

6. SITE CONTEXT

6.1 INTRODUCTION

This chapter provides a broad overview of the natural and man-made environment in the vicinity of the proposals, identifying key natural features, designations, and developments. It is not intended to provide a detailed analysis of all aspects of the site; references are provided to the relevant chapters where more details of each aspect of the site and the proposals are provided.

6.2 LOCATION

The Viking Wind Farm site occupies land in the Central Mainland of Shetland. It extends approximately 11 km to the south and 9 km to the north of the village of Voe, which itself lies 29 km by road to the north of Lerwick. At its widest point, the site extends approximately 11 km from east to west, stretching from Nesting to the vicinity of Aith. For the purposes of the Environmental Statement, as well as for practical construction and engineering purposes, the site has been split into four natural quadrants, generally bounded by public roads or the coast, with the village of Voe at the meeting point. The quadrants are as follows (Figure 1.1):

- Delting (north-west) quadrant
- Collafirth (north-east) quadrant
- Nesting (south-east) quadrant
- Kergord (south-west) quadrant

6.3 TOPOGRAPHY

The site is a series of hills, varying in altitude between approximately 50 m and 280 m, with the higher points generally in the Delting and Kergord quadrants. In the latter, Mid Kame rises to about 190 m and the hills of West Kame to between 260 m and 280 m. The hills in the Delting quadrant reach heights of between 200 m and 250 m. The landform in these western quadrants is a system of ridges orientated north-south, but veering towards the north-east in the northernmost section of the site to the west of Dales Voe. The topography in the eastern section is more plateau-like in form; the highest point is Hoo Kame, on the western edge of the Nesting quadrant, which reaches 209 m.

The topography of the site is significant not only for its suitability for a wind farm, but also in terms of its interactions with the human and the natural environments. More details are provided elsewhere in this Environmental Statement, in particular in chapters 8 (landscape character), 9 (visual impact) and 14 (soil and water).

6.4 SETTLEMENTS

The principal settlements are (Figure 1.1):

- Voe, near the centre of the site;
- Brae, at the western margin of the Delting quadrant;
- Gonfirth, East Burrafirth and Aith, west of the Kergord quadrant;
- Vidlin, east of the Collafirth quadrant;
- Laxo, south of the Collafirth quadrant;
- Laxfirth, east of the Nesting quadrant; and
- South Nesting and Skellister, south and south-east of the Nesting quadrant.

The nearest occupied properties to the sites of proposed wind turbines are at:

- Graven (1km);
- Trondavoe (1km);
- Laxfirth (1km);
- Sand Water (1km);
- Hamars (1.1km);
- Newing (1.1km);
- Catfirth (1.2km); and
- Setter House (1.2km).

6.5 TRANSPORT INFRASTRUCTURE

The main port facilities on the Mainland of Shetland are at Lerwick, Garths Voe and Sullom Voe. Vehicle ferries operate from Toft (to Yell), Vidlin (to Out Skerries and Whalsay) and Flugarth (to Whalsay).

There are airfields at Sumburgh (at the extreme southern end of the islands, over 40km from the Viking Wind Farm site) and Scatsta (immediately to the north of Delting quadrant).

The main roads in the vicinity of the site are:

- The A970 (Lerwick - Voe - Brae)
- The A968 (Voe to Toft and Yell ferry, also leading towards Sullom Voe Oil Terminal)

Secondary roads in the vicinity of the site are:

- B9071 (Vidlin-Voe-Aith)
- B9075 (Laxo to South Nesting and the A970 at Catfirth, and then A970 Sand Water to Weisdale)
- B9076 (Mossbank-Sullom Voe-Brae).

It is likely that some or all of these facilities would be used in the construction and operation of the Viking Wind Farm. Shetland is fortunate in having a good-quality and relatively lightly used road network, meaning that few modifications would be needed to make it suitable for the types of loads required during construction. For more details see Chapter 15, Roads and Traffic.

6.6 LAND USE

The site is used almost exclusively as grazing land and is under a number of ownerships, tenancies, crofting and common rights. There is very little development on the site itself, which consists mainly of open heather moorland and blanket bog (for more details see Chapter 10, Non-avian Ecology, Chapter 14, Soil and Water and Appendix 10.9, Habitat Management Plan). Minor developments on the site include transmission masts (for example at Hill of Swinister, in Delting quadrant, and Hill of Sound, in Kergord quadrant) and small agricultural buildings (for example at Flamister, north of Catfirth).

Sullom Voe Oil Terminal is the principal industrial development in the vicinity of the site, approximately 2.5km to the north of the nearest proposed turbine. Other important industries in the area include commercial sea fishing and shellfish farming and tourism.

6.7 ELECTRICITY INFRASTRUCTURE

Shetland is an 'islanded' electricity system, with no connection to mainland Scotland. The principal sources of generation are at Lerwick Power Station and gas turbines at Sullom Voe Oil Terminal. The network is based upon 33 kV overhead lines and inter-island cables.

6.8 WIND FARMS

The only operating wind farms on Shetland are two adjacent sites, Burradale I (1.98 MW) and Burradale II (1.7 MW). They are located at Burra Dale, roughly 5km west of Lerwick and 11km south of the proposed Viking Wind Farm. In total they comprise five wind turbines. An application was submitted in April 2009 for permission to construct a wind farm of six turbines at Cullivoe on the island of Yell, approximately 30 km north of the nearest part of the proposed Viking Wind Farm.

6.9 NATURE CONSERVATION DESIGNATIONS

6.9.1 Introduction

There are no statutory nature conservation designations within the site boundary. Protected sites within 5 km of the boundary are identified below. These are either Special Areas of

Conservation (SACs)¹ or Sites of Special Scientific Interest (SSSIs)². Further details are provided in Chapter 10, Non-avian Ecology, and the sites are illustrated on Figure 10.1 in Volume 3.

6.9.2 SACs

There are no SACs within the application site. There are two SACs in the study area:

- Yell Sound Coast is a site of European nature conservation interest and is a SAC and SSSI (GR HU467755). The site covers 1,541 ha, comprising a complex of islands and coastline, characterised by low-lying peaty coastlines. The closest section of the SAC/SSSI to the site is Fora Ness. It is designated for supporting approximately 2% of the UK otter population (and 22% of the Shetland population) and 1% of the UK common seal population. Fora Ness is approximately 2km from the nearest proposed turbine location at its nearest point.
- Sullom Voe SAC is designated for large shallow inlet and bay habitat, supporting boreal-arctic (northern) species-rich communities. The SAC includes the entire sea area of the Voe, the closest part of which to a proposed turbine location is Garths Voe, at just over 1km distance.

6.9.3 SSSIs

There are no SSSIs within the application site.

(a) Delting quadrant

SSSIs near the Delting quadrant are described below:

- Muckle Roe Meadows SSSI (number 10 on Figure 10.1) extends to 2.72 ha and is designated for its vegetation, particularly four hawkweed species. It is about 4km from the nearest proposed Viking Wind Farm turbine.
- Quoys of Garth SSSI (number 17 on Figure 10.1) is designated for its importance in the study of vegetation and environmental history during the Flandrian in Shetland. It is about 2km from the nearest proposed Viking Wind Farm turbine.
- Dales Voe SSSI (number 12 on Figure 10.1) is designated for saltmarsh habitat. It is about 1.3km from the nearest proposed Viking Wind Farm turbine.

¹ A Special Area of Conservation (SAC) is a site designated under the European Directive on the Conservation of Natural Habitats and Wild Flora and Fauna (92/43/EEC) (known as the “Habitats Directive”) to protect sites that are considered rare because of their habitats or the species contained within them. The Habitats Directive is enacted in the UK through the Conservation (Natural Habitats &c) Regulations, 1994.

² A Site of Special Scientific Interest (SSSI) is a site notified by Scottish Natural Heritage (SNH) under the provisions of the Wildlife and Countryside Act, 1981 and subsequent amendments, because it is of national nature conservation or geological importance.

- The Ayres of Swinister SSSI (number 15 on Figure 10.1) is designated as an outstanding example of a submerged coastline and associated shingle land-forms. It is about 2km from the nearest proposed Viking Wind Farm turbine.
- Burn of Valayre SSSI (number 11 on Figure 10.1) covers 5.85 ha, and is designated for supporting scrub habitat rare in Shetland. It is about 1.1km from the nearest proposed Viking Wind Farm turbine.
- Voxter Voe and Valayre Quarry SSSI (number 13 on Figure 10.1) extends to 23.8 ha and overlaps in part with the Burn of Valayre SSSI. The site is designated for national geological importance. It is about 1.7km from the nearest proposed Viking Wind Farm turbine.

(b) **Nesting quadrant**

SSSIs near the Nesting quadrant are described below:

- Catfirth SSSI (number 3 on Figure 10.1) covers 0.16 ha of limestone ravine, designated for being one of two sites in Shetland that support *Corylus avellana* (hazel). It is about 1.2km from the nearest proposed Viking Wind Farm turbine.
- Loch of Girlsta SSSI (number 4 on Figure 10.1) covers 101.7 ha and is one of the best examples of the few valley trough mesotrophic lochs in Shetland. It supports Arctic char and ferox brown trout. It is about 1.9km from the nearest proposed Viking Wind Farm turbine.
- Laxo Burn SSSI (number 2 on Figure 10.1) covers 0.5 ha and is designated for vegetation, in particular the only population of weak-leaved hawkweed, *Hieracium attenuatifolium*, which is specially protected. It is about 1.4km from the nearest proposed Viking Wind Farm turbine.

(c) **Kergord quadrant**

SSSIs near the Kergord quadrant are described below:

- Burn of Lunklet SSSI (number 7 on Figure 10.1) covers 1.4 ha of the banks of the burn. The site is designated for its vegetation, in particular the largest population of Shetland hawkweed, *Hieracium zetlandicum*, which is specially protected.
- Kergord Plantations SSSI (number 6 on Figure 10.1) consists of several parcels of land. The SSSI covers 6.45 ha designated as the most extensive mixed woodland area in Shetland.
- Sandwater SSSI (number 5 on Figure 10.1) covers 38.3 ha and is a relatively shallow mesotrophic loch designated for breeding waterfowl and extensive beds of *Typha latifolia* (common bulrush).

6.10 OTHER DESIGNATIONS

The site does not lie within a National Scenic Area (NSA)³ or Area of Great Landscape Value (AGLV)⁴. See the application boundary illustrated in Figure 3.1. The closest section of the Shetland NSA is at Muckle Roe, west of the site. For further details of landscape designations see Chapter 8, Landscape Character.

The following areas are designated as Local Protection Areas in the Shetland Local Plan for being important local landscapes:

- Lunna House and the Böd, north east of the Collafirth quadrant;
- Ling Ness and Loch of Linga, east of the Nesting quadrant;
- Broch on the Holm in the Loch of Benston, east of the Nesting quadrant;
- The Broch of Railsbrough, south-east of the Nesting quadrant;⁵
- Voe, south of the Delting quadrant;
- Brae NW foreshore, west of the Delting quadrant;
- Firth/Mossbank, north-east of the Delting quadrant;
- Garden, Bixter, south west of the Kergord quadrant; and
- Hellister, Weisdale, south east of the Kergord quadrant.

6.11 COMMUNICATIONS, MILITARY AND AVIATION ACTIVITY

A number of communications links cross the proposed wind farm area. These are mainly microwave data links concerned with utility operations (water and electricity networks, for example). Transmission masts are sited at Hill of Sound, near Weisdale, and Voe; and these link with other transmission masts at Sumburgh, Tumblyn, Brae, Collafirth, Firth, New Park, Gardentown and Shurton Hill.

There are no Military Tactical Training Areas near the site.

The RAF radar base at Saxa Vord in Unst was decommissioned in 2005 but the need for any continued safeguarding to allow for any redeployment of military radar to the site is unclear.

The main commercial aviation activity on Shetland is at Sumburgh Airport, which is over 40 km to the south of the proposed wind farm. Tingwall and Scatsta airfields are closer:

³ Nationally important area of outstanding beauty identified by the former Countryside Commission for Scotland (since incorporated into SNH) in the report 'Scotland's Scenic Heritage' and introduced by the Government in 1980 under Town and Country Planning legislation.

⁴ Defined by the local authority in development plans with a view to safeguarding areas of regional or local landscape importance from inappropriate developments. The requirement to designate AGLVs is set out in Circular 2/1962.

⁵ The Broch of Railsbrough site is shown on the Local Plan Proposals Map but is not mentioned in the text at paragraph 3.5 of the Local Plan. The Council's Planning Service has checked the notes of the public consultation meeting at which the proposal was discussed and confirms that the omission of the site from the text will be rectified.

Tingwall, a minor airfield used mainly for inter-island flights, is 8km south of the nearest proposed turbine; Scatsta, which is used mainly for flights connected with servicing the off-shore oil industry, is within 1.5 km of the nearest turbine.

6.12 SUMMARY

The chosen site lies in a remote location which is particularly suitable for a wind farm in terms of its wind resource. The development site itself is uninhabited, being used mainly for grazing on the open moorland and bog; and the surrounding areas are sparsely inhabited. Other infrastructure including communications equipment is present but relatively infrequent, and air traffic is relatively light. The road network is high quality and well maintained, and can be used for construction of the wind farm with little if any modification.

The site is unusual in that it contains no designated nature conservation sites. There are a number of nearby sites (SSSIs and SACs) which have been accounted for and which are described more fully elsewhere in this ES. There are no landscape designations, but again there are a number of designated areas nearby which are fully described in the ES.