

Toddleburn Wind Farm

Environmental Statement Non-technical Summary



I & H BROWN
TODDLEBURN LIMITED

I & H Brown Toddleburn Ltd

July 2004

Introduction

I & H Brown Toddleburn Ltd proposes to develop a wind farm near Oxton, in the Scottish Borders. The proposed wind farm consists of up to 12 turbines, connected by access tracks and accessed via a track from an existing road (A7). The turbines will be connected to an overhead power line approximately 3 km to the east of the site, via a sub station to be constructed within the development site.

An Environmental Impact Assessment (EIA) has been carried out as part of the planning process for the development. This document is the Non-technical summary of the Environmental Statement (ES) that was prepared as part of the EIA process.

Need and alternatives

The UK government is committed to achieving a reduction in 'greenhouse gases' and as part of this, has set a target for 10% of our energy requirements to be produced from renewable resources by 2010. It recently announced Britain's commitment to renewable energy would increase, with output rising by 1 per cent a year after 2010, to hit 15.4 per cent in 2015-16.

To reinforce this target, the Scottish Ministers have set a target of generating 15% of Scotland's electricity from renewable resources by 2010, and 40% by 2020. The Scottish Ministers more recently announced an "aspirational target" to produce 40 per cent of energy from renewable sources by 2020. The proposed development of the Toddleburn wind farm would make a valuable contribution to this target.

A total of 15 potential sites across Scotland were considered by I & H Brown Ltd for wind farms. The main criteria for selection were potential wind yield and ease of connection to the electricity grid. Other aspects were taken into account including nearness to homes, ease of access to the site and visual effects. The Toddleburn site was selected as it was considered to be amongst the least sensitive to development constraints in terms of landscape, visual amenity and natural heritage effects.

Existing environment

The Toddleburn wind farm site is located approximately 8km to the north west of Lauder. The site lies within a hilly area of mainly improved grassland, primarily managed for the grazing of sheep, and includes an area of coniferous woodland, South Hartside Forest. The nearest residential properties at Hartside are located 1 km from any proposed turbine. There are no nature or other conservation designations within the site boundary.

The proposal

The wind farm will comprise up to 12 turbines (Figure 1). To minimise visual effects, the 3 western-most turbines will have hub heights of 65 m, whilst the other 9 will have hub heights of 80 m. The rotor diameter of all turbines will be approximately 90 m, and therefore the blade tip height of the turbines will be a maximum of 110 or 125 m. The generating capacity of each turbine will be up to 3.0 MW, giving a total generating capacity of 36 MW.

The average consumption per household of electrical power in the UK is 4700 kWh, therefore the proposed development will generate sufficient electricity to meet the needs of a total of approximately 20,129 households. Recent statistics indicate that there are 47,132 households in the Scottish Borders. The proposed development would therefore serve the equivalent of approximately 43% of these households.

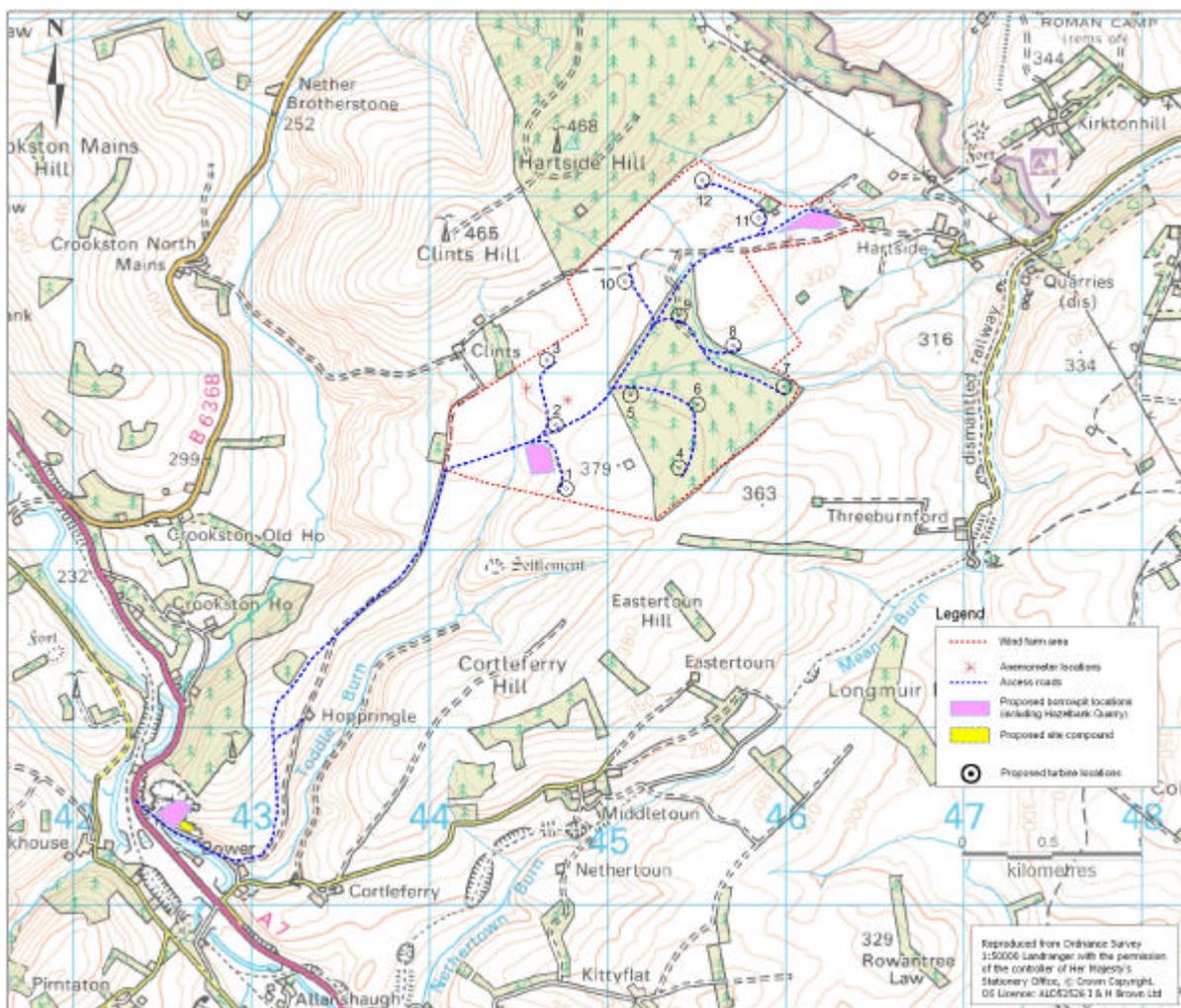
An existing view of the site and a photomontage of the proposed wind farm, as viewed from the B6368 north of Crookston, is shown overleaf. The location of this view is viewpoint 19, as referred to later in this document.

Construction

Access to the site will be from the A7, via Hazelbank Quarry. Widening of the quarry entrance will be required, and a temporary construction compound with a site office will be established at the quarry. A total length of approximately 10 km of new access tracks will be constructed to provide access to the site and link the turbines. Stone for track construction will be taken from the quarry and two borrow pits to be dug on site. Electricity cables will be laid underground alongside the tracks, and connection to the national grid will be via a small sub-station built on site.

Turbine components will be transported as abnormal loads along the A7 from the north. Short-term road closures, subject to police escort, will be required (possibly outwith daytime hours), and some temporary, minor road works. The maximum daily level of construction traffic is expected to be 78 vehicles during the busiest construction period. The construction period is expected to be last for 8 months, with the middle 36 months being the busiest in terms of construction traffic.

Figure 1 – Site layout



Operation

The turbines have a design life of up to 25 years. Once operational, the site will require scheduled service visits approximately once or twice per week by operations staff in four-wheel drive vehicles. Extended visits for servicing, typically every six months, and unscheduled maintenance may also be required. It may be necessary to transport equipment and materials to the site during some maintenance works.

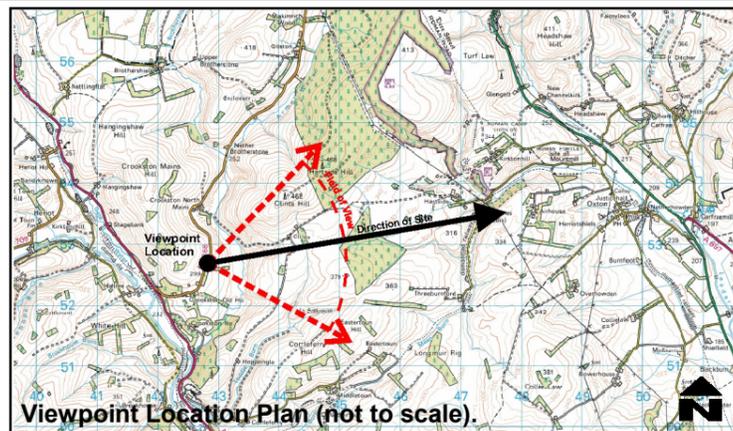
Decommissioning

At the end of the wind farm's operational life, decommissioning will include the removal of the turbines, and restoration of the site to a standard agreed with the existing local authority. Reinstatement of the site will be achieved by covering with soils and re-seeding areas where appropriate.

Existing view



Photomontage



Notes:

O.S. Grid reference:	342828, 652693	Field of view:	75.4 degrees
Elevation:	297m AOD	Viewing distance:	30cm
Date:	4 February 2004	Distance to Nearest Turbine:	1.87km
Time:	11:45		
Viewing Direction:	East		
Camera:	Digital SLR	Drawn by:	Envision
Lens:	50mm equivalent	Project number:	4E/622/001
		File name:	

Figure Title:
VIEWPOINT 19
B6368

Figure Number: D46

Project Title:
Toddleburn Wind Farm



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Sustainability

The proposed development has taken into account the principles of sustainability. Specific aspects of the project which accord with these principles are:

- the long-term sustainable use of the land for renewable energy production;
- selection of a site which avoids designated or protected areas of the landscape and environment;
- selection of a site that avoids damage to the built and cultural heritage;
- sourcing rock from an adjacent quarry and on-site borrow pits, reducing volumes of imported material;
- design of the development to avoid giving rise to hazards, pollutants or flooding;
- design of the site layout to reduce environmental effects;
- using existing access tracks where possible; and
- the provision of local employment opportunities.

Environmental Impact Assessment

The ES has been prepared in accordance with the requirements of the *Environmental Impact Assessment (Scotland) Regulations 1999*. The objectives of the ES are to:

- identify the effects of the wind farm;
- evaluate the extent and significance of these effects;
- identify measures to be taken to avoid or mitigate significant effects; and
- to identify opportunities to enhance or otherwise benefit the existing environment.

Consultation has played an important role in the design process of the wind farm. Consultations have been carried out with statutory consultees and with appropriate interested parties. The aim was to ensure that their views have been sought and taken into account in the development process. Important issues that need to be addressed in the ES were identified as a result of this consultation process.

The details of the proposed development were presented to the public at two public exhibitions held at Oxton and at Fountainhall. The main issues raised by members of the public during the public meeting and the exhibitions were visual effects of the turbines, traffic and road safety, noise and access route.

The overhead grid connection power line is the subject of a separate planning application, and hence has not been addressed in this EIA. Each of the remaining issues is addressed in the relevant sections of the ES.

Receptors

The main issues that have been examined as part of the EIA are landscape and visual amenity, ecology, cultural heritage, traffic, noise, hydrology, access and recreation, and telecommunications. For each issue, the existing environmental conditions were assessed, and the changes as a result of the development predicted. These changes were evaluated against relevant criteria to determine the significance of the effects of the changes.

Mitigation and enhancement

The design of the proposed scheme has evolved with the EIA process to avoid or reduce significant environmental effects of the scheme. These changes comprise:

- removal and relocation of turbines to reduce landscape and visual effects;
- relocation of turbines to avoid areas of local nature conservation value;
- location of turbines to avoid possible interference with nearby radio transmission paths;
- relocation of turbines to reduce operational noise levels at nearby dwellings;
- temporary diversion of Right of Way to maintain access;
- selection of on-site borrow pit locations to avoid areas of local nature conservation value;
- planting additional species of broad leaf trees in selected areas of the clear-felled South Hartside Forest; and
- management of on-site drainage to reduce the risk of pollution of water courses.

I & H Brown Toddleburn Ltd has undertaken to set up a management scheme for Airhouse Wood, a designated site of nature conservation interest, to the east of the site. I & H Brown Toddleburn Ltd has also undertaken to establish a community fund to support a wide range of local projects.

Significant effects

No significant effects are expected to occur following mitigation in relation to traffic, noise, telecommunications, ecology, hydrology or access and recreation issues associated with the proposed development. Predicted operational noise levels at properties closest to the development are expected to be below the minimum threshold for wind farms.

A number of significant effects on landscape, visual amenity and cultural heritage are predicted to occur as a result of the proposed Toddleburn wind farm development, and these have been identified by the EIA as follows:

People

- adverse effect on visual amenity at Kirktonhill, farm track at Clints, minor road from Hillhouse to A68, the minor road from Hillhouse to the A68, and the B6368 (negative, long term); and
- cumulative adverse effect on visual amenity at Kirktonhill, the minor road Hillhouse to the A68, Netherhowden Bridge, the A697, the B6362 from Stow to Lauder, and the farm track at Clints (negative, long-term);

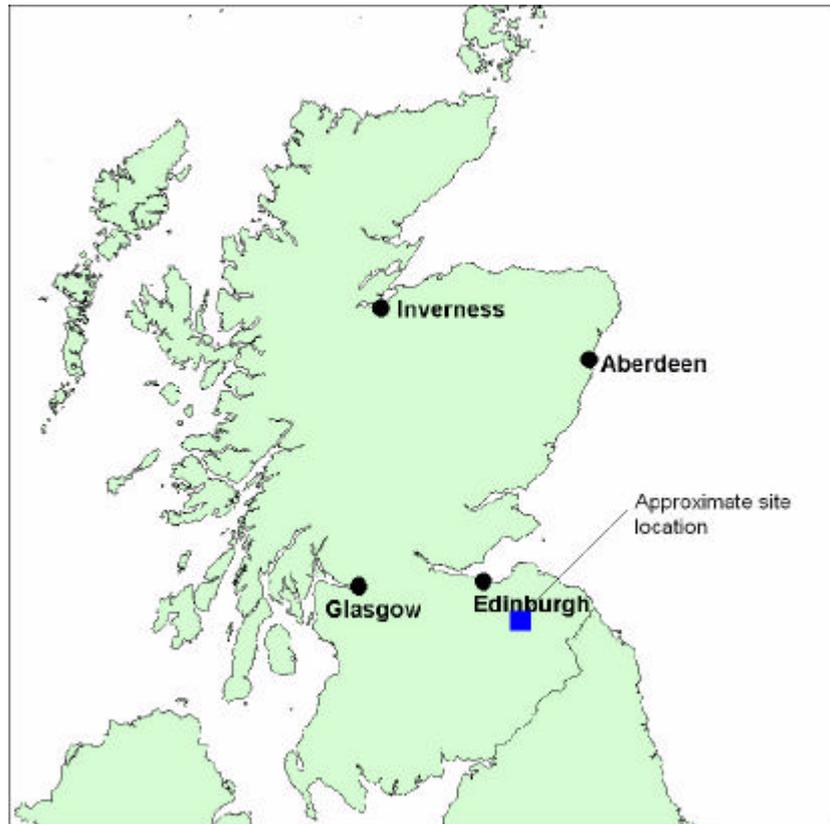
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- adverse effect on landscape character at, Kirktonhill, the minor road from Hillhouse to A68, minor road from Fountainhall to Heriot Mill, the farm track near Clints and the B6368 (negative, long term);
- cumulative adverse landscape character effect on Kirktonhill, the minor road from Hillhouse to the A68, the A697 and the farm track at Clints (negative, long-term); and
- 23 designated cultural heritage features within a 30 km radius from the wind farm will be indirectly affected with regard to their setting.

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