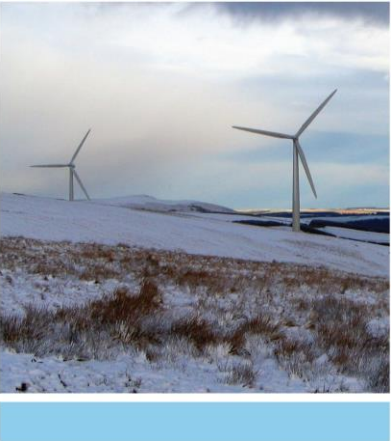
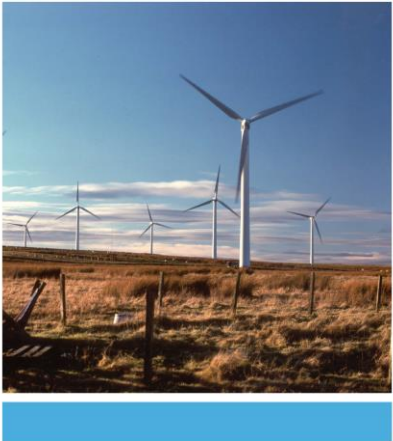


# Torfichen Wind Farm

## Environmental Impact Assessment Report

### Non-Technical Summary



## Contents

|   |  |    |
|---|--|----|
| 1 | Introduction .....                     | 1  |
| 2 | Site Location and Design Process ..... | 5  |
| 3 | Description of Development .....       | 11 |
| 4 | Public Consultation .....              | 15 |
| 5 | Environmental Impact Assessment .....  | 16 |
| 6 | Conclusion .....                       | 31 |

# 1 Introduction

This document is the Non-Technical Summary (NTS) of the Environmental Impact Assessment (EIA) Report which accompanies an application made by Renewable Energy Systems (RES) Ltd. (the Applicant).

The Applicant is applying for Section 36 (S36) consent and deemed planning consent, under the terms of the Electricity Act 1989, to construct and operate Torfichen Wind farm (hereafter referred to as the ‘Proposed Development’), located approximately 4 km South of Gorebridge in the Midlothian Council (MC) area, on the northern edge of the Moorfoot Hills (refer to **Figure 1**).

Renewable energy is a key factor in helping Scotland reach its target of Net Zero by 2045. The Proposed Development would make a meaningful contribution to those national targets for the generation of renewable energy and reduction in greenhouse gas emissions and contribute towards sustainable economic growth in Midlothian and Scotland as a whole.

## 1.1 The Applicant

The Applicant, RES, is the world’s largest independent renewable energy company. At the forefront of the industry for over 40 years, RES has delivered more than 23 GW of renewable energy projects across the globe and supports an operational asset portfolio exceeding 12 GW worldwide for a large client base. RES employs more than 2,500 people and is active in 14 countries working across onshore and offshore wind, solar, energy storage and transmission and distribution.

Drawing on decades of experience in the renewable energy and construction industries, RES has the expertise to develop, construct and operate projects which contribute to a low carbon future by providing a secure supply of sustainable, low cost, clean green energy.

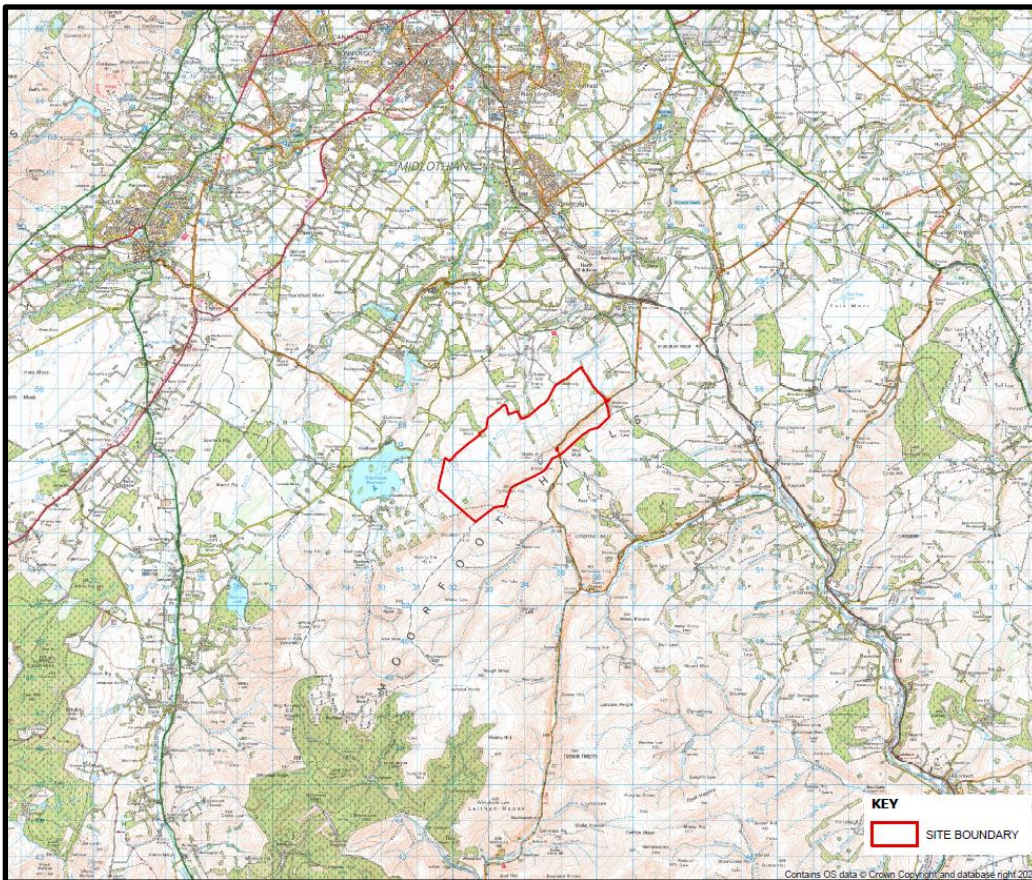
RES is committed to finding effective and appropriate ways of engaging with all its stakeholders, including local residents and businesses, and believes that the opinions of local people are an integral part of the development process.

RES is also committed to developing long-term relationships with the communities around its projects. RES has a strong track record of proactively supporting and encouraging community involvement in social and environmental projects near its developments, including through Community Benefit Funds and exploring options for shared community ownership.

## 1.2 Site and Proposed Development Description

### Site Description

The Proposed Development is located approximately 4 km south of Gorebridge and 9.5 km south-east of Penicuik in the MC area, on the northern edge of the Moorfoot Hills. The village settlements of North Middleton and Temple lie approximately 3 km to the north-east and north-west of the site respectively. The site lies on land between Gladhouse Reservoir and Whitelaw Cleugh. The location and wider environment of the site is shown in **Figure 1** below.



**Figure 1: Site Location**

The site comprises an area of approximately 853 hectares (ha). The site is set within a mixed landscape of undulating farmland, fragmented moorland and forestry which is populated sparsely with settlements. The elevation on site varies from 270 m above sea level along the northern boundary of the site to 490 m near the summit of Mauldslie Hill to the south. Elevation generally decreases towards the north-west.

A number of tributaries to the Black Burn, Latch Burn and Middleton North Burn intersect the site and there is a small area of Ancient Woodland overlapping the

northern boundary. The site is primarily agricultural, predominately used for livestock farming.

The Moorfoot Hills Special Area of Conservation (SAC), Site of Special Scientific Interest (SSSI), and RSPB Important Bird Area (IBA) is located approximately 145 m south of the site. Gladhouse Reservoir SSSI, Special Protection Area (SPA), Ramsar and IBA sits approximately 700 m north-west.

## Overview of Proposed Development

The Proposed Development will comprise eighteen, three bladed horizontal axis wind turbines up to 180 m blade tip height, each with a generating capacity of approximately 6 MW.

The total generating capacity of the Proposed Development is anticipated to be approximately 108 MW, supported by additional energy storage provision of around 50 MW. The associated infrastructure will include: site access, access tracks, crane hardstandings, underground cabling, onsite substation and control building, energy storage facility, temporary construction compounds, laydown area, potential excavations/borrow workings and potential concrete batching plant.

Based on the Proposed Development's location and estimated capacity factor, the annual indicative total electricity output for the site would be 411 Gigawatt hours (GWh) per annum. The Proposed Development would generate enough electricity to power approximately 124,900 average Scottish households. The Proposed Development would contribute towards international and national targets for the generation of renewable energy and reduction in greenhouse gas emissions. The Proposed Development is described in detail in **Volume 1, Chapter 3: Project Description**.

The electricity produced will be exported to the electricity distribution network.

The proposed layout is illustrated on **Figure 2**.



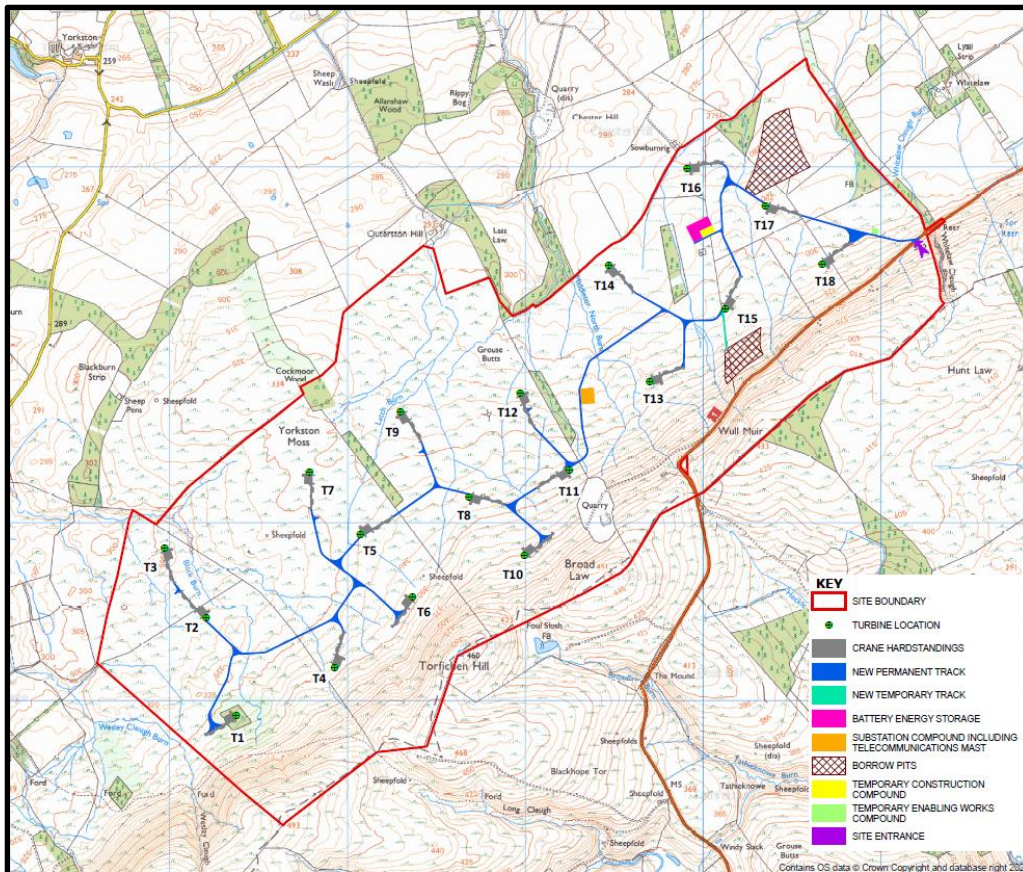


Figure 2: Proposed Layout Plan

### 1.3 Purpose of the EIA Report

ITPenergised was appointed by the Applicant to undertake an Environmental Impact Assessment (EIA) of the Proposed Development in accordance with The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the EIA Regulations).

EIA is the systematic process of identifying, predicting, and evaluating the environmental impacts of a Proposed Development. Where appropriate, it also sets out mitigation measures designed to prevent, reduce and, if appropriate, offset potential significant adverse environmental effects. An assessment of residual effects, those expected to remain following implementation of mitigation measures, is also presented.

The main findings and conclusions of an EIA Report are summarised in a Non-Technical Summary (NTS), as required by the EIA Regulations. The NTS, provided as a stand-alone document, summarises the key findings of the EIA in easily accessible, non-technical language, ensuring everyone with an interest in the project can understand and access information about its predicted environmental effects.

The EIA Report and this NTS accompany the application for S36 consent for the Proposed Development being submitted to the Scottish Ministers.

## 2 Site Location and Design Process

### 2.1 Site Selection

The Applicant utilises a sophisticated Geographic Information System (GIS) model for site selection which seeks to mirror planning, environmental, technical and commercial constraints. The GIS model is updated regularly when new data becomes available or when other factors change. Where available and appropriate, the GIS model incorporates published advice from statutory consultees.

The Applicant's use of the GIS model enables objective and consistent treatment of the whole country to assist with site selection.

The GIS model is based upon a combination of generalised and graded suitability layers covering environmental, economic, and technical aspects, known as 'key layers'. All key layers are assessed using a 0% - 100% suitability scale, represented by a 0 - 1 score, where 0 represents unsuitable and 1 represents 100% suitability.

The key layers included in the GIS model are as follows:

- wind speed;
- proximity to housing;
- natural and built heritage constraints; and
- slope constraint.

In addition, for each site, a visual sweep of the following 'informative layers' is carried out:

- national and local planning policy / development plans / spatial frameworks (as discussed in Volume 1, Chapter 5: Statutory and Policy Framework);
- Ministry of Defence (MoD) tactical training areas;
- international, national and local designated sites;
- electromagnetic links and utilities;
- proximity to other wind farm sites (pre-planning, consented and operational); and
- other information gleaned from maps or knowledge of the area such as masts, undesignated parks, tourist attractions, etc.).

These informative layers are included in the GIS model for information, but not scored and combined into the results.

The Applicant undertook an analysis of its GIS model for the Proposed Development site, which scored medium to excellent preferability on all inputs. The combination of the scored layers resulted in an overall good score for the Site.

## 2.2 Design Evolution

As part of the EIA process, the design and layout of turbines, access tracks, and other infrastructure such as the construction compound and substation/energy storage facility, continuously evolved as surveys and studies were undertaken and feedback was received from consultees and local stakeholders. The following principles were adopted during the design iterations made by the Applicant to ensure that the final design of the Proposed Development is the most suitable for the site:

- consideration to the underlying landscape and its scale;
- consideration to operational, consented and proposed wind turbines neighbouring the site;
- consideration to the size and scale of the Proposed Development appropriate to the location and proximity to residential properties;
- sensitive siting of the proposed infrastructure incorporating appropriate buffer distances from environmental and archaeological receptors to avoid or reduce effects;
- maximising the re-use of existing tracks as much as possible to access proposed wind turbine locations;
- optimising the alignment of new access tracks and hardstands taking due consideration to the topography of the site, to minimise cut and fill, minimise the impact on sensitive peatland habitats and reduce landscape and visual effects;
- adoption of floating access tracks to minimise disturbance of peat where appropriate;
- minimising watercourse crossings and encroachment on watercourse buffers;
- consideration to inclusion of borrow pit search areas to minimise the volume of the stone required to be imported to the site;
- using the latest wind turbine technology, consisting of more efficient and larger turbines where these can be reasonably accommodated within the landscape, as supported by the Onshore Wind Policy Statement (OWPS); and
- maximising the potential energy yield of the site through the employment of co-located technology in optimal locations (wind and battery storage).

## 2.3 Alternatives

### Turbine Layout and Scale

The Applicant has considered a number of alternative turbine layouts for the Proposed Development (described fully in **Volume 1, Chapter 3** of the EIA Report). The preliminary layouts took account of identified technical and environmental constraints based on both desk studies and field survey work, as well as preliminary wind yield analysis.



The Applicant considered the most appropriate design to maximise renewable energy generation from the site and to minimise the impacts to the onsite constraints. In addition, other operational and consented schemes near to the site were taken into account so the Proposed Development can be considered in keeping within the existing and future landscape in which it would be sited.

Establishing the layout of the Proposed Development has been an iterative process which started in September 2022, each time taking into consideration information gathered through site assessments or comments from consultees, as well as the professional judgement of technical experts. These iterations have taken into consideration the onsite environmental and engineering constraints to reduce the impacts on the wider landscape and avoid watercourses and sensitive habitats.

The Applicant has undertaken design iterations to maximise the capacity of the Proposed Development while minimising the environmental impacts.

### **Scoping Layout**

The Proposed Development layout presented in the EIA Scoping Report (January 2023) comprised the largest extent of land and greatest number of turbines expected to be submitted for consent. Advice taken in relation to landscape and visual impact identified 180 m tip heights as the optimum maximum for the site. The location of turbines was determined by initial onsite constraints identified through desk studies and survey work to date.

### **Optimised Layout**

Following the completion of further onsite surveys, a turbine was moved from an area of blanket bog (T7 on the Scoping Layout). The Applicant then used their sophisticated optimisation tool, which iteratively repositions turbines across a site as new constraints are identified, to maximise capture of wind energy and associated generation of electricity.

### **Design Chill Layout**

Following feedback through the EIA Scoping process and public exhibitions, further landscape and visual analysis was carried out. In particular, further considerations of impact on residential receptors resulted in a recommendation to increase the buffer zone around the nearest property to the east. It was also agreed that a turbine should be removed due to visual impact on the B7007 road (T13 on the Optimised Layout). It could not be relocated without removal of another turbine.

Following this, the turbine locations were optimised for energy yield and the 18 turbine layout was progressed as the ‘design chill’.

### **Design Freeze Layout**

Following the ‘design chill’, secondary onsite surveys were carried out to fully define site constraints against the proposed turbine and infrastructure layouts. Upon review, minor movements were made to three turbines in order to position them further away from watercourses or steeper gradients.

The 18 turbines were renumbered to reflect their reduced number and the application site boundary was refined. This layout is considered ‘design freeze’ and is the layout assessed in the EIA Report and summarised in this NTS.

These iterations have taken into consideration the onsite environmental and engineering constraints to reduce the impacts on the wider landscape and avoid watercourses and sensitive habitats.

## Onsite Infrastructure Layout Iterations

### Site Access and Site Tracks

An initial outline design of access tracks was developed based on turbine supplier recommendations for hardstanding size and specification and ensuring suitable track alignment to allow safe access and delivery of components. Proposed new tracks were designed to take into account existing site topography, ground conditions including peat depth, and to minimise and appropriately locate water crossings.

### Watercourse Crossings

The tracks providing access to the proposed turbines and other infrastructure will need to cross surface watercourses at several locations. Watercourse crossings have been avoided in the design of the access track layout as far as possible, however there will be eleven new watercourse crossings within the site (coordinates provided in **Table 3.23 Volume 1, Chapter 3** of the EIA Report).

It is proposed that the final detailed design for all water crossings, will be addressed through an appropriately worded planning condition and in accordance with the requirements of the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (CAR).

### Borrow Pits

During design optimisation, the locations of infrastructure and track design was refined to minimise the volume of earthworks and cut and fill required to construct the Proposed Development. Potential locations for the borrow pits were identified based upon a review of geological mapping and site reconnaissance. The total number and size of borrow pit search areas was selected to meet the estimated volume of rock required to construct the tracks, crane hardstands and foundations without the need to import rock.

If the Proposed Development is consented, further intrusive geotechnical investigation would be carried out to identify which of the two borrow pit locations would yield the required quality of rock for each aspect of the infrastructure.

### **Construction Compounds**

A temporary construction compound and a temporary enabling works compound will be required during construction. The temporary enabling works compound will comprise an area of approximately 900 m<sup>2</sup>, and the temporary construction compound will comprise an area of approximately 3,600 m<sup>2</sup>.

The compound areas will house temporary portable cabin structures to be used as the main site office and welfare facilities, including toilets, clothes drying and kitchen, with the provision for sealed waste storage and removal. Adequate parking will be provided for cars and light vehicles.

They will also be used for the storage and assembly of wind turbine components, containerised storage for tools and small parts, and storage for cables, oil and fuel as required. Access to the main site with mandatory signing in and out procedures will be located at the entrance to the temporary enabling works compound.

The proposed locations of the compounds are on firm ground and avoid habitats of highest sensitivity. Prior to commencing construction work, a detailed appraisal of the areas will be required, including an assessment by the project ecologist and also trial pits and /or boreholes to confirm the nature of the sub-strata.

The detailed location, size and engineering properties of the construction compounds will be confirmed prior to the start of construction, after the turbine supplier and model have been confirmed.

On completion of construction works, it is proposed that the temporary construction compound area be repurposed to accommodate the energy storage facility. All other temporary structures will be removed, and the compound areas be restored.

### **Substation, Energy Storage & Cabling**

The electrical power produced by the individual turbines will be fed to an onsite substation and energy storage facility via underground cables.

The design of the substation and control room building is relatively flexible and where appropriate may be clad in local materials to match in with the surroundings. Technology continues to develop in the field of energy storage, therefore the design of that element of the compound is proposed to be secured by an appropriately worded planning condition.

The wind farm array cables onsite will be laid in trenches, typically approximately 0.5 m deep and 1 m wide, laid on a sand bed and backfilled using suitably graded material. The trenches will also carry earthing and communication cables for the operation of the Proposed Development. Cabling will mainly be located adjacent to the access tracks within the wind farm itself.

The substation compound will be approximately 6,314 m<sup>2</sup> and will be constructed of compacted stone, including reinforced concrete foundations for the buildings and ancillary equipment. The substation compound would contain 33 kV/132 kV step-up transformers, associated switchgear, telecommunications mast and ancillary equipment suitable for a transmission connection to the electricity grid system. The control building would accommodate metering equipment, switchgear, the central computer system and electrical control panels. It is anticipated that the Transmission Operator (TO) will also require their own control building. In addition to the control buildings a welfare building will be installed for all personnel.

The telecommunications mast is expected to be up to 10 m tall.

A separate energy storage facility with battery capacity with an installed capacity of around 50 MW will be located adjacent to the control building. The energy storage facility will comprise a total area of approximately 8,325 m<sup>2</sup>.

Details of the final design of all components of the substation and energy storage compound are proposed to be secured through an appropriately worded planning condition.

### **Grid Connection**

An agreement is in place between the Applicant and Scottish Power Transmission, the Transmission Operator (TO), for the connection of the Proposed Development into the electricity network.

The proposed point of connection for the Proposed Development is at the on-site substation compound. The Proposed Development would then be connected at Gala North Substation, a new substation to be constructed approximately 21 km to the south-east of the site.

The connection would be buried 132 kV cables and/or overhead line. The exact arrangement of this grid connection is subject to detailed design by the TO.

The final grid connection route and associated consents will be subject to a separate consenting process and EIA if required and would be the responsibility of the TO.



## 3 Description of Development

### 3.1 Development

The Proposed Development will comprise eighteen wind turbines, up to 180 m blade tip height when vertical each being around 6 MW. The combined generating capacity of the turbines will be approximately 108 MW, supported by additional energy storage provision with an output capacity of around 50 MW. The associated infrastructure will include: site access, access tracks, crane hardstandings, underground cabling, onsite substation and maintenance building, energy storage facility, temporary construction compounds, laydown area, potential excavations/borrow workings and potential concrete batching plant.

Each of the wind turbines will be of a typical modern, three-blade design in semi-matt white or light grey with no external advertising or lettering except for statutory notices. The specific wind turbine manufacturer and model has not yet been selected as this will be subject to a tendering exercise and will be confirmed post-consent.

To enable the construction of the turbines, a crane hardstanding area at each turbine location will be required to accommodate assembly cranes and construction vehicles. This will comprise a crushed stone hardstanding area measuring approximately 1,925 m<sup>2</sup> but subject to the specifications required by the selected turbine manufacturer and crane operator and following detailed ground investigations prior to construction. They will remain in place during the lifetime of the Proposed Development to facilitate maintenance works.

The proposed site access point is a newly constructed junction on the B7007, entering the site from the north-east.

The Proposed Development will include approximately 17 km of new access tracks. All new access tracks have been designed to avoid sensitive environmental receptors and the requirement for peat excavation. They will be formed largely of locally sourced stone and from the onsite borrow pits (see 'Borrow Pits' section below) and will have a typical running width of 5 m plus drainage provision in verges.

A Transport Assessment has been undertaken in support of the Application for the Proposed Development and this provides detail on access routes to the site for construction vehicles and provides an estimate of trip generation during construction. The Transport Assessment includes a review of the proposed route, construction traffic impacts, and an abnormal load route review.

A temporary construction compound and a temporary enabling works compound will be required during the construction period. On completion of construction works, the temporary construction compound will be repurposed to form part of the energy storage facility. All other temporary structures will be removed, and areas restored.

The electrical power produced by the individual turbines will be fed to an onsite substation and energy storage facility via underground cables, for onward connection to the national energy electricity network. The substation and energy storage facility will be approximately 6314 m<sup>2</sup>, to incorporate a substation and control room building and energy storage facility. The substation and control building will accommodate all the equipment necessary for automatic remote control and monitoring of the Proposed Development, in addition to the electrical switchgear, fault protection and metering equipment required to connect the Proposed Development to the electricity network.

A separate energy storage facility with battery capacity with an output of around 50 MW will be located adjacent to the site of the temporary construction compound. This facility will comprise a total area of around 8,325 m<sup>2</sup>.

## 3.2 Community Benefit

Based on a total installed capacity of 108 MW and a community benefit contribution of £50,000 per MW of installed capacity, the proposed Development could generate up to £540,000 per annum to support local groups and projects in the areas surrounding the site. Further information on the proposed Development's socio-economic benefits can be found in **Volume 1, Chapter 13** of the EIA Report.

## 3.3 Construction

The onsite construction period for the Proposed Development is expected to be approximately 24 months and is expected to commence in 2027. Construction would include the principal activities listed within the indicative construction programme as provided in **Table 1** below.

**Table 1 Indicative Construction Programme**

| Task                    | Year 1 (quarters) |    |    |    | Year 2 (quarters) |    |    |    |
|-------------------------|-------------------|----|----|----|-------------------|----|----|----|
|                         | Q1                | Q2 | Q3 | Q4 | Q1                | Q2 | Q3 | Q4 |
| Mobilisation            |                   |    |    |    |                   |    |    |    |
| Access & Site Tracks    |                   |    |    |    |                   |    |    |    |
| Crane Hardstanding      |                   |    |    |    |                   |    |    |    |
| Foundations             |                   |    |    |    |                   |    |    |    |
| Onsite Cabling          |                   |    |    |    |                   |    |    |    |
| Substation civils works |                   |    |    |    |                   |    |    |    |
| Substation construction |                   |    |    |    |                   |    |    |    |
| Turbine Delivery        |                   |    |    |    |                   |    |    |    |
| Turbine Erection        |                   |    |    |    |                   |    |    |    |
| Commissioning & Testing |                   |    |    |    |                   |    |    |    |
| Site Reinstatement      |                   |    |    |    |                   |    |    |    |

Normal construction hours will be between 07:00 and 19:00 Monday to Friday and 07:00 to 13:00 on a Saturday, no construction will take place on a Sunday. These times have been chosen to minimise disturbance to local residents. It must, however, be noted that during the turbine erection phase, operations may proceed outwith these times to ensure that lifting processes are completed safely i.e. once a component lift commences it is necessary to complete it.

The operational lifespan of the Proposed Development would be 50 years, after which it would be appropriately decommissioned. It is expected that decommissioning would take approximately 12 months. If, after the operational lifespan of the Proposed Development has expired there is potential for re-powering the development, this would be subject to a new and separate application.

### 3.4 Operation and Maintenance

The lifetime of the Proposed Development is envisaged to be 50 years from the final commissioning to commencement of decommissioning.

The Proposed Development would be maintained throughout its operational life by a service team. The service team would comprise operation management,

operations technicians and support functions undertaking scheduled and unscheduled maintenance throughout the year. This team would either be employed directly by the developer or by the turbine manufacturer. Management of the wind farm would typically include turbine maintenance, health and safety inspections and civil maintenance of tracks, drainage and buildings. Turbine maintenance includes the following:

- Civil maintenance of tracks and drainage;
- Scheduled routine maintenance and servicing;
- Unplanned maintenance or call outs;
- High Voltage (HV) and electrical maintenance; and
- Blade inspections.

In the unlikely event that a major turbine component requires replacement, vehicles will use the new access tracks and crane pads, which will be retained during the operational phase to allow access.

Health and safety will be controlled as set out in the construction phase.

### Operation Environmental Management Plan (OEMP)

The Applicant will implement an Operation Environmental Management Plan (OEMP). Similar to a Construction Environmental Management Plan (CEMP), the OEMP will set out the mitigation measures described in the EIA Report, and how the Applicant will manage and monitor environmental effects throughout the operation of the Proposed Development. The OEMP will also be developed in consultation with MC, SEPA, NatureScot and Historic Environment Scotland (HES) where relevant.

### Aviation Lighting

As structures over 150 m high there is a statutory requirement for aviation lighting on the turbines. A proposed lighting scheme has been agreed with the Civil Aviation Authority (CAA) and Ministry of Defence (MOD), but will need final approval again with the CAA, prior to construction.

The specification of the lighting is detailed in **Volume 1, Chapter 14** of the EIA Report.

## 3.5 Decommissioning

At the end of the Proposed Development's operational lifespan of 50 years, it will be decommissioned, unless further consent is sought for life extension or repowering. It is expected that decommissioning will take approximately 12 months. The environmental effects of decommissioning are considered to be



similar to those during construction, excluding the loss of habitat which will have already occurred under construction.

Prior to decommissioning, a Decommissioning Environmental Management Plan (DEMP) will be produced to reflect then current legislation, policy and best practice, and will be agreed with the relevant statutory authorities.

The site access route used for construction of the Proposed Development is anticipated to also be used for decommissioning.

It is anticipated that certain components of the turbines will be dismantled and removed from site for disposal and/or recycling as appropriate and in accordance with regulations in place at the time. It is proposed to leave the buried portion of the foundations of the turbines in situ on decommissioning. This is considered to have less impact on the hydrological system which will have established itself during the lifetime of the wind farm, than complete removal of the foundations.

## 4 Public Consultation

### 4.1 Statutory Consultation

A formal EIA Scoping Opinion was requested from the Energy Consents Unit (ECU) on behalf of Scottish Ministers in January 2023 through the submission of an EIA Scoping Report. The EIA Scoping Report contained details of the site baseline, the Proposed Development, proposed environmental impacts to be assessed in the EIA, and the assessment methodologies that would be used. The ECU consulted with a variety of statutory and non-statutory consultees before providing an EIA Scoping Opinion in March 2023. A summary of how the Scoping responses were addressed in the final submission is presented in an EIA Gatecheck Report that can be found in EIA Report **Appendix 4.3**.

Beyond the formal engagement platforms, the Applicant continued to liaise directly with key stakeholders in order to refine the approach to the EIA Report and develop a design solution for the site which reflects the feedback received. Direct consultation has also been undertaken with specific statutory consultees, to confirm and agree the detailed approach to the technical surveys and assessments on a topic by topic basis.

Further information on the consultation process is given in **Volume 1, Chapter 4** of the EIA Report.

### 4.2 Public Consultation

A stand-alone Pre-Application Consultation (PAC) Report has been prepared which gives details of the correspondence, online public consultation, in person drop-in

sessions and other discussions which have taken place with the communities closest to the Proposed Development site.

The PAC report also details findings of that work and illustrates the ways in which community engagement has helped to identify potential issues arising from the emerging development proposal, and where appropriate, shape the final proposal which is now the subject of this application.

The Applicant is grateful to residents and local representatives for their input into the pre-application community engagement and for their participation in the discussions and consultation events.

## 5 Environmental Impact Assessment

### 5.1 Overview

The EIA considers the potential effects of the Proposed Development during construction, operation and decommissioning phases. Where appropriate, mitigation measures are proposed. The following topics and associated effects are assessed in the EIA:

- Landscape and visual (assessing character of the landscape and views from agreed locations with NatureScot and MC);
- Cultural heritage (the integrity and setting of historic sites and/or features);
- Ecology (protected habitats, flora and fauna, excluding birds);
- Ornithology (birds and protected bird habitats);
- Geology, hydrology and hydrogeology (rocks, soils, surface water, groundwater);
- Traffic and transport (effects from traffic travelling to, and from, the Proposed Development on local roads and receptors);
- Acoustics (effects on local properties from noise arising from the Proposed Development);
- Socio-economics (local and national economy);
- Climate Change (overall impact of the Proposed Development on carbon emissions);
- Aviation (effects on civil and military aviation facilities as a result of the Proposed Development); and
- Shadow Flicker effects caused by the passing of the turbine blades in front of the sun).

**Volume 1, Chapter 4** of the EIA Report describes the EIA process in more detail.

For each topic, the existing conditions (the baseline) were identified and the effects of the Proposed Development on these conditions assessed (the potential effects). Potential effects are assessed on a scale of negligible, minor, moderate

and major, with effects of moderate or major deemed to be significant in terms of EIA. Mitigation measures have then been proposed to minimise significant adverse effects where required. Following this, an assessment was undertaken of the effects of the Proposed Development on the existing conditions taking into consideration the proposed mitigation (the residual effects).

In addition to the above, the cumulative effects of the Proposed Development, i.e. effects considered in conjunction with other developments in the local area, primarily other wind farms, were assessed.

A summary of the baseline conditions, the proposed mitigation, the resulting residual effects and the cumulative effects for each topic is provided below. Full details of the assessments for each of the topics are provided in Volume 1, **Chapters 6 to 16** of the EIA Report.

## 5.2 Landscape and Visual

The full potential effects on the landscape and visual receptors that would arise as a result of the Proposed Development are provided in Volume 1, **Chapter 6** of the EIA Report.

The Landscape and Visual Impact Assessment (LVIA) identifies the likely significant effects arising from the Proposed Development on landscape character and visual amenity. It has been informed by field visits carried out on separate occasions at different times of the year and by consultation undertaken with statutory consultees including MC and NatureScot.

There are no national landscape designations covering the site. The nearest national landscape designation is Upper Tweeddale National Scenic Area (NSA) located approximately 14.8 km to the south-west. The Proposed Development is located within the Gladhouse Reservoir & Moorfoot Scarp Special Landscape Area (SLA).

The Proposed Development would be sited on the scarp slopes of the Moorfoot Hills that form a notable topographical feature experienced in many views from the wider surrounding landscape. The proposed turbines and associated infrastructure are partly located within two Landscape Character Types (LCT); namely the Lothians Plateau Moorland LCT and Lothians Upland Fringes LCT.

Appropriate offsets from all properties have been maintained to ensure that no property would experience an overbearing visual impact. Mitigation has been designed into the proposed aviation lighting by reducing its intensity and attenuating the amount of vertical downwards lighting in order to reduce the visual impact experienced by receptors below the lights.

As with almost any onshore wind farm development it is recognised that the Proposed Development would give rise to some localised significant effects on landscape character and visual amenity.

The Proposed Development would result in direct and significant effects on the characteristics of the landscape within which it is located. Indirect and significant effects would extend to approximately 3.7 km to the north-east and 7.5 km to the north-west.

Indirect and significant effects would extend to between around 4.1 km and 9.4 km in various directions from the site and within different types of landscape.

In relation to visual effects, it is accepted that the Proposed Development would be visible from various nearby properties, settlements as well as parts of the surrounding road, footpath and cycle networks.

It has been assessed that there would be significant visual effects experienced at nine of the twenty two assessed viewpoints during daylight hours and at eight viewpoints during the hours of darkness.

In terms of the effects on residential properties within 2.5 km, twelve of the 32 properties or property groups that were assessed would experience a significant visual effect from a part of their house, garden or principal access route.

However, it is concluded that when the experience from each property is considered in the round, none of the residents of any of the properties would experience such an overbearing or overwhelming effect on their visual amenity that their properties would become unattractive places in which to live.

In relation to settlements, the assessment found that North Middleton and Gorebridge would experience significant visual effects during daylight hours and Gorebridge would experience a significant visual effect during dark sky hours. No other settlements would be significantly affected.

The assessment of routes found that walkers would experience significant visual effects from some core paths located within 5 km, and from some core paths located between 5 and 7.5 km to the north-west of the site. Cyclists would experience some significant visual effects from parts of National Cycle Route 1.

The assessment of roads found that receptors would experience significant effects from parts of the B7007, the B6357 and the B6372.

In terms of effects on Special Landscape Areas, the assessment found that the Gladhouse Reservoir & Moorfoot Scarp SLA, the South Esk & Carrington Farmlands SLA, a limited part of the Tyne Valley SLA and a very limited part of The Pentland Hills SLA would experience significant effects but that the effects would not



undermine the key characteristics of the SLA to such an extent that they would be compromised.

Regarding cumulative effects, the assessment found that there would be the potential for cumulative landscape character effects to arise within part of LCT 90 Dissected Plateau Moorland 0.3 km to the south east and that although there would be increased visibility of turbines within part of LCT 269 Upland Fringes - Lothians, approximately 3.7 km to the north east and 7.5 km to the north west, there would be no additional significant cumulative effects as significant effects were already identified in that part of the landscape in the main assessment.

It is important to acknowledge that localised significant effects on landscape character and visual amenity are inevitable as a result of commercial wind energy development anywhere in the UK. Whilst the LVIA identified some significant landscape and visual effects it is considered that the landscape has the capacity to accommodate the effects identified, particularly when other consented but as yet unbuilt wind farms are taken into account.

Wind turbines give rise to a wide spectrum of opinions, ranging from strongly adverse to strongly positive, with a wide range of opinions lying somewhere between these two positions. Some people view wind turbines as incongruous or industrial structures whilst others view them as aesthetically pleasing, elegant structures and a positive response to climate change. In the case of the Proposed Development the turbines and associated ancillary development may be viewed by some as a symbol of continued progress by society towards a low carbon future.

However, in considering the effects of the Proposed Development, a precautionary approach has been adopted and it is therefore assumed that the effects identified will be adverse in nature even though it is recognised that for some people the impacts could be perceived to be beneficial.

There are no definitive quantifiable thresholds of acceptability in landscape and visual impact assessment. The identified effects on landscape character and visual amenity therefore need to be balanced against the other benefits of the Proposed Development in the overall planning balance.

### 5.3 Archaeology and Cultural Heritage

The full assessment of the potential effects on archaeology and cultural heritage is provided in **Volume 1, Chapter 7** of the EIA Report.

This assessment has considered data from a diverse range of sources in order to determine the presence of heritage assets which may be affected by the Proposed Development. The potential direct and indirect effects of the Proposed

Development on the identified assets, mitigation measures for protecting known assets during construction or recording of currently unknown features which could be lost due to groundworks during construction, and the residual effects of the Proposed Development have also been assessed.

The assessment has identified all heritage assets within the site and 1 km study area to allow for identification of the potential for direct impact upon known heritage assets and to identify the potential for hitherto unrecorded remains to survive on-site. The assessment has also identified all nationally important designated heritage assets within 10 km of the site, to allow for an assessment of the potential for the Proposed Development to impact upon the setting of these assets.

A total of 44 known non-designated heritage assets within the site and within 1 km of the site boundary have been identified, most of which date to the post-medieval period. Two of the non-designated assets could potentially be directly impacted by the construction of the Proposed Development. Both assets are considered to be of low cultural significance and impacts would at worst be minor adverse in nature. A programme of archaeological works will be undertaken, including the fencing of heritage assets. Details of mitigation will be agreed with HES and the East Lothian Council Archaeology Officer (on behalf of MC) through a Written Scheme of Investigation (WSI).

The assessment has considered the potential indirect impacts on the designated heritage assets outlined in **Table 7.7 of Volume 1, Chapter 7** of the EIA Report, which provides a summary of the identified significance of effect upon them. There are expected to be moderate impacts to Jeffries Corse Cairn (SM3527) and Dundreich Cairn (SM2777). However, these impacts are not considered to be of such significance that they would reduce the ability to understand or appreciate those assets, and the integrity of their settings would therefore not be adversely affected. Impacts upon the setting of designated heritage assets have generally been mitigated through the iterative design process and there would be no other significant effects to cultural heritage assets.

The possibility of cumulative effects has been assessed. No significant cumulative effects were identified.

## 5.4 Ecology

The full assessment of potential effects on flora and fauna is provided in **Volume 1, Chapter 8** of the EIA Report.

The assessment considered the potential effects of the Proposed Development on non-avian ecology including designated sites, terrestrial and aquatic habitats, and protected species.

The assessment is based on best practice guidance, and the scope of the assessment and baseline conditions were determined through a combination of desk study, targeted surveys, and consultation with relevant nature conservation organisations.

This process established ecological features that could potentially be affected by the Proposed Development. No potential effects on statutory designated sites or ancient woodland were identified.

The Proposed Development has been designed to minimise impacts on important habitats, peatland and protected species as far as practicable. This has been achieved through ‘designing-in’ mitigation measures as part of the iterative design process. This, combined with further commitments to certain mitigation measures pre-construction, during construction, and during operation, allowed potential effects on several habitats and species present to be scoped-out of the assessment.

The following important ecological features (IEFs) were taken forward to the assessment stage: wet dwarf shrub heath, wet modified bog and dry modified bog, and high-risk collision bat species/genus.

Assessment of potential effects and their significance were determined through consideration of the sensitivity of the feature and the magnitude of change.

The most tangible effect during construction of the Proposed Development on wet heath and wet modified bog/dry modified bog would be direct habitat loss due to the construction of infrastructure, in addition to some potential indirect drainage effects. The assessment concluded that there would be a Minor adverse and Not Significant effect on wet heath and wet modified bog/dry modified bog.

The effect of collision risk on populations of bat species was assessed by reviewing activity level recorded, population vulnerability and site risk level in line with relevant guidance; all high collision risk species recorded were calculated to have an overall collision risk assessment score of Low-Medium and concluded that effects would be Minor adverse and Not Significant.

No significant operational, decommissioning or cumulative effects were identified.

A Biodiversity Enhancement and Management Plan (BEMP) for the Proposed Development would be developed to further mitigate the effects on habitats and to provide additional enhancement to meet ‘significant biodiversity enhancements’

that are a requirement of national planning policy. An Outline BEMP is included in **Appendix 8.6** of the EIA Report.

## 5.5 Ornithology

The full assessment of potential effects on birds is provided in **Volume 1, Chapter 9** of the EIA Report.

The assessment considered the potential effects on ornithology associated with the construction and operation of the Proposed Development including on designated sites, including statutory and non-statutory conservation designations, bird habitats and protected bird species.

The ornithological assessment is based upon comprehensive baseline data, comprising targeted ornithological field surveys of important and legally protected ornithological features identified by desk study and consultation feedback. A full suite of ornithological surveys was adopted for the purposes of assessing the avian baseline conditions for the Proposed Development. The surveys included: vantage point surveys, breeding bird surveys, wider area breeding bird surveys and walkover surveys, all undertaken between April 2021 and March 2023.

There are no statutory designations with ornithological features within the site, however, there are four Special Areas of Conservation, four Special Protection Areas and four Ramsar sites within 20 km of the Proposed Development boundary.

Collision risk modelling was undertaken for the most frequently recorded species at risk height. A moderate risk for goshawk was identified, and negligible risk for all the other species modelled.

An assessment of ornithology effects arising from the construction and operation of the Proposed Development was undertaken. The direct loss of habitat for all bird species associated with the construction of the Proposed Development would be an effect of low/negligible magnitude.

Potential adverse effects to birds during construction will be mitigated through the implementation of an outline Biodiversity Enhancement Management Plan (BEMP) to offset habitat loss, including for the breeding waders on site (given the potential for displacement from the Proposed Development). This will deliver biodiversity gain which is a requirement of National Planning Framework 4 (NPF4).

During the construction period a number of embedded mitigation measures have been proposed including the appointment of an Ecological Clerk of Works (EcoW) to advise the Applicant and the Principal Contractor on all ornithological matters. A Breeding Bird Protection Plan (BBPP) will be required to ensure compliance with the Wildlife and Countryside Act to avoid any disturbance to species specially

protected under Schedule 1 of that Act and to avoid any damage to active nests. If nesting birds are found to be present, work will not take place in that area until the adult birds and young have left the nest. A protection zone will be clearly marked around the nest site to prevent accidental disturbance or damage.

The operational ornithological impacts of the Proposed Development will be mitigated through a combination of the enhancements that will be delivered through the outline BEMP, and further measures to be developed and implemented in consultation with RSPB, NatureScot and the Southern Uplands Partnership (SUP). These will include the development and implementation of a regional plan for breeding waders, and contribution to the SUP Black Grouse project.

Likely cumulative effects with nearby operational developments, as well as those currently permitted or at application stage of planning, were also considered. No significant cumulative effects are anticipated as a result of the Proposed Development.

## 5.6 Geology, Hydrology and Hydrogeology

The full assessment of the potential effects on important geological, hydrological and hydrogeological features associated with the site is provided in **Volume 1, Chapter 10** of the EIA Report. The assessment is supported by a Peat Landslide Hazard Risk Assessment, a Peat Management Plan, a Schedule of Watercourse Crossings, and a Private Water Supply Risk Assessment.

The assessment study area includes all of the proposed site infrastructure and a 1 km buffer from the site boundary. The study area for potential cumulative effects uses the catchments in the study area, with a maximum downstream distance of 5 km from the Proposed Development. Beyond this 5 km distance, any effect is considered to be so diminished as to be undetectable and therefore not significant.

A desktop assessment and series of site investigations have been undertaken to identify and characterise the hydrological, geological and hydrogeological environment within the vicinity of the Proposed Development. This assessment has shown that the watercourses surrounding the Proposed Development and groundwater beneath the Proposed Development (including Private Water Supplies (PWS), licensed water supplies and Gladhouse Reservoir) are considered High sensitivity receptors.

The potential presence of peat within the site formed a key consideration in the design of the Proposed Development. Informed by the extensive survey programme of peat probing undertaken across the site, typically the design has avoided areas of deeper peat (>1 m) and where possible limited development to areas of peat less

than 1 m or where peat is absent. The peat slide risk assessment demonstrates that there is low peat slide risk. The peat management plan demonstrates that there are opportunities to reuse all excavated peat as part of the site reinstatement.

The mitigation measures to avoid or reduce impacts on the identified receptors include the implementation of a Construction Environmental Management Plan (CEMP), specific mitigation relating to peat management and maintaining water flow to groundwater dependent terrestrial ecosystems (GWDTE).

Drainage management provisions and a watercourse crossing assessment have been presented to demonstrate appropriate control and treatment of run-off and to maintain flows within the watercourses. Detailed design of the drainage will be agreed with SEPA and MC prior to the commencement of construction.

A programme of water monitoring would be undertaken prior to any construction activity and during construction of the Proposed Development for the surface water catchments that drain from the site to ensure that none of the tributaries of the main channels are carrying pollutants or suspended soils. The monitoring programme would be agreed with Scottish Water, SEPA, NatureScot, MC, Forth Rivers Trust (FRT) and Forth District Salmon Fishery Board (FDSFB). Monitoring is also proposed at properties that maintain a PWS source and where there is a potential linkage to the Proposed Development.

It has been concluded that with good practice design and construction of the Proposed Development delivered through a skilled team of competent workers, with mitigation and compliance monitored in collaboration with SEPA, MC and other engaged stakeholders, residual effects are considered to be not significant, and as they will occur during the construction phase only, are temporary and reversible.

## 5.7 Traffic and Transport

The full assessment of the potential effects on traffic and transport is provided in **Volume 1, Chapter 11** of the EIA Report.

Access to the site will be taken directly from a newly provided access junction on the B7007.

Existing traffic data established a base point for determining the impact during the construction phase and was factored to future levels to help determine the effect of construction traffic on the local road network.

The Proposed Development would lead to a temporary increase in traffic volumes on the local road network during the construction phase. Traffic volumes would fall considerably outside the peak period of construction. The maximum traffic



impact associated with construction is predicted to occur in Month 9 of the indicative construction programme.

The traffic associated with the Proposed Development, at the peak of construction, would result in 57 HGV movements per day (29 inbound and 28 outbound) and 70 cars & light vehicles (35 inbound and 35 outbound).

There is a Public Right of Way (PRoW) and Scottish Hill Track located within the south-western section of the site. The greatest potential impact would occur along the B7007 and the local path network used by walkers and cyclists. While it is not expected that there will be significant interaction between the construction vehicles and PRoW / Track Users due to the proximity of the nearest turbine, the effects of the construction phase have been assessed as a worst case assessment.

With the implementation of appropriate mitigation, no significant residual effects are anticipated in respect of traffic and transport issues. The residual effects are all assessed to be slight or insignificant and, as they will occur during the construction phase only, they are temporary and reversible.

Traffic levels during the operational phase of Proposed Development for maintenance purposes are not considered to be more than the daily traffic variation levels on the local road network. Traffic levels during the decommissioning of the proposed development are expected to be lower than during the construction phase as some elements may be left in situ and others broken up on-site.

The movement of Abnormal Indivisible Loads (AIL) traffic will require small scale and temporary remedial works at a number of locations along the identified delivery route.

## 5.8 Acoustic Assessment

The full assessment of the potential effects of noise and vibration is provided in **Volume 1, Chapter 12** of the EIA Report.

The acoustic impact of the operation of the Proposed Development on nearby residential properties has been assessed in accordance with the appropriate guidance on wind farm noise.

To establish baseline conditions, background noise surveys were carried out at three nearby properties and the measured background noise levels used to determine appropriate noise limits.

Operational noise levels were predicted using the recommended noise propagation model. The predicted noise levels for the Proposed Development operating in isolation and cumulatively with the existing Carcant Wind Farm located

approximately 3.4 km south east of the Proposed Development and the proposed Wull Muir Wind Farm approximately 5.1 km to the north east are within the required noise limits for all relevant wind speeds and all properties with the exception of a very marginal potential exceedance at one location (one property located approximately 4 km south east of the Proposed Development) and subject to the corresponding caveats. This dwelling is located in relatively close proximity to the existing Carcant Wind Farm development and noise levels associated with this wind farm will still be the dominant source of operational wind farm noise should the Proposed Development become operational. The exceedance would also only be expected to occur for northerly wind directions which will happen relatively rarely in practice. The Proposed Development therefore complies with the relevant guidance on wind farm noise and the resultant impact is considered not significant as a result.

On-site construction noise levels are highly unlikely to exceed relevant noise limits at nearby properties although appropriate mitigation measures will be adopted as a matter of course. The access route for the proposed wind farm will pass close to some dwellings and with some upgrade works to existing access tracks and local roads potentially occurring in close proximity to some dwellings. In these instances, the level of noise generated by construction works could be close to noise limits for relatively brief periods. As a result, typical and enhanced construction noise mitigation measures are provided in **Chapter 12** of the EIA Report which aim to minimise noise as far as reasonably practicable and/or reasonable.

Vibration and air overpressure due to blasting are not expected to have a significant impact on nearby residents should appropriate mitigation measures be adopted.

## 5.9 Socio-economics, Recreation and Tourism

The full assessment of the potential effects on socio-economics, recreation and tourism is provided in **Volume 1, Chapter 13** of the EIA Report.

During the construction phase it is estimated that the Proposed Development will generate up to:

- £10.6 million Gross Value Added (GVA) and 135 jobs in Midlothian; and
- £40.9 million GVA and 543 jobs in Scotland.

During the operations and maintenance phase, it is estimate that the Proposed Development will generate an annual impact of up to:

- £1.1 million GVA and nine jobs in Midlothian; and
- £2.3 million GVA and 25 jobs in Scotland.

Nevertheless, the Proposed Development would provide community benefit funding for the local area of up to £540,000 annually. The community benefit package will also include a Local Electricity Discount Scheme (LEDS) that would help to reduce energy bills for Midlothian residents.

It is estimated that the Proposed Development would pay £1.3 million each year in non-domestic rates, helping to support local government services.

The most recent evidence on the relationship between wind farms and tourism suggest that there are no adverse effects on the tourism economy resulting from the development of onshore wind. An assessment of the likely effects of the Proposed Development on specific local tourism assets, accommodation providers and routes found no significant adverse effect are expected.

Overall, there were no significant adverse effects identified. While the beneficial construction and operation socio-economic effects are not significant in EIA terms, they would be important to the local and national economies, contributing to sustainable economic growth. On this basis, it can be concluded that the Proposed Development maximises net economic impact supporting the requirements for renewable energy proposals set out in national planning policy.

## 5.10 Aviation, Radar and Other Issues

The full assessment of the potential effects on aviation, radar, shadow flicker and climate change is provided in **Volume 1, Chapter 14** of the EIA Report.

### Aviation, Radar & Defence

The Proposed Development site lies approximately 26.4 km south-east of Edinburgh Airport, 59 km north-east of the Lowther Hill radar and approximately 89 km north-west of the Brizlee Wood radar. Studies and consultation have determined that there are no impacts on Edinburgh Airport or to radars.

Whilst not an aviation impact, the Eskdalemuir Seismic Array (EKA) is safeguarded by the MOD. Due to the Proposed Development's location within 50 km of the EKA's protection range, it has the potential to impact the EKA. It is expected that the impact can be mitigated once the MOD and Scottish Government has agreed on the updated technical 'noise budget' and allocation policy. This mitigation could be secured through an appropriately worded planning condition.

As structures over 150 m high there is a statutory requirement for aviation lighting on the Proposed Development. Infrared lighting will be agreed with the MOD for low flying requirements and a visible lighting scheme has been agreed with the CAA.

## Shadow Flicker

Shadow flicker modelling was carried out using the WindPRO Shadow Flicker software package to assess the likelihood of adverse shadow flicker effects of occurring at nearby residential properties.

Shadow flicker is caused by the periodic blocking and unblocking of sunlight as wind turbine blades rotate. The rotating blades create a strobe-like effect as they pass between the sun and a stationary object (e.g., a residence or workplace).

Based on the worst-case scenario, which assumes no cloud cover and that wind turbine rotors are always turning, ten inhabited properties were identified that could theoretically experience shadow flicker. In reality, any adverse effects would be less than the modelling output since there would be times of cloud cover and times when the turbine rotors are not turning.

Any complaints received during operation can be investigated against the worst-case scenario and mitigation measures can be implemented if necessary. Mitigation measures could include the planting of tree belts or the shutting down of individual turbines during periods when shadow flicker could theoretically occur.

## Carbon Balance Assessment

The full assessment of the potential effects of the Proposed Development on climate change is provided in **Volume 1, Chapter 14** of the EIA Report.

The Scottish Government's online Carbon Calculator Tool V1.7.0 has been completed for the Proposed Development (ref. 000S-RW05-F3SB). Input parameters are based on the proposed site design, infrastructure dimensions, results from peat depth surveys, and other information gained from site survey work, desk study and, where applicable, assumptions relating to groundwater, drainage, and habitat regeneration.

The expected carbon payback time of the Proposed Development is 1.1 years. This is the period of time for which a wind farm needs to be in operation before it has, by displacing generation from fossil-fuelled power stations, avoided as much carbon dioxide as was released in its lifecycle.

As recommended in current guidance, estimated savings are for replacement of fossil fuel electricity generation but, while this could be the case in the short term, it is not the most probable scenario in the longer-term. The grid-mix of electricity generation represents the overall carbon emissions from the grid per unit of electricity and includes nuclear and renewables as well as fossil fuels. Based on the grid-mix results, the Proposed Development is expected to result in a

saving of approximately 79,585 tonnes of CO<sub>2</sub> per year with an expected carbon payback time of 2.5 years.

## 5.11 Benefits of the Proposed Development

The addition of the Proposed Development will deliver the following key benefits.

- The Proposed Development would contribute to the attainment of the UK and Scottish Government policies of encouraging renewable energy developments; and in turn contribute to the achievement of UK and Scottish Government targets for renewable electricity generation. The Proposed Development, with an installed capacity of approximately 108 MW, would make a valuable contribution to meeting such targets.
- The Government has confirmed its long-term commitment to the decarbonisation of electricity generation and the Proposed Development would help advance this policy objective.
- The Proposed Development would have a total capacity of 108 MW, generated by 18 ~6 MW turbines which together would produce around 411.5 GWh/year of clean power which would generate enough electricity to supply approximately 124,899 average Scottish households.
- The Proposed Development is expected to save approximately 79,585 tonnes of carbon dioxide per year, resulting in a total saving of over 3.9 million tonnes over the 50-year lifetime of the development, through displacing carbon-emitting generation.
- Energy generated from renewable sources makes a significant contribution to Scotland and the UK's energy security. The Proposed Development will increase indigenous production of renewable energy in Scotland while reducing the country's reliance on foreign fossil fuels, generating wealth from our own natural resources and improving the country's energy security. This will occur at a time when the country's demand for electricity is set to soar with the move to electric vehicles; it is important that the additional generation capacity to meet that demand comes from renewable sources.
- Based on an installed capacity of 108 MW, the Proposed Development will deliver up to £540,000 per annum in Community Benefit Funding or up to £27 m in total over its 50-year operational life.
- The Applicant is committed to a local supplier approach which aims to deliver a significant proportion of construction and operational contracts to local companies.

## 5.12 Availability of the EIA Report

In accordance with Section 18 of the EIA Regulations, copies of the EIA Report will be available for inspection by the public, notice of which will be published on the application website, in the Scotsman, the Edinburgh Gazette, and the Midlothian Advertiser.

Copies of the EIA Report are available by request from:

Torfichen Wind Farm Project Team  
Renewable Energy Systems Ltd.  
Third Floor, STV,  
Pacific Quay,  
Glasgow,  
G51 1PQ

Email: [sam.mayes@res-group.com](mailto:sam.mayes@res-group.com)

Website: <https://torfichen-windfarm.co.uk/>

The NTS is available free of charge, however hard copies of the full EIA Report will be charged at £1,500 per copy. This reflects the cost of producing the Landscape and Visual visualisations.

During the consultation period, a printed copy of the EIA Report will be available to view during opening hours at the following locations subject to agreement with MC and local communities:

- Middleton Village Community Hall; and
- Gorebridge Library

Electronic copies of the EIA Report, including all figures, appendices and accompanying documents are available to view on the project website <https://torfichen-windfarm.co.uk/> and can be accessed at <https://www.energyconsents.scot/>.

Alternatively, a USB copy can be made available on request at a charge of £15, by emailing [sam.mayes@res-group.com](mailto:sam.mayes@res-group.com).

## 5.13 Representations to the Application

Any representations to the application should be made directly to the Scottish Government at:

Energy Consents Unit  
5 Atlantic Quay  
150 Broomielaw  
Glasgow  
G2 8LU

Email: [representations@gov.scot](mailto:representations@gov.scot)

Online: <http://www.energyconsents.scot/>



## 6 Conclusion

This Non-Technical Summary of the EIA Report provides an overview of the Proposed Development. Within **Volume 1, Chapter 15** of the EIA Report a schedule of environmental commitments can be found which details the environmental mitigation measures which the Applicant has committed to implement.

**Volume 1, Chapters 15 and 16** of the EIA Report summarise the potential effects, mitigation to be implemented and the resulting residual effects. These chapters also provide a summary of the cumulative effects of the Proposed Development in combination with other proposed, consented and operational developments in the local area.

The final layout has been informed by a robust EIA and lengthy design iteration process, considering potential environmental impacts and their effects, physical constraints, and health and safety considerations. The information used to inform the design iteration process included consultation responses, baseline data and the impact assessment undertaken.

Consideration has been given to a range of design issues as well as various environmental, ecological and technical requirements. Predicted environmental effects arising from the Proposed Development have been mitigated as far as possible, if not eliminated during the iterative design process.

The Proposed Development site is considered an appropriate and viable location for a wind energy project due to:

- Initial desk-based studies and onsite wind data suggest that there is likely to be sufficient wind resource, and the Site is available for wind energy development;
- Potential to source construction material for Site infrastructure within the site, reducing offsite traffic, through the use of onsite borrow pits;
- Opportunity to provide a range of designed-in mitigation measures to minimise likely significant adverse impacts to sensitive receptors;
- Ability to positively contribute to regional and national renewable energy and carbon reduction targets, in line with local and national planning policy; and
- Ability to provide social and economic benefits to the local area.

Overall, the Proposed Development is an appropriately designed, and sensibly located wind farm which accords with and draws support from local and national planning policy. The Proposed Development has been designed to maximise renewable energy generation from the site, within acceptable environmental limits. The Proposed Development will provide a valuable contribution towards the ambitious national targets for electricity generation from renewable sources.