

“Made in Wiltshire - local renewable energy made from locally-sourced fuel, powering local Wiltshire businesses”

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1. What is Northacre Renewable Energy?

Northacre Renewable Energy is a proposed renewable energy centre, to be located on the Northacre Industrial Park in Westbury, Wiltshire. It will be capable of generating up to 22 megawatts of power in the form of electricity and potentially heat to supply the National Grid and potentially local business. It will use advanced thermal treatment technology (ATT) called gasification to convert a blend of Solid Recovered Fuel (SRF) and commercial and industrial waste destined for landfill into a synthetic gas which will be used on site to generate renewable electricity and potentially heat. Potential exists for private underground connections to supply nearby businesses with power and heat, and a substation will be constructed on site to enable the electricity produced to be exported to the National Grid.

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2. Whose idea is Northacre Renewable Energy?

Northacre Renewable Energy Limited is a company formed by The Hills Group working with technology provider Chinook Sciences. **Chinook Sciences** is the leading manufacturer and operator of advanced thermal treatment with its headquarters in Nottingham. Chinook Sciences was formed in 1998, with the first operating plant delivered in 2000, which is still working today. Chinook's clean technology is now in

its ninth design generation and has an unrivalled 14 year track record of industrial operation.

Planning permission has been granted for four facilities using Chinook technology in the UK, one of which is currently nearing completion at Oldbury in the West Midlands and a second, which is in the early stages of construction in East London (www.chinooksciences.com). Chinook's patented gasification technology has also won numerous awards, including the Queen's Award for Enterprise Innovation and Sustainability Live's Award for Environment and Energy.

Hills Group is one of Wiltshire's largest employers with over 400 staff working across the regions it serves. Established in 1900 The Hills Group is a privately owned family company with a broad and successful portfolio of business activities which include recycling and waste management; quarrying of aggregates and production of ready-mixed concrete; and building new homes. From its base in Wiltshire, Hills serves customers in central Southern England and Wiltshire and currently operates Northacre Resource Recovery Centre (www.hills-group.co.uk www.northacrerrc.co.uk).

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3. What are the benefits of the proposal?

Northacre Renewable Energy will provide Wiltshire with a source of locally-generated renewable energy in the form of electricity and potentially heat. The energy produced will be generated using locally-sourced fuel sources such as the Solid Recovered Fuel made at the neighbouring [Northacre RRC](#) and waste from commercial and industrial outlets local to the facility, making it a sustainable solution for dealing with local waste to power local businesses.

The chosen gasification technology is able to generate heat as well as electricity making it an energy efficient system. Discussions are ongoing with local businesses to potentially provide them with electricity and heat.

Northacre Renewable Energy will form part of a local circular economy, turning waste into a fuel to generate renewable energy for local businesses. The benefits include:

- generating up to 22 megawatts of power with the potential to also provide heat and power to local businesses based on the Northacre Industrial Park;
- contributing to the local renewable energy market
- enabling locally produced fuel to be used to generate local energy which supports the concept of regional energy security;
- creating local employment in the form of 40 new jobs;

- providing a sustainable outlet capable of handling 160,000 tonnes of fuel made up of a combination of high calorific SRF blended with commercial and industrial waste destined for landfill.
- supporting Wiltshire's aspiration for a local green economy.

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4. How big will the facility be and what will it look like?

The Northacre Renewable Energy facility has been designed to fit in to the industrial landscape as part of the Northacre Industrial Park. The facility will comprise of three principal buildings, which will be appropriate to the surroundings. There will also be some external process equipment. The development will include the construction of a substation on site to enable the electricity produced to be exported to the National Grid, together with the potential for private underground connections to local businesses.

Based on similar developments under construction, the building height is 20 metres and the height of the stack is 60 metres.

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5. What are the proposed operating hours?

The facility will operate 24 hours a day, seven days a week. HGV deliveries to the site are expected to be between the hours of 07:00 - 22:00 Monday to Friday and 07:00 - 17:00 on Saturdays, over the equivalent of 304 days per year (six days per week excluding bank holidays).

Electricity and heat will be generated 24 hours a day, seven days a week.

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6. How many people will be employed?

The facility will support 80 existing construction jobs and generate 40 new operational jobs to run the facility. The majority of the workforce will be employed in production across two or four shifts, dependent on the specific job function with the remaining non-production staff working general office hours.

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7. Why do you need this new facility when the existing Northacre Resource Recovery Centre handles the waste?

Northacre RRC is a mechanical biological treatment (MBT) facility which produces a high calorific fuel from Wiltshire households' waste known as solid recovered fuel (SRF). The SRF from the MBT facility will be blended with other locally sourced commercial and industrial low calorific waste streams to produce the right mix for the gasification process.

The SRF made at the Northacre RRC is therefore a key constituent to the fuel mix. It is also the reason for locating Northacre Renewable Energy right next door to avoid having to transport the SRF further afield for use in other energy plants.

Currently the SRF is transported by road to port and shipped to energy facilities located in Germany and Holland because there is not a local energy centre in Wiltshire. Northacre Renewable Energy will help fill the gap in the local renewable energy market and enable locally produced fuel to be used to generate local energy which support the concept of regional energy security.

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8. In addition to heat and power, what are the outputs from the gasification process?

There are two types of residue that remain post processing.

- Metals, glass and aggregates (typically about 10% of the total material processed) are recovered from the post processing residues and then recycled.
- Air Pollution Control Residue (APCR) which is disposed of to landfill - although discussions are ongoing to develop recycling / reprocessing uses such as for construction purposes.

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9. Will there be any emissions?

During the operation of the facility the Environment Agency (EA) will monitor emissions to ensure that we are complying with limits set out in the Industrial Emissions Directive (IED). This will be stipulated in the environmental permit issued by the EA for the facility. All exhaust gas from the process will be treated by air pollution control systems, including the use of a barrier type filter with powdered activated carbon (PAC) and sorbent injection.

This physical barrier between the gas processed in the plant and the air outside the plant removes particulates suspended in the gas. PAC and sorbent injection enable dioxins, furans and acid gases to be removed from the exhaust gases prior to exit via the stack. A full environmental impact assessment addressing all emissions will be conducted as part of our planning application.

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10. Will there be any odour or noise?

No, the technology will be enclosed in a building designed to control odour and there will also be an odour abatement system in place.

Noise will be minimised through the building's design together with landscaping to provide screening from nearby buildings and neighbours.

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11. What is the timescale of the proposal and how can I find out more?

Following the public consultation held in 2014, we have now submitted our planning application to Wiltshire Council's Waste Planning Authority on 22 December 2014. Following validation, the planning authority has provided these key dates:

Consultation expiry date: Friday 13 February 2015
Target date for decision: Monday 13 April 2015

Subject to receiving planning consent, we hope to build and commission the facility in 2015/16 with the facility fully operational in 2017.

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