the surrounding land, plant emissions, existing local air quality and weather conditions.

It is proposed that the chimney for the Battlefield EWF is 65m.

(g) What effect would the EWF have on the ecology of the area and on wildlife?

Veolia would assess the possible impact on the natural environment as part of the planning application process, and be subject to public and expert scrutiny before planning permission is given.

Veolia would work with environmental organisations and landowners to preserve local wildlife habitats.

The National Context

(a) Are there other sites like this in the UK?

There are currently 20 Energy from Waste Facilities in the UK with more in planning. Six of these facilities have been built/operated by Veolia. The company also operates 47 similar municipal waste to energy facilities in continental Europe.

(b) Does this proposal tie in with the national waste strategy?

Yes. The strategy supports increasing the amount of energy produced by a variety of energy from waste schemes, using waste that can't be reused or recycled. It is expected that from 2020 a quarter of municipal waste - waste collected by local authorities, mainly from households - will produce energy, compared to 10 per cent today.

How does an Energy from Waste Facility work?

Recyclable and compostable material is separated by each household, collected via kerbside recycling schemes or the network of household waste recycling sites and then processed for recycling. The residual waste collected from black bags or bins is sent to an energy from waste facility where:

- it is tipped into a bunker;
- a crane grabs the waste and places it into the feed hopper. It then drops down a feed chute onto the grate;
- the action of the moving grate turns the waste to allow it to burn fully
- the burnt out ash passes through the ash discharger onto an ash handling system, which extracts metal for recycling;
- the remaining ash is suitable for recycling or disposal;
- hot gases produced in the combustion process pass through a water tubed boiler where they are cooled, the exchanged heat converts the boiler water to steam;
- a turbo-generator uses the steam to produce electricity for export to the local network and the National Grid;
- the gases from the boiler go through an extensive flue gas cleaning process which consists of a gas scrubber and a bag filter where particulates are filtered out;
- the resulting material known as flue gas treatment residue which can be sent beneficial use or for disposal at a licensed site; and
- the cleaned gases are finally released to the atmosphere through the chimney.