

The case for wind energy

Using wind energy to generate electricity avoids greenhouse gas emissions. By displacing fossil fuels, wind energy helps to meet international, national and regional targets that have been set to combat climate change.

However, the benefits of using wind energy are not confined to tackling climate change. Problems associated with conventional electricity generation are also avoided, including poor health related to poor air quality, damage to the natural and built environment caused by acid rain, and – in the case of nuclear – radiation-related health and safety problems.

In terms of energy security, wind energy is inexhaustible, is not subject to fuel-price rises or the uncertainty of international fuel markets, and has no requirement for fuel transportation, drilling or mining.

Furthermore, wind farms are easily and quickly decommissioned, leaving no significant adverse legacies for future generations.



Meet the team

Colin Donald
Construction Site Manager

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Colin Donald is the site manager for The Grange Wind Farm and will be based on site throughout the construction phase. Colin can be contacted if you have any concerns about activities relating to construction.



Alison Jones
Community Relations Manager

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Alison is community relations manager for The Grange Wind Farm. Please contact her if you have any questions regarding the community fund or need general information about the company or renewable energy. Alison is also the contact person for any press enquiries regarding The Grange.



About RES

RES is one of the world's leading independent renewable energy developers. We have developed and/or built more than 5 gigawatts (GW) of wind capacity worldwide. In the UK, we currently have more than 1GW of onshore wind energy either constructed, under construction or consented.

We work closely with communities, local authorities and independent experts to ensure that our wind farms are built to the highest standards. We want to be good neighbours and will listen to and address any questions or concerns you might have. Please contact our site manager or our community relations manager in the first instance (see above).

THE GRANGE WIND FARM



Construction Newsletter 1

January 2012

Welcome to the first in a series of newsletters from RES designed to keep the local community informed throughout the construction of The Grange Wind Farm.

THE COUNTDOWN TO GREENER ENERGY BEGINS

Work to construct The Grange Wind Farm on land between Sutton Bridge and Tydd St Mary is about to begin. Once completed, the wind farm will generate up to 14MW (megawatts) of renewable electricity. It will generate electricity equivalent to approximately one quarter of the annual consumption of all the houses in the South Holland District*.

RES was given consent to build the wind farm in October 2010 following a Public Inquiry. Since then, we've been busy finalising the details so that the project can be completed on time and with minimum disruption to the local community. We expect to begin work on site around the turn of the year and construction will take up to 18 months.

The wind farm will begin generating in Spring 2013, triggering a community benefit fund of £28,000 per year for local people to invest in local projects.

You can learn more about our construction programme, what it takes to build a wind farm and the community benefit fund inside.

The Grange – Key Facts

Location:
Tydd St Mary's Marsh

Number of turbines:
7

Installed capacity:
14MW

Homes equivalent:
10,000 houses* (Approx)

Community Benefit Fund:
£28,000 per annum for 25 years



Four Burrows Wind Farm in Cornwall has been generating renewable electricity since 1995.

*Based on RES studies and annual average electricity consumption figures from the Department of Energy and Climate Change 2008.



For further information, please contact:

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Want to know more?

We would be happy to cover any issues in more detail in forthcoming newsletters. If you have any suggestions, please let us know.

More information about wind power can be found at the following websites:

www.renewable-uk.com

Renewables for your home: www.energysavingtrust.org.uk

HOW DO YOU BUILD A WIND FARM?

Building a wind farm is a highly complex process that requires a lot of thought and care. Here are some of the tasks that the RES construction team will be performing over the next 12 months.

Getting there

Access is one of the key considerations when selecting a potential wind farm site. Transporting people and materials generally involves only very minor additions to local traffic levels. However, the turbine components themselves are classified as abnormal loads and are delivered to site using special lorries.

The most appropriate route to The Grange site uses the A17 from Newark-on-Trent towards Sutton Bridge. The wind farm site is then accessed from the A1101. Minor improvement work will be required to enable delivery of the larger turbine components.

To minimise disruption to other road users during construction and turbine component delivery, a traffic management plan has been developed and agreed in advance with the Highways Agency, Lincolnshire County Council and the police.

Making tracks

One of the first things we do on site is to prepare the access tracks which will allow the turbines to be delivered, erected and serviced. Wherever possible we upgrade and use existing tracks, which brings a number of environmental benefits by:

- reducing disturbance to existing flora and fauna;
- reducing the amount of aggregates required – and thereby;
- reducing the number of vehicle deliveries using local roads.

Firm foundations

The seven turbines at The Grange will stand on piled concrete foundations which will be connected by a pile cap approximately 14 metres in diameter and 2.5 metres in depth. Work on the foundations will start in Spring 2012. These solid foundations give the turbines a firm base on which to stand for the 25 year life of the wind farm.

Once the turbines arrive on site they are bolted onto the pile cap. The top of the concrete foundation lies up to one metre below the normal ground surface and is back filled with soil, so the land right up to the base of the turbine can be re-instated.

Work on site will take place between Monday and Saturday from 6.00am to 8.00pm. Site working may extend to seven days per week for limited periods during turbine erection and commissioning, dependent on weather conditions.

Going up

The wind turbines are delivered in parts and assembled on site using a crane. The delivery of the blades, towers and nacelles for The Grange Wind Farm is expected to begin in Winter 2012. The nacelles are the box-like structures at the top of the tower, which house the gear box and generator that enable the movement of the blades to be converted into clean, green electricity.

In addition to the access tracks and the seven turbines, there will be a number

of supporting structures put up on the site. Some, like the site store and compound, will be temporary. Others, like the sub-station which will take the electricity from the turbines and feed it into the national grid, will be permanent.

It will take up to 18 months to complete The Grange Wind Farm. Once it is operational, the wind farm will provide a community benefit fund of £28,000 per year for local people to invest in local good causes (see below).

The Grange has an operational life of 25 years.

COMMUNITY BENEFITS

The UK aims to generate 20% of its electricity from renewable resources by 2020. While The Grange Wind Farm will contribute towards this national renewable energy target, it is only right that the local community should benefit directly from hosting the wind farm. This is the purpose of the Community Benefit Fund.

The Grange Wind Farm will provide £2000 per MW of installed capacity per year for the local community to invest in projects that are important to them. That's £28,000 every year for 25 years – or £700,000 over the lifetime of the wind farm. RES has asked the charitable trust Lincolnshire Community Foundation to manage the fund, but a panel of local people will make the final decision on where the money is spent. Further details of how organisations can apply for funding will be made available when the wind farm nears completion.



Construction of a turbine at Wolf Bog Wind Farm, Northern Ireland

Did you know?

By displacing fossil fuel generation, The Grange Wind Farm could help to prevent up to 19,800 tonnes of CO₂ from entering the atmosphere*.

Stay safe

For your own safety, we must ask you not to drive into, or park at, the site entrance from North Road. Please do not attempt to slow or stop along the A1101 or the road between the A17 and Tydd Gote in order to view the construction activities. To do so would cause inconvenience to other road users at least, and at worst may result in an accident.

*Based on RES studies and where 430g CO₂/KWh represents the energy mix in the UK.

OPPORTUNITIES FOR LOCAL SUPPLIERS

RES will employ local companies during the construction and operation of The Grange Wind Farm where the services and supplies are available to match requirements. Among the opportunities are:

- Construction materials suppliers – concrete, aggregates, building materials, etc
- Construction subcontracts – civil engineering, electrical and building contractors, etc
- Plant hire contractors – excavation, earthworks, craneage
- Labour hire companies – engineers, plant operatives, labourers, etc

Projects of this nature inevitably require some people from outside the local area. If you can offer local accommodation or catering services, we'd like to hear from you too.

We operate to stringent environment, safety and quality standards and these form an important part of our contractor selection procedure. If you are interested in supplying any of the above services, please email: François Loiez, Construction Project Manager, francois.loiez@res-ltd.com

CONSTRUCTION MILESTONES

Autumn 2011 Preparation for site work starts

Winter 2011 Improvements to North Road and Long Road

Spring 2012 Work on turbine foundations begins

Summer 2012 Electrical works

Winter 2012 Turbines delivered to site

Spring 2013 Electricity generation begins