

# ELECTRICITY SUBSTATION



RWE npower renewables' North Hoyle Offshore Wind Farm

Inset: This photograph shows what part of an electricity substation could look like

## TRITON KNOLL OFFSHORE WIND FARM

The questionnaire enclosed relates to a proposed site for a new electricity substation near to your property, business or organisation.

The proposed substation is needed to convert the electricity from the Triton Knoll Offshore Wind Farm to a voltage ready for onward connection to the national electricity network.

**RWE npower renewables requires only one onshore substation site in East Lindsey, Lincolnshire. We are considering four different zones in which to locate the substation.**

- One onshore substation site is required in East Lindsey for Triton Knoll Offshore Wind Farm.
- We expect to submit a planning application for the wind farm in 2011.
- We are carrying out public consultation in two phases. This information leaflet and questionnaire is part of phase one.
- First electricity generation will be in 2018. We expect the substation construction to start up to three years before this date.



RWE npower Renewables' North Hoyle Wind Farm

### ▶ Offshore wind farms

The UK has an excellent wind resource and offshore wind farms are an essential part of the UK's commitment to tackling climate change and providing a secure supply of energy.

### ▶ Crown Estate wind farm sites

In 2003 RWE npower renewables won the development rights from The Crown Estate, who own the seabed around the UK, to develop a wind farm at Triton Knoll. The Triton Knoll site is located approximately 33 kilometres (20.5 miles) off the coast of Lincolnshire and 46km (28.5 miles) from the coast of Norfolk.

### ▶ Triton Knoll Offshore Wind Farm

RWE npower renewables is currently progressing the development of the wind farm and has employed independent consultants to carry out an Environmental Impact Assessment of the scheme.

RWE npower renewables will apply for planning consent to build the wind farm up to a capacity of 1,200 megawatts, which could provide the annual electricity for around 898,000 average UK households<sup>1</sup>. The planning consent application is expected to be made in 2011.

Triton Knoll Offshore Wind Farm project will be made up of:

- between 150 and 333 offshore wind turbines. The final number will depend on the size (capacity) of the turbines
- offshore monitoring masts
- offshore electricity substations
- cables buried beneath the sea bed to make a connection between each of the wind turbines and to connect the electricity generated to the shore
- onshore underground electricity cables to the substation
- an onshore electricity substation
- possible onward underground cables to the national grid.

### ▶ Consent for the wind farm

Under recent changes to the planning system, the application for Triton Knoll Offshore Wind Farm will be made to the Infrastructure Planning Commission (IPC) for both the onshore and offshore elements.

The IPC will make a decision or recommendation based on National Policy Statements, the environmental impact of the wind farm proposal and how we deal with consultation responses in our application. Therefore, it is very important that you send us your responses before we submit our application to make sure that your comments shape our proposal.

## CONSULTATION

### ▶ Engagement with the community and public bodies

National Grid has identified East Lindsey as the appropriate location for Triton Knoll to connect to the strategic electricity network. RWE npower renewables started a process of engagement with public bodies during 2009. These bodies include local councils, the Environment Agency and Natural England. Their early comments on the landscape and environment of the East Lindsey area allowed us to identify 13 initial potential zones for the location of our substation.

Seven of these zones lie within the flood plain, therefore we have chosen to eliminate them at this stage and only reconsider them if detailed information about the zones outside the flood plain make them unsuitable. This decision is in line with national planning policy aimed at protecting vital infrastructure from flood risk. Two other zones outside the flood plain have also been eliminated from our selection because of environmental and landscape issues that became apparent as we carried out further detailed investigation into their suitability.

As a result of this process we are now carrying out this public consultation on four short listed zones, all of which have equal potential to be developed as the location for our substation.

The substation equipment will require an area of up to 16 hectares (40 acres). Each of the four zones is larger than 16 hectares, therefore we have some flexibility where the substation can be placed within each zone.

[We are sending these questionnaires to addresses within a 1.5 kilometres radius \(0.9 miles\) of each potential substation zone or 200 metres \(656 feet\) of potential access routes. Your comments will help us to determine whether one zone is more suitable than the others, or if some areas within a zone are more suitable. They will also help us design features that could reduce the impact of the scheme on the environment or landscape.](#)

We are carrying out our public consultation in two phases. The first phase asks for comments on our short listed substation zones and is the reason for the questionnaire enclosed.

Later we will carry out the second phase of our consultation which will ask for views about all aspects of the wind farm proposal, including another opportunity to comment on the chosen location and design of the onshore substation.

The second phase of our consultation will be announced via the local media and newsletters. If you live within 1.5km (0.9 miles) of the chosen substation site, within 400 metres (1,312 feet) of our cable route or 200 metres (656 feet) from the chosen access route, you will be contacted directly by us to tell you about the second phase of consultation.

### What is required for an electricity substation?

The substation equipment will require an area up to 16 hectares (40 acres). A site of this size gives us the flexibility to design the substation to try to minimise impacts on the landscape or environment. This size does not however include any landscaping, which would be designed specifically for the chosen location.

For the zones we are consulting on it is unlikely that the substation will need any large enclosed buildings, except single storey maintenance and welfare facilities. The tallest parts of the substation will be about 13 metres (43 feet) tall, but most of the equipment is expected to be below 10 metres (33 feet) tall. Because space is needed between electrical components a lot of the site will be undeveloped and is likely to be covered by gravel. The substation will also need an access road, able to carry the heavy equipment needed for the substation and provide maintenance access.

[Only one onshore substation site is required by RWE npower renewables.](#)

There are several potential offshore wind farms identified in the North Sea and National Grid has an obligation to connect these sources of electricity to the existing transmission system. National Grid will be carrying out a separate consultation for their connection from East Lindsey to the existing national grid transmission system. Local residents will be fully consulted before any final decisions are made on where and how this connection is made.

Since all of RWE npower renewables' connections will be underground, we have decided that the substation location is the most important onshore decision in our scheme, as it has the biggest potential impact on the community. Therefore, we are not consulting on the underground cable route at this stage but will consider its impact in our decision. You will be able to comment on the cable route in the second phase of our consultation process.



This photograph shows what part of an electricity substation could look like



RWE npower renewables' Rhyl Flats Offshore Wind farm

### ▶ How to get more detailed information

This questionnaire is a simplified version of the reports issued to public bodies, such as the Environment Agency and Natural England, for their comments. If you would like to see more detailed reports, please visit our website at [www.npower-renewables.com/tritonknoll](http://www.npower-renewables.com/tritonknoll) or contact us using the details shown.

### ▶ Your response can make a difference

RWE npower renewables understands that people living and working locally have a wealth of knowledge and may be able to identify issues affecting these potential substation zones that public bodies are not aware of. The purpose of this questionnaire is to capture that knowledge and to ask you to identify any issues we should take into account in our selection process.

Please let us know your comments by completing the questionnaire.

You will receive a questionnaire if your postcode is within a 1.5 kilometres (0.9 miles) area around the substation zone boundary, or if your postcode is within 200 metres (656 feet) of the possible access routes to the zone. If you live near more than one substation zone, you will receive separate questionnaires for each zone.

### ▶ RWE npower renewables

RWE npower renewables is the UK subsidiary of RWE Innogy and is committed to developing and operating wind farms and hydro projects to produce renewable electricity. The company operates 18 hydroelectric power projects and 23 wind farms in the UK, including the country's first major offshore wind farm, North Hoyle. RWE npower renewables is also working with marine energy technology partners to deliver new wave and tidal stream power projects in the UK. Through our existing projects and those in development, we are working in close partnership with communities and companies throughout the UK.

If you would like this information in larger print please contact us on:  
**01793 474 013**  
(and leave a message)

## CONTACT US

For further information about the project you can contact RWE npower renewables on:

### E-mail

[tritonknoll@npower-renewables.com](mailto:tritonknoll@npower-renewables.com)

### Post

Freepost RSGS – ZSUS – KREJ  
Triton Knoll Offshore Wind Farm  
RWE Npower Renewables Ltd  
Auckland House  
Lydiard Fields  
Great Western Way  
SWINDON  
SN5 8ZT

### Telephone

01793 474 013

This is an automated service so if you call please choose from the list of options and leave a message.

### Web

You can visit our website at:

[www.npower-renewables.com/tritonknoll](http://www.npower-renewables.com/tritonknoll)

<sup>1</sup>Energy predicted to be generated by the proposal is derived using wind speeds monitored in the local area. This enables a calculation to be made to estimate the average annual energy production for the site based on 200 turbines each of rated capacity 6.15 megawatts. The energy capture predicted and hence derived homes equivalent or emissions savings figures may change as further data are gathered. Equivalent homes supplied is based on an annual electricity consumption per home of 4,700 kWh. This figure is supported by recent domestic electricity consumption data available from The Digest of UK Energy Statistics and household estimates and projections from the UK Statistics Authority.