

## North Lincolnshire Green Energy Park Webinar question responses

### Overview

North Lincolnshire Green Energy Park Ltd held a consultation webinar on 4 June 2020. It has undertaken to issue written responses to questions asked during the webinar to attendees and to place these on the project website.

The table below sets out the questions raised through the webinar and the responses given by panellists. Responses have been drafted to be consistent with those given verbally during the webinar, but where appropriate the language has been adapted to suit a written format.

### Questions and answers

| Question   | Answer  |
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| <p>What sort of odours and smells are likely to be released from the proposed sites? How can we prepare in advance for these?</p>  | <p>We do not expect the local community to experience odour issues as a result of our proposals.</p> <p>Firstly, the Government plans to ban the use of biogenic materials into landfills from 2023. This removes it from the process at early stage. We are also looking at the segregation of food waste collection. Removing these elements takes away a lot of the risk of odours and smells.</p> <p>Beyond this, we will carefully manage the North Lincolnshire Green Energy Park to reduce the risk of local people experiencing negative odours. We are looking at the use of sealed units for the transport of Refuse Derived Fuel. Additionally, the buildings of the Energy Recovery Facility will be kept under negative pressure and the storage will be in negative pressure buildings, containing the smell inside. Within these buildings, we will change the air three times an hour via biofilters to remove dust and odours.</p> |
| <p>How close does the proposed extension area come to residential buildings in the village? As the map shows some areas marked back onto gardens of village residents.</p> | <p>This is a consequence of the small scale of the map. None of the proposed development backs onto gardens or homes.</p> <p>The grey zone is included on the map in question is because we do not yet know at the present time how much land we will need for flood mitigation, landscaping and biodiversity enhancements.</p>   |

When we have carried out environmental impact assessments, including hydrology modelling, we will be able to share more detail on these elements.

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What procedures will be in place to manage noise and pollution? Glanford Power Station on the site already creates a horrid noise across Amcotts for hours on end which spoils the enjoyment of our gardens.

The buildings which form the Energy Recovery Facility will all be enclosed. They will also be kept under negative pressure, which helps retain noise within the building. External equipment is typically enclosed in acoustic containers to limit noise emissions. The design of noise enclosures will be informed by noise assessments we are carrying out as part of the full Environmental Impact Assessment.

Noise emissions are governed both by the planning process and by an Environmental Permit we must seek from the Environment Agency. As a result, we expect to continue to carry out noise surveys to ensure noise remains within agreed limits even after the Energy Recovery Facility is operational.

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How can you ensure the value and resale value of surrounding properties will not be affected?

We have put a significant amount of effort into finding the right site for the scheme. Finding a site which was principally industrial has been an important consideration in managing potential impacts on the local community.

We also expect the scheme to generate significant value locally, through job creation and district heating. What we are trying to do is put as much value back as we can, to make the area more desirable, rather than to cause any impact.

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Why do we need another source of renewable power when we already have several within a 3-4 mile radius of us?

One of the key challenges for renewable energy is that it does not generate consistently. This can mean wind or solar farms only generate limited amounts of energy when the sun is not shining or the wind is not blowing. Conversely, these technologies can generate more energy than the electricity transmission network has capacity for – leading to excess power being wasted.

With the North Lincolnshire Green Energy Park, we aim to give the network the flexibility it needs to manage these issues. We will help Northern Power Grid by taking electricity off the grid when there is excess power to produce and store hydrogen. When sufficient renewable energy is not available, we will be able to supply stored energy.

We are not just focusing on the export of electricity. We are also looking to use waste heat through the proposed district heating network the heat network. We are looking at different ways to best use the energy we create from the waste, rather than just converting it into electricity.

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What increased traffic and noise do you anticipate along with emissions from the site?

We are still at an early stage in the scheme development. Unfortunately, the gathering of traffic and travel data has been put on hold due to the pandemic in the recent months.

However, traffic impacts will all be subject to a full Transport Assessment, which will be prepared as part of the Environmental Impact Assessment for the scheme. The Environmental Impact Assessment will also include a full assessment of potential noise impacts.

A key objective is to limit the amount of traffic around the site and maximise sustainable travel options, whether that is to and from the site or around the site. We are looking at ways to improve the road connectivity, to avoid any potential bottlenecks and improve connectivity to the A1077.

Where possible, we will also seek to use rail and water transport rather than road. Part of the reason we chose this site is because it is on an operational wharf with access to the River Trent and into the sea. We plan to reinstate 9km of railway which became disused in recent years but will be fit for purpose after some work.

Therefore, rather than anticipate bringing the Refuse Derived Fuel entirely by road, we would prefer and plan to bring as much as possible by rail or by sea. The investment in the public transport hydrogen buses is also something we are keen to progress.

Emissions is one of the most tightly regulated aspects of developments of this type. As well as carrying out a full air quality assessment and dispersion modelling as part of the Environmental Impact Assessment, the project will also be subject to an Environmental Permit before it can operate. This will set strict limits to emissions and require these to be monitored continually from the first day of operations.

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95MW of electricity from 650,000 tonnes of RDF sounds quite ambitious. As a shift team leader at a similar plant, we burn 700,000 tonnes per annum and achieve an export of 80MW - how does this new plant achieve such efficiency?

The answer is in the nature of the waste. We, as a company, have been tracking this for the last four years. In the last year, Refuse Derived Fuel has gone from yielding 12 MJ/kg of energy up to 14 MJ/kg. As we take the food waste and biogenic waste out of the what is typical Refuse Derived Fuel, its calorific value and therefore the energy it has will increase. We will seek to harness the increasing calorific value of the Refuse Derived Fuel.

95MW of energy is an equivalent based on the calorific value we are expecting, but we will not necessarily export 95MW of electricity as it will come out in the form of heat in the heat network and other processes, including the ash treatment.

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Flixborough has a sad history in relation to heavy industrial activity. What evidence do you have that the system you are proposing is safe and proven?

We are cognisant of the very sad history of Flixborough and we are hoping that the consultation period might help us identify how we can honour the memory of the 28 people who lost their lives in the Nypro chemical plant explosion.

The safety track record of energy from waste sites is extremely good. There has only been one fatality in the last year, which was not in the UK. There have been no explosions at an energy from waste site in the UK to date.

Have you considered the effects of light pollution?

At this early stage, we are still trying to understand what the design of the North Lincolnshire Green Energy Park will be and are undertaking our Environmental Impact Assessments. We do not anticipate a huge amount of flood lighting to be incorporated into the design, but this is not formalised yet.

Lighting will be considered as part of the Landscape and Visual Impact Assessment for the project. If it is found that it will be an issue, we will feed this back to the designers who will look for opportunities to reduce or mitigate this.

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Following on from the previous question about property prices:

You did not say how it would affect property values in answer to the previous questions. You simply said how it will create jobs.

There has been work done on assessing values of properties around energy from waste sites, particularly inner city energy from waste sites. There is no evidence to prove there to be any adverse effect on property prices from energy from waste facilities. We do not believe we do not believe our proposals will adversely effect any of the property prices in the vicinity.

We have also had businesses that want to co-locate with the North Lincolnshire Green Energy Park, which has the potential to bring more jobs to the area. Additional demand for housing in the area could possibly increase the value of homes locally. However, we would not be able to say this for certain.

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We also understand that there is another proposal for Keadby 3.

It is not clear how a gas-fired power station will remain commercially viable in the future, particularly with carbon taxes. It is worth emphasising this is a separate scheme and not associated with the North Lincolnshire Green Energy Park.

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Why has no environmental assessment been done before carrying out the non-statutory consultation?

This is due to the way the planning process for Nationally Significant Infrastructure Projects requires us to consult. We are at the beginning of this process and this enables us to take into account the views of members of the public when designing the scheme and conducting environmental impact assessments. Over the last two years, we have compiled much of the background information on topics such as habitats needed to support this work.

As we begin to develop the scheme design more, we will be able to do more assessments and the results will then be fed back through a further round of consultation. This iterative approach means we are not able to share detailed information on our design or assessments at this stage. This is not intended to prevent people from having information about our proposals, but to ensure we can take into account as many views as possible in the design of the scheme and the Environmental Impact Assessment.

It is worth noting that there is only one statutory requirement to consult. That will be fulfilled by the next round of consultation later this year. At that stage, the Environmental Impact Assessment would have been carried out to a certain extent and all the preliminary information will be made available to the public to be scrutinised.

We are currently introducing the project at a very early stage so that we can get everybody's views and then that will shape what we assess.

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Will waste material, when discharged, be put straight into storage?

We go one stage further. As we produce ash, whether it bottom ash or flue gas ash (also known as fly ash), it will be treated with 1200°C heat. This forms it into an igneous aggregate and that is what will be discharged.

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Please can you tell us if there any other sites like this in the country?

There are more than 50 energy from waste facilities in the UK, and a further 11 in construction. Given the volume of non-recycled waste that the UK will have to deal with and the impending closure of landfill sites by 2050, there is likely to be a requirement for another 30 or 40 plants – not necessarily all of the same size as the North Lincolnshire Green Energy Park.

However, there are currently no facilities exactly like the North Lincolnshire Green Energy Park in the UK. This is because of the additional emphasis at the North Lincolnshire Green Energy Park places on the storage and use of by-products from the energy recovery process.

No other facility that we are aware of has been designed to make use of by-products from the process in this way to drive efficiency. This includes through carbon capture and storage, district heating and cooling opportunities, production and storage of hydrogen, battery storage and steam storage.

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You have spoken of the processing of bottom ash, what about Air Pollution Control Residues (APCR)? Will that be transported off site by road, and what are the processing plans for it?

As well as treating the bottom ash, we will treat fly ash – which is another way of describing APCR. We will use heat treatment to remove heavy metals, pollutants, dioxins and other potentially harmful by-products associated with combustion. This will be used in the manufacture of concrete blocks.

Anything that is transported off site will come out as construction concrete blocks or concrete formed products. It is a big percentage of the Refuse Derived Fuel we expect to process - ash creates between 15-35% of the total tonnage, which would be equivalent to 170,000 tonnes a year of concrete blocks, coming either out on the railway or out on the river.

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Can you explain what the glasshouse proposal means and what impact that might have?

The glasshouses are big greenhouses which grow premium crops that are in short supply in the UK such as cucumbers and tomatoes and more expensive vegetables, and crops for medicinal purposes.

The Humberside area used to be the centre of glasshouses in Europe, but factors including the increased cost of fuel lead to this declining. Most glasshouses benefit from the use of carbon dioxide, which will be captured from the energy recovery process and cleaned, as plants absorb this. Heat can also make up around 30% of the operating costs for glasshouses.

We expect this to make the glasshouses attractive to European suppliers who are looking to locate close to a source of heat and carbon dioxide due in the UK due to Brexit.



How does the steam storage work?

There are two forms of steam storage we are considering. The first is the use of steam accumulators, which hold compressed steam at a high temperature that can then feed the system. The second is the use of volcanic rocks in sealed units which trap the heat to then be released.

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Will the facility be capable of keeping up with changing technology?

As we develop our proposals, we need to forecast what is likely to happen with the availability of Refuse Derived Fuel in the future, as well as other products such as hydrogen and carbon dioxide. Capturing as many products in as efficient a way as possible will mean we can be flexible in the future as to how we deploy newer technologies.

A major advantage of locating the scheme in an area like Scanthorpe is the amount of well-trained engineers locally. All of them are capable of adaption if new technology comes along. This will be supported by the creation of apprenticeship and postgraduate opportunities through our proposals.

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Can you tell us what the screening along the A1077 is proposed to be?

We are at an early stage in the design process and have not yet developed detailed proposals for screening along the A1077. We have taken a high level view of the site made some high level assumptions that there will be need to be screening along the A1077. The entire scheme will be subject to a detailed Landscape and Visual Impact Assessment, undertaken by landscape architects. Landscaping will also need to take into account not only the design of the scheme but any potential ecological receptors or habitat that may be affected. It will be an all-compassing mitigation, if required. We will present further information on this at the statutory consultation.

We are also aware that North Lincolnshire Council, like many local authorities, has committed to planting a significant number of new trees and bushes, and we would be delighted to undertake some of this work through the development of the scheme.



Is the assumed design for a single boiler or will it be twin processing lines supplying steam into a common header?

For a plant of this size, it will probably be three lines so that if one needs to be down for maintenance two can run. Continuity of supply is particularly important in allowing flexibility to support hydrogen production, the heat network and the glasshouses. For this, we need to ensure the continuity of supply and this means multiple processing lines. We are in discussions with a range of technology providers with a good track record of delivering efficiency about ensuring the required resilience and continuity of supply.

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