

Lodge Wind Turbine

Background

The RSPB has understood the connection between climate change and biodiversity for many years, supporting work at both a European and International Level. However they felt it was crucial to act as a role model in this field, and they developed two key internal objectives:

- 1) to reduce carbon emission by 30% by 2020 following the Energy Act's legal requirement.
- 2) to gain 50% of energy used by the RSPB from renewable energies owned by them, or placed on their lands.

The vision for the wind turbine formed part of these objectives. After 15 years, this vision has finally been realised and is one of the biggest steps the RSPB has taken towards reducing their carbon emissions. The wind turbine was chosen as a visual statement of the RSPB's dedication to sustainability right at their headquarters, but also because wind is the most cost effective option of all renewables and their headquarters use more electricity than any other RSPB site.

Issues Faced

Funding for the wind turbine was always the biggest issue that the RSPB faced. They had the land to use but not the capital to build the turbine. Furthermore, they didn't want to carry the financial risk if it failed - or the costs if it needed repairing. They were still a charity and donors' money needed to be used for the right cause.

The RSPB also had to ensure that birds and wildlife would not be harmed by the turbine.

It was going to be difficult for them to carry out the scheme without the support of the local community.

They needed to ensure that the purpose of the turbine was true to their core objectives and did not dilute or distract them from this aim – the protection of birds and wildlife.

Actions Taken

To fund the turbine, the RSPB established a business partnership with Ecotricity, whereby the RSPB leases out the land to Ecotricity – who paid for the initial capital costs of the turbine. The RSPB acts as the landlord, and Ecotricity is the tenant. However the RSPB is also a client of Ecotricity and purchases the generated electricity from them. This ensured

Ecotricity would manage any risks, would project manage the set up and delivery, and would carry out any future repairs.

Managing any impact on wildlife was crucial. Before applying for planning consent, three years of research was conducted to ensure that the location at the headquarters was suited for this type of renewable energy, in terms of geography, ecology and ornithology. This included other potential impacts on the environment e.g. landscape and visual amenity, cultural heritage, hydrology, noise, transport and access, and shadow flicker.

One part of this research included taking measurements at the spot chosen for the wind turbine, so a permit was needed to erect a meteorological mast to collect data for about a year. This research ensured that the location was well chosen, as well as offering lenders the security that the turbine would produce enough energy.

The research focused on impact on wildlife, and ensured that the turbine would overachieve on the set standards. The data demonstrated that the site is a low risk site for birds, even with the turbine. The species with most concern were bats, and due to their activity the turbine is shut down 30 minutes before dawn and dusk, until 30 minutes after.

The impact on the local community was also taken into account at the planning stage, and this was done by carrying out direct community engagement; for example through information sessions and a [website](#). They are also liable for a [grant scheme](#) through Ecotricity, which gives money to charitable projects or initiatives that promote the Green Britain vision for sustainable energy, food and transport.

Furthermore, before the submission of the planning application, Ecotricity undertook an extensive programme of consultation with all key stakeholders including Central Bedfordshire Council, Natural England (NE), the Bat Conservation Trust (BCT), the Environment Agency (EA), Network Rail, Defence Estates (DE), the Civil Aviation Authority (CAA), National Air Traffic Service (NATS), Luton Airport and several telecommunication operators.

Outcomes

The business partnership ensures that all eventualities are accounted for - the objective was that the wind turbines would not cost anything or be a risk for the RSPB, as they did not want to use members' money. The agreement also includes a detailed maintenance plan about who is responsible for what, including repair costs. Ecotricity can, for example, monitor the turbine remotely via a software, through which they can change the settings according to the current situation such as during a storm. The turbine is estimated to last around 25 years, by which point the agreement could either be renewed with a new turbine, or replaced by new technology.

Looking at the RSPB's rate of consumption it means that the turbine will generate more than half of the RSPB's total need of electricity in the UK. As a result it will reduce UK carbon emissions by 600 tonnes of CO₂ every year, and the carbon emissions of the RSPB headquarters are expected to fall by approximately 63%.

From the data collected in the testing phase prior to building the turbine it can be estimated that the turbine produces 1,85 million kWh per year - the equivalent of power used by 448 medium sized houses

It had a great impact on the general feeling amongst staff, they are proud and impressed and the project has had a great reception overall.

In comparison to other wind turbines, the RSPB's turbines had relatively few objections from locals.

Cost

Approximately £1 million

The RSPB provided staff time for the planning permission and they are leasing the grounds to Ecotricity.

Ongoing Monitoring

The RSPB and Ecotricity continue to measure the wind through a meteorological pole on top of the turbine, to ensure a continued collection of data. At the moment this data, just as the new survey undertaken to assess the impact on wildlife, is not yet conclusive. However, once a year of full usage has passed, it should be interesting to re-evaluate.

Monitoring the area is still part of the project, to ensure that there is little to no impact on wildlife.

Lessons learnt

“Do not underestimate the complexity of legal arrangements; seek advice from experienced professionals who are specialised in the field.”

“Make sure you get the right expertise at the right point in time. Do not attempt to handle such a big project without the right experts by your side. This can be done either by working together with a company such as Ecotricity, or by hiring consultants.”

“Ecotricity took a leading management role, but a lot of RSPB staff time was needed, particular around securing planning permissions. Prepare for a large investment of hours and do not underestimate the staff input needed.”

Recommendations to others undertaking a similar project

“Do community work in preparation, during the project and afterwards to prevent objections”

“If you can afford to pay for it yourself, do so, rather than leasing from a company - even if it means you have to borrow the money. However, keep in mind the advantages from leasing too, it can help with the project management and maintenance.”

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Supporting documents

[Non-technical summary - assessments](#)

[FAQs about the Lodge Wind Turbine](#)

Acknowledgements

This case study was compiled by Lisa Antonia Brausem with assistance from Chloe Hampson, Rachael Murray and Sarah Alsbury.