Public exhibition

November 2011

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Balfour Beatty

Urbaser Balfour Beatty's proposal for
managing Gloucestershire's waste

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Welcome

Urbaser Balfour Beatty would like to welcome you to the second public exhibition at Javelin Park.

This exhibition presents our proposal to recover energy from “residual waste” – the waste left over after recycling and composting. We would like to thank the community for the valuable feedback we received at the first exhibition in July. We have done our best to accommodate your views and we welcome further feedback on our proposals.

The Consortium of Urbaser and Balfour Beatty brings together two experienced and trusted companies on a joint venture.

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Urbaser is a world class waste management company operating locally (the company is based in Cheltenham, and is also working for Worcestershire and Herefordshire Councils). Urbaser operates more than 200 waste management facilities, including eight energy-from-waste (EfW) facilities, and processes around 7 million tonnes of waste every year.

Balfour Beatty

Balfour Beatty is a world class infrastructure services business operating across the infrastructure lifecycle in over 80 countries, in diverse markets and economies. We provide the assets societies need to function, develop and thrive.

Our proposal includes:

1. The recovery of value from residual waste through the generation of energy.
2. A space-efficient and dynamic design that respects the local environment.
3. Technology that protects the environment and human health.
4. On-site recycling of bottom ash into a construction aggregate.
5. An Education/Visitor Centre available for community use.
6. Apprenticeship and employment opportunities for residents of Gloucestershire.

INVESTORS IN PEOPLE | Gold

Balfour Beatty Apprenticeships

TOP 100 EMPLOYER 2011

How we have listened

We listened carefully to the feedback received at the first exhibition and have developed our proposal to respond to the matters that the community has raised.

We would like the design to be sympathetic to the environment and architecturally interesting.

We would like more information about emissions and how human health will be protected.

Will there be a meeting room for local groups to use?

Please provide meeting rooms in the Education/Visitor Centre for the local community to use.

How would noise impacts be managed?

We would be concerned about the visual impact on the AONB.

Local villages should not be a thorough-fare for waste vehicles.

Will there be an opportunity for local children to gain work experience?

We are concerned about light pollution and flooding.

Will there be an area for wildlife?

Minimise the use of junction 12 and the A38 at peak rush hour periods.

We would like traffic impacts to be as small as possible.

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Why recover energy from waste?

Energy-from-waste is a proven method for generating renewable energy from residual waste.

Gloucestershire aspires to recycle 70 per cent of household waste by 2030 and the size of the proposed facility reflects this. However, despite increasingly good recycling and composting performance in Gloucestershire, there will always be a significant volume of residual waste that will need to be managed within the County, including waste generated by local businesses and industry. For this waste, the most sustainable solution is to recover energy from it.

Energy-from-waste:

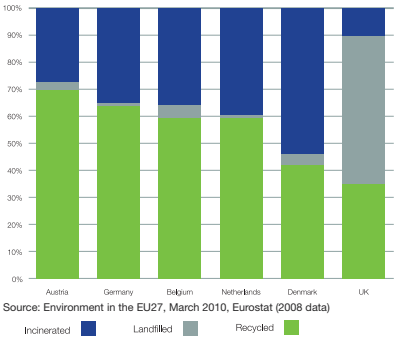
- Completes the waste hierarchy – **4Rs: reduce – reuse – recycle – recover.**
- Provides a sustainable solution for residual waste.
- Reduces the carbon footprint of waste by reducing methane emissions from landfill.
- Contributes to renewable energy targets and provides a local source of energy.
- Operates safely and is strictly regulated to protect the environment and health.
- Is a cost-effective and a proven technology.

The waste being treated at Javelin Park will be that left over after recycling and composting has taken place. Countries with high levels of recycling such as Austria, Germany and the Netherlands also have a significant number of energy-from-waste facilities and there is a positive relationship between recycling and energy-from-waste.

Generating renewable energy

In order to combat climate change, the UK has a commitment to generate at least 10% of its electricity from renewable sources by 2010 and 15% by 2020.

The facility will increase the County's renewable energy production by over 50%, with approximately 56% of the energy generated at the facility being classed as renewable.



Source: Environment in the EU27, March 2010, Eurostat (2008 data)

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Providing a local solution for local waste

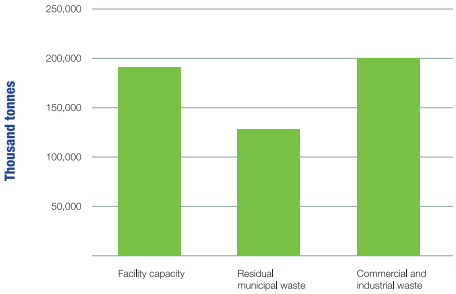
The proposed facility has been developed for the thermal treatment of up to 190,000 tonnes per year of residual non-hazardous waste. A small proportion of the facility's capacity will be made available for business waste.

The facility has been designed primarily for residual Municipal Solid Waste arising in Gloucestershire.

This is anticipated to be up to 159,000 tonnes per year but could be higher depending on recycling rates and waste growth. Any spare capacity will be used to manage business waste similar in nature to municipal waste.

Due to the central location of the site within Gloucestershire and the cost of transport, there will be a significant demand to manage the County's business waste within the facility.

Projected waste arisings 2027/28



By 2027/28 the amount of residual business waste (after high levels of recycling) arising in Gloucestershire that will need to be diverted from landfill is predicted to be approximately 200,000 tonnes per year.

Treating business waste from the local area provides a number of benefits:

- Local businesses will have a more sustainable and affordable solution for their waste compared to landfill disposal.
- Increased recycling at the household level will not result in a shortfall of available waste to treat.
- Reduced greenhouse gas emissions from landfill.
- Increased production of renewable energy.
- The revenue from managing business waste helps offset the costs for the tax payer.

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Design evolution

Javelin Park has an open aspect set in the River Severn Vale with views from Haresfield Beacon and the Forest of Dean.

The site is in an open setting, close to the M5 and surrounded by agricultural land. Trees, hedgerows and the gently undulating landscape limits views to the site.

Javelin Park has a rich history of British engineering and technological development. Formerly known as Moreton Valance airfield, it was used by the military in the Second World War and Cold War. After the Second World War it was used to test the first jet aircraft.

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Design development

In order to respond to feedback from the community, we have designed the facility to minimise impacts on the local environment and community.

The early masterplan took into account the rich history and nature of the site, along with the need to separate operational and visitor activities.

We considered housing the facility under one roof, but this created a lot of redundant space. The preference was to deconstruct the building and break up the large form.

Each of the main process areas is enclosed within its own envelope resulting in a dynamic but efficient design where building mass is both minimised and fragmented.

We have carefully considered texture, grain, colour and reflectivity of building materials. The objective was to achieve a sense of dynamism, undulation and movement reflecting the surrounding landscape. The landscaping scheme helps to ground the facility into the surrounding environment and reduces the effects associated with surface level movement.

The design provides a sleek and relatively discreet aspect to the east and a dynamic expression of function to travellers on the motorway.

Additional design criteria for the site included:

- Reduce the impact of a tall, linear building.
- Protect the watercourse to the southern boundary.
- Provide direct access for operational vehicles.
- Control light pollution.
- Reuse excavated soil for landscaping.
- Improve sustainability and biodiversity.
- Develop an attractive and educational visitor and wildlife area.

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Proposed design

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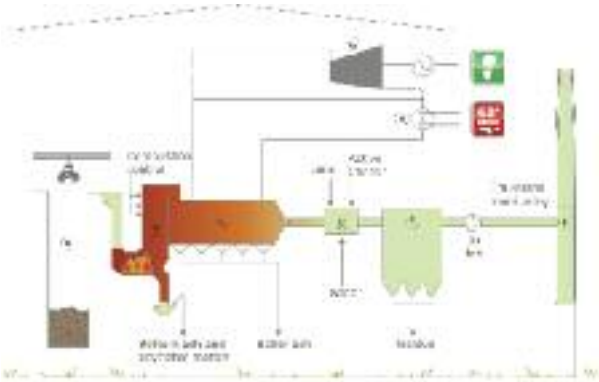
How does the technology work?

1. Waste reception: Waste collection vehicles arrive at the facility and are checked and weighed. The waste is then tipped indoors in a sealed bunker and then fed into the combustion chamber.

2. Combustion process: The waste moves along a grate where it combusts under closely controlled conditions. All of the hot gases are passed to the energy recovery stage.

Ⓐ Waste bunker
Ⓑ Furnace
Ⓒ Boiler
Ⓓ Cooling tower/Reactor
Ⓔ Bag filter
Ⓕ Stack
Ⓖ Turbine
Ⓗ Local heating



3. Ash recovery: The remaining ash moves to the end of the grate where it is cooled (quenched). Using modern systems metal is removed for recycling and the ash processed for reuse as construction aggregate material.

4. Energy recovery: Heat released in the combustion process goes through a boiler. The steam generated in the boiler passes to a turbine which generates sufficient electricity to power the plant, and also to export 116,750MWh/year (the majority) via a local grid connection. 116,750MWh/year is enough to meet the energy demand of more than 25,000 homes and is equivalent to around 50% of the households in the district of Stroud.

In addition, the facility has been specifically designed to allow for the local export of heat.This is expected to become viable during the lifetime of the plant.

5. Emissions control: To ensure that the combustion gases meet the stringent requirements of the Environment Agency's operating permit, gases are cleaned and continuously monitored before being released from the chimney. Solid residue from the gas cleaning operation is collected in the air pollution control system for subsequent treatment or disposal at a suitably permitted facility.

Managing outputs sustainably

Urbaser Balfour Beatty are proposing a holistic single-site solution with over 90% waste input being put to beneficial use through on-site activities – recovering the energy and material value of waste.

Bottom ash, from the combustion process, which is primarily composed of a mix of ceramics, slag and glass, will be recycled on-site to avoid double handling and additional transport impacts.

Local contractors have been contacted and are keen to use the bottom ash as a secondary aggregate in future construction projects e.g. as sub-base material for paving and pipe trenches.

We will also recover metals from the bottom ash for recycling.

On-site incinerator bottom ash recycling

Flue gas treatment equipment is used to absorb harmful gases and remove particles from the emissions in order to meet the Environment Agency's safety limits. The Air Pollution Control Residue will be transferred off-site to a suitably licensed treatment facility where it will be managed safely to protect human health and the environment.

Safe management of Air Pollution Control Residues

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Maintaining air quality

The proposed energy-from-waste facility will bring climate change benefits by reducing our reliance on fossil fuel energy and avoiding landfill.

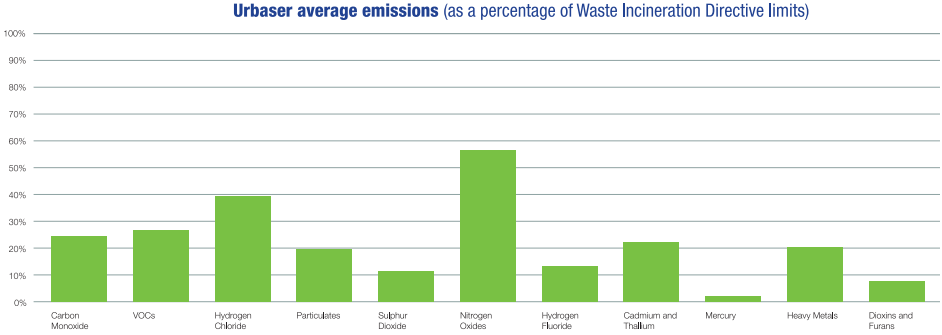
Urbaser Balfour Beatty has undertaken an air quality assessment using meteorological data for the past five years.

The assessment demonstrates that the emissions will have a negligible effect on the local concentration of air pollutants. The air quality assessment has determined that the chimney stack should be 70 metres tall, providing a balance between air quality and the visual impact of the facility.

Once operational, emissions from the facility will be continuously monitored and tightly regulated under the European laws enforced by the Environment Agency.

The Environment Agency has the power to prosecute and to close down the facility should emissions not comply with the law.

Emissions data will be published online for peace of mind.



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Managing local impacts

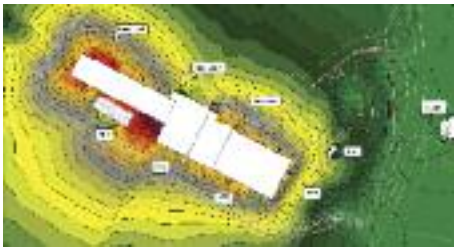
Urbaser Balfour Beatty's proposal includes a range of measures to reduce or avoid potential environmental impacts.

These will be detailed in the Environmental Impact Assessment (EIA) submitted as part of the planning application.

The facility will be operated under an Environmental Permit issued and controlled by the Environment Agency. The Environmental Permit will ensure that the facility is operated to standards that protect the environment and human health.

Some of the concerns raised by the public at the first public exhibition included the following topics.

Noise: The facility will be designed and operated to minimise noise impacts. Noise monitoring has been undertaken to understand background noise conditions and a detailed noise model of the facility has been developed to predict noise levels at nearby receptors. Mitigation measures will reduce noise impacts from the facility. These include the use of earth bunds along the eastern boundary and positioning of noisy plant away from sensitive receptors. The noise assessment has shown that the facility would comply with the noise requirements set by Stroud District Council.



Odour and litter: Waste will be handled within a fully enclosed building to prevent the release of odour and litter from the facility. In addition air will be extracted from the waste tipping hall as part of the combustion process. This will result in a slight negative air pressure that prevents odour and litter from escaping the building.

The high temperatures within the combustion chambers i.e. 850ºC will destroy the odorous compounds within the air pulled in from the waste tipping hall. As such the emissions from the stack will not result in odour impacts.

Waste will be delivered to the site in fully enclosed or sheeted vehicles. As such delivery vehicles are not considered likely to result in significant odour or litter impacts.

Lighting: In order to reduce lighting impacts the external lighting system will only operate during hours of darkness when vehicle deliveries are occurring. After this time the main lighting will automatically be switched off. A reduced, low level lighting system will remain in operation for staff access using low level lanterns. These will be restricted to walking routes and staff parking areas.

Flood risk: A Flood Risk Assessment has been undertaken as part of the EIA. The assessment has shown that the stream which flows along the boundary of the site does not present a significant flood risk to the site. A number of surface water attenuation ponds have been included in the scheme to control the rate at which water is released into the stream following rainfall. This will help ensure that the development will not increase flood risk in the local area.

Minimising traffic impacts

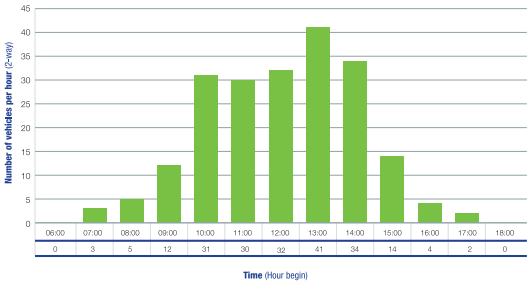
As part of our commitment to being a good neighbour, Urbaser Balfour Beatty will ensure that traffic impacts are minimised.

The facility will be treating waste that is already transported by road around the county for disposal. The roads leading from the site to the M5 and A38 have been designed to cater for HGV movements, this includes the re-modelled J12.

The Cotswolds Lorry Management Zone restricts movements of HGVs south beyond the roundabout at Javelin Park and along minor roads leading east towards Haresfield. As a consequence, the roads leading to Haresfield and Standish will not be used by HGVs accessing the facility, other than for local waste collection rounds serving local properties. The distribution of daily vehicle movements to/from the site is shown on the map.

Peak HGV movements will occur outside the traditional weekday morning and evening rush hours with the highest number of HGV movements predicted to occur at 13.00. Delivery vehicles will all queue within the site boundary. The anticipated profile of vehicle movements associated with the site across the day is shown below.

Predicted Typical Weekday HGV Demand Profile for the Proposed Residual Waste Facility (2-way)



Planning permission has already been granted at the site for distribution warehousing which, if developed, will result in large numbers of HGVs accessing the site. A comparison of the traffic flows indicates that overall there would be less traffic movements from Javelin Park under the Urbaser Balfour Beatty proposal than if the whole of the site was to be developed as distribution warehousing.

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Serving the community

We are committed to involving the community in our proposals

We recognise that the facility will be a long-term feature in the area and we are seeking to maximise the benefits for local residents.

Our proposals include:

Engaging the local supply chain – we will host a 'Meet the Buyer' event and provide business support for local companies to join our supply chain.

Employment for local people – we will offer employment opportunities throughout the supply chain and focus on recently unemployed skilled workers from the local area.

100% job interview for Gloucestershire residents who meet the job criteria

Apprenticeships – we have committed to a target of 8% of our workforce being Apprentices during the construction phase (our apprenticeship scheme is very successful; we have set a target of a minimum of 75% of our Apprentices completing the framework).

www.balfourbeattyapprenticeships.com

Student work placements – learn about the working environment and improve your skills in administration, communications, construction, ecology or engineering.

Education/Visitor Centre and wildlife zone – we will provide space for the local community and business events.

Learning – we will host guided tours and workshops for schools and community groups.

Considerate construction – Balfour Beatty is in the Top 50 companies in the Considerate Constructors Scheme. We pride ourselves on being a good neighbour and go beyond best practice principles.

Community Liaison Group – join the Community Liaison Group to find out more and give us regular feedback on how we're doing.

www.ubbgloucestershire.co.uk

breeam

Sustainable building (BREEAM) rating: **Very Good**

Civil engineering environmental excellence (CEEQUAL) rating: **Excellent**

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What happens next?

If Urbaser Balfour Beatty is awarded the contract:

We will submit a detailed planning application and Environmental Statement for the facility in winter 2011. The application will take into account feedback received from the community through the pre-application consultation period.

The application will describe the proposed developments, and the Environmental Statement will provide information on potential impacts and how they will be minimised including traffic, noise, air quality, biodiversity, landscape and visual and other construction and operational impacts.

In addition, a Statement of Community Involvement will be submitted as part of the planning application. This will demonstrate how we have listened and taken into account the views of the local community in the planning application.

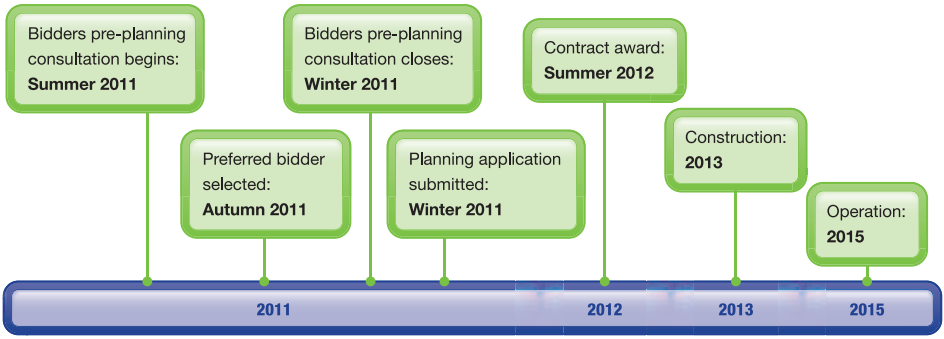
The planning application will then be consulted on by the Planning Authority, Gloucestershire County Council, and is expected to be determined in autumn 2012.

We will also be submitting an application for an Environmental Permit to operate the Facility. Environmental Permits are issued by the Environment Agency and are subject to separate consultation.

The planning application, Environmental Statement and permit application will be published on the website:

www.ubbgloucestershire.co.uk

Thank you once again for attending the second public exhibition about our proposal. Please give your feedback on the forms provided.



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