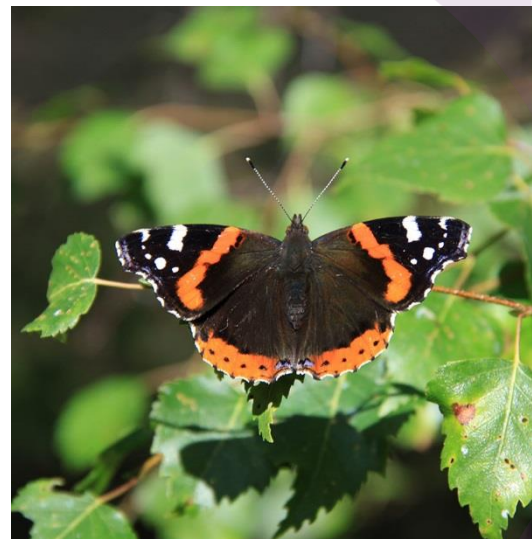


ScottishPower Renewables UK Limited

Land Adjacent to Whitelee Windfarm – Solar PV, Green Hydrogen Production and Battery Storage Facilities

Supporting Statement



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Document revisions

No.	Details	Date
1	Draft for Client Review	11.12.2020
2	Final Report	06.04.2021

Executive summary

Purpose of this report

- 1.1.1 This report has been produced to support an application under Section 36 (S36) of the Electricity Act 1989 (the Electricity Act) in respect of a proposed solar photovoltaic (PV) farm, Battery Energy Storage System (BESS) and associated ancillary and high voltage (HV) cabling elements (hereafter referred to as the "Proposed Development") on land to the west of Whitelee Windfarm within the administrative boundary of East Ayrshire Council (EAC). **Section 3** provides a comprehensive outline of the Site's location and a detailed description of what is being proposed.
- 1.1.2 This report sets out the full extent of the on-site infrastructure, demonstrates the legislative and planning policy context within which the Proposed Development is considered and provides an assessment against this planning policy context, alongside other material considerations, to determine its suitability in planning terms.
- 1.1.3 This application is made under Section 36 of the Electricity Act 1989, and as such is not strictly determined by its compliance with the Local Development Plan, however, the adopted Plan remains of a relevant consideration in considering the proposals, alongside national planning policy (e.g., the National Planning Framework for Scotland 3 (NPF3) and Scottish Planning Policy (SPP)), and local Supplementary Guidance. Further consideration of the merits of the Proposed Development and assessment against national and local policy and guidance is provided below within **Sections 5 - 7**. In addition, National Energy and Climate Change legislation and Policy will also be relevant.
- 1.1.4 Care has been taken to ensure that the embedded design, mitigation measures and overall nature of the Proposed Development fully accord with the provisions of adopted and emerging local and national planning and energy policy. Notably, the Site location has been selected so as to reduce as far as possible the potential adverse environmental impacts of the Proposed Development from an ecological, hydrological and landscape and visual perspective.
- 1.1.5 This report demonstrates that the Proposed Development would not have any significant adverse effects and would create a sustainable renewable energy development that would aid in the decarbonisation of Scotland and the UK. As **Section 6** of this report demonstrates, delivery of renewable energy development is critical to combating climate change.
- 1.1.6 In October 2019, the Climate Change (Emissions Reduction Targets) (Scotland) Act (the Climate Change Act) received Royal Assent. Through this Act, the Scottish Government committed to becoming carbon-neutral by 2045, a target which is five years' ahead of the rest of the UK and also introduced an interim target of 75% by 2030. The Act treats this target as necessary and not simply an ambition and consequently it must be reflected in the way which sustainable green energy projects are handled at the local level. This application is for a suitable and well-designed development that would directly contribute to the national targets by reducing reliance of fossil fuels. It is interlinked with a corresponding application for a green hydrogen production facility also proposed at the site and submitted to EAC under Section 32 of the Town and Country Planning (Scotland) Act, 1997 (the Planning Act). The Proposed Development, coupled with the green hydrogen production facility offers an opportunity to uniquely harness renewable solar energy in the delivery of green hydrogen and therefore creates a viable alternative to fossil fuels.
- 1.1.7 This application has been subject to an Environmental Impact Assessment (EIA) and is supported by an EIA Report. Full details of all supporting documentation which form this application are provided within **Section 1**.

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1. Introduction

1.1 General introduction

- 1.1.1 This Supporting Statement prepared by Wood Group UK Limited (the 'agent') ('Wood') provides an assessment of ScottishPower Renewables (UK) Limited's (the 'applicant') ('SPR') proposals for a combined solar PV farm, BESS and associated ancillary and HV cabling development (the 'Proposed Development'). In addition to the Proposed Development – which is the subject of this application – a green hydrogen production facility is being applied for under Section 32 of the Planning Act and this application is made to EAC. When combined, the Proposed Development and the green hydrogen production facility form the 'Project'. The Project is a term which is used to refer to two interconnected Proposed Developments operating in an integrated manner; the first being a solar photovoltaic (PV) farm and a Battery Energy Storage System (BESS) with an associated high-voltage (HV) cable, haul/link road and associated access(es) and infrastructure. The second of the Proposed Developments is a green hydrogen production facility which connects to the proposed solar PV farm as well as the BESS via the HV cable.
- 1.1.2 The Site is located immediately west of the existing Whitelee Windfarm at Eaglesham Moor with connection made to the Whitelee Windfarm Extension substation. The site is located in its entirety within the administrative boundary of East Ayrshire Council (EAC).
- 1.1.3 Further details of the applications and their assessment regimes is provided later in this report under **Section 2**.
- 1.1.4 This application is made to the Scottish Ministers via the Energy Consents Unit (ECU) under the requirements of the Electricity Act 1989 (the Electricity Act).
- 1.1.5 In addition to the request for consent under S36 of the Electricity Act, the applicant seeks a direction that planning permission be deemed to be granted under section 57(2) of the Town and Country Planning (Scotland) Act 1997 for the erection of a solar PV farm, BESS, HV cable and associated access(es), link/haul road and infrastructure.
- 1.1.6 The Site location is shown in detail on **Figure 1.3**. Further information on the Site and its surroundings is provided later in this report under **Section 3**.
- 1.1.7 This Supporting Statement supports Section 36 application submission for the Proposed Development. The application consists of the following documents with their associated appendices:

Table 1.1 List of associated documentation for S36 application

Document Title	Document Reference	Summary of Content
Covering Letter	43122-WOOD-XX-XX-CO-T-0002_S0_P01.1	A covering letter submitted with the application confirming the application submission and request for determination under S36 of the Electricity Act.
Copy of Notices/Adverts	-	Copy of EIA advert to follow via separate cover.

Document Title	Document Reference	Summary of Content
EIA Report	<p>Volume 1, Non-Technical Summary - 43122-WOOD-XX-XX-RP-OE-0001_S0_P01.1</p> <p>Volume 2, EIA Report - 43122-WOOD-XX-XX-RP-OE-0002_S0_P01.2</p> <p>Volumes 3 - 7, Appendices and Supporting Figures</p>	This EIA Report provides the Environmental Impact Assessment associated with the Proposed Development, with particular focus on ecological, hydrological, landscape and visual and traffic and transport assessment topics. The EIA Report has been undertaken holistically and therefore assesses both the Proposed Development as well as associated green hydrogen production facility which is subject to a separate application under Section 32 of the Planning Act. Further details of the associated development can be found below within Section 2 .
Supporting Statement	43122-WOOD-XX-XX-RP-T-0003_S0_P01.1	This Supporting Statement which presents an overview of the Proposed Development, the Site and consideration against International and National Energy Policy, National and Local Planning Policy and other material considerations.
Consultation Report	43122-WOOD-XX-01-RP-T-0001_S1_R1	A non-statutory Consultation Report providing a summary of pre-application consultation activities undertaken in respect of the Project.
Glint and Glare Assessment	43122-WOOD-ZZ-XX-RP-OP-0001_S0_P01.1	A standalone Glint and Glare Assessment submitted in support of the Proposed Development which undertakes an assessment of impact on identified aviation, road user and residential receptors in respect of the potential impacts arising from the solar PV farm.

1.1.8 This Supporting Statement is structured as follows:

Table 1.2 Supporting statement structure

Section	Summary
Section 2: Background and Overview	Provides information on the background surrounding this application and its context, and information on the agent and applicant.
Section 3: Site and Proposed Development	Provides information on the Site and its surroundings and describes what the Proposed Development is.
Section 4: Design and Access	Provides a summary of the design process undertaken in respect of the Proposed Development and consideration of the chosen design against national policy requirements.
Section 5: Legislative Context	Explains the relevant legislation that the Proposed Development is beholden to.

Section	Summary
Section 6: Renewable Energy Policy and Legal Framework	Highlights the sizeable amount of renewable energy supporting documentation that exists.
Section 7: Planning Policy	<p>Outlines the relevant Development Plan and its relevant policies.</p> <p>Outlines the relevant national and local planning policies and other material consideration and provides an assessment of the Proposed Development and its potential effects against these.</p> <p>A Landscape and Visual Appraisal specific to the Proposed Development with cumulative consideration of the wider Project.</p> <p>An ecological appraisal specific to the Proposed Development with cumulative consideration of the wider Project in respect of Habitat Loss.</p> <p>A summary of the combined geological, hydrological and hydrogeological appraisal specific to the Proposed Development and cross-referenced from the HIA undertaken and submitted with the S36 application.</p> <p>A brief summary of considerations in respect of waste and air quality.</p>
Section 8: Summary and Conclusions	Summarises why the Proposed Development should be granted consent.

2. Background and overview

2.1 Introduction

- 2.1.1 This Section provides a contextual background to the wider Project within which the Proposed Development sits as well as relevant background information concerning the applicant, the agent and the reasons why the Site has been selected. All information contained within this Section of the report is provided at a Project level for the ease of understanding by the ECU, consultees and interested third parties. Further details specific to the Proposed Development can be found below within **Section 3**.

The applicant

- 2.1.2 SPR (the applicant) has been operating within the renewable energy market for many years and has successfully developed schemes ranging from wind farms to solar farm developments alongside other large-scale infrastructure projects. The applicant is at the forefront of the development of the renewables industry through pioneering ideas, forward thinking and outstanding innovation. Its ambitious growth plans include expansion of its existing onshore wind portfolio, investment in new large-scale solar deployment and innovative grid storage systems including batteries.

The agent

- 2.1.3 Wood is one of the UK's largest multidisciplinary environmental and engineering consultancies. The business forms part of a global business supplying consultancy, engineering and project management services. From 12 office locations around the UK, Wood contributes across the business cycle from policy setting through strategy into implementation, development and operational effectiveness. With skills ranging from development planning and design through an array of environmental and engineering disciplines, Wood has a comprehensive service portfolio and applied experience in a wide range of markets.

2.2 Pre-application activities

Consultation

- 2.2.1 Prior to the submission of this Supporting Statement, consultation has been undertaken with both the Energy Consents Unit (ECU) and the local planning authority EAC.
- 2.2.2 **Table 2.1** lists the dates of all consultation between Wood, the applicant, the ECU, NatureScot (previously Scottish Natural Heritage) ('NS') and EAC undertaken to date.

Table 2.1 Summary of Pre-application engagement with determining authorities and consultees

Date	Consultee	Attendees	Summary
18.08.2020	ECU	Ruth Findlay (ECU) James McKenzie (ECU) Dan Ferrier (SPR) Jamie Gilliland (SPR) Lewis Monaghan (SPR) Chris Pepper (Wood) Fergus Tickell (Wood)	Initial pre-application discussion and introduction to the Proposed Development by the applicant and Wood.

Date	Consultee	Attendees	Summary
10.09.2020	ECU & EAC	Alan Brogan (ECU) James McKenzie (ECU) David Wilson (EAC) Dan Ferrier (SPR) Jamie Gilliland (SPR) Lewis Monaghan (SPR) Chris Pepper (Wood) Fergus Tickell (Wood)	Project introduction to EAC, high level discussion on principles of development within the site and detailed discussion submission and appropriate determination routes.
18.11.2020	ECU & EAC	James McKenzie (ECU) David Wilson (EAC) Dan Ferrier (SPR) Jamie Gilliland (SPR) Lewis Monaghan (SPR) Chris Pepper (Wood) Alastair Evans (Wood) Fergus Tickell (Wood)	Post-EIA Screening Request meeting to discuss Screening Request submission, content and findings. Discussion with all parties on scope and nature of public engagement requirements.
10.12.2020	NS & ECU	Lyndsey Kinnes (NS) Andrew Coupar (NS) Amea Hood (NS) Kenny Taylor (NS) Danielle Thomson (NS) Dave Lang (NS) James McKenzie (ECU) Dan Ferrier (SPR) Jamie Gilliland (SPR) Lewis Monaghan (SPR) Coni Caskie (SPR) Pete Robson (SPR) Chris Pepper (Wood) Alastair Evans (Wood) Alastair Miller (Wood)	Pre-Application meeting to discuss implications of construction and operation of solar PV infrastructure on peatland and peatland habitats, including introduction of NS to Project.
11.01.2021	EAC	David Wilson (EAC) Dan Ferrier (SPR) Jamie Gilliland (SPR) Lewis Monaghan (SPR) Chris Pepper (Wood) Alastair Evans (Wood)	Pre-Application meeting with EAC planning officer to discuss evolution of Proposed Development. Discussion centred around requirement to show an access where it was agreed that an access was not necessary to support the application on the basis that it is being applied for under the corresponding S36 application being made to the ECU and that sufficient detail is made within the Planning Statement of the Full Planning Application to address this matter.

2.3 Project overview

- 2.3.1 It is relevant to set out the background to the Proposed Development and how it fits into the wider strategic Project. As explained further below, the Proposed Development forms a series of interlinked components which sit within a broader strategic strategy for the production of green hydrogen within the Site.

- 2.3.2 In this regard, the term 'Project' is used to refer to all of the core components irrespective of their consenting route (either via the Electricity Act or via the Town and Country Planning (Scotland) Act 1997). The purpose of providing this overview is to present to the ECU the necessary context by which the components which comprise the Proposed Development sit within. This information is provided to aid in the contextual understanding of what components are involved and how they fit within the overall scheme.
- 2.3.3 The EIA Report which accompanies this application also considers development of the site at a Project level – covering all components irrespective of consenting route – in order to present the most robust assessment of potential environmental impact.
- 2.3.4 **Table 2.2** below summarises the Project components.

Table 2.2 Project summary by component

Component	Summary	Consenting Route	Determining Authority
Solar PV farm	Up to 40MW solar PV farm including temporary construction laydown area, a 1.5km link road to/from the B764, a substation compound (embedded within the same stone platform as the green hydrogen production facility), an 8km HV cable linking this to the existing substation at Whitelee Extension and associated infrastructure.	Application submitted under S36 of the Electricity Act. A request is also being made that a direction be issued under section 57 (2) of the Town and Country Planning (Scotland) Act 1997 that planning permission be deemed to be granted. Components submitted under S36 are due to classification as Electricity Generating Stations.	Scottish Ministers via the ECU.
BESS	c. 50MW BESS including an associated HV cable linking the BESS with the existing substation at Whitelee Extension, a temporary construction laydown area and associated infrastructure	Application submitted under S36 of the Electricity Act. A request is also being made that a direction be issued under section 57 (2) of the Town and Country Planning (Scotland) Act 1997 that planning permission be deemed to be granted. Components submitted under S36 are due to classification as Electricity Generating Stations.	Scottish Ministers via the ECU.
Green hydrogen production facility	A green hydrogen production facility including accesses, a temporary construction laydown area and associated infrastructure	Application for Full Planning Permission submitted under Section 32 of the Town and Country Planning (Scotland) Act 1997, as amended. Green hydrogen production facility is a consumer of electricity but does not act as an Electricity Generating Station, nor is it deemed ancillary to the other components of the project.	EAC.

- 2.3.5 In its totality, the Project is a renewable energy development that intends to make use of available renewable energy technologies to maximise and optimise the green energy potential of the Site. The applicant wishes to construct a solar PV farm with a combined rated output of up to 40MW.
- 2.3.6 This solar PV farm has the primary function of providing the main source of green electricity to the proposed green hydrogen production facility which has a rated energy consumption of 20MW. During peak production, the green hydrogen production facility is anticipated to produce c. 10

tonnes of green hydrogen per day and will consume c. 480,000 litres of water per day, which will be taken from a dedicated direct water supply.

- 2.3.7 To support the Project, it is proposed to construct a BESS located to the south of the solar PV farm and green hydrogen production facility and c. 0.65km west of the existing Whitelee Extension substation, into which it will connect. The BESS will have a storage capacity of 100MWh and a maximum discharge capability of 50MW and will act as a supplementary/auxiliary source of energy capacity for the green hydrogen production facility during times where there is insufficient electricity generation from the solar PV farm on its own. The BESS will be connected to the solar PV farm and green hydrogen production facility by means of a buried HV cable. When surplus electricity is generated from the solar PV farm, the BESS can store this for later use during periods of low generation output, or it can be exported via the existing Whitelee Extension substation to support the stability of the electrical grid.

Project Site selection

- 2.3.8 The applicant's site selection process is designed to identify sites which provide the most financially and technically viable option whilst being the least environmentally impactful and thereby standing the best opportunity to gain consent. The applicant has selected this Site principally as it allows for the best opportunity to make a meaningful contribution to Scotland's national targets for renewable energy generation and further Whitelee's position as centre for green energy in Scotland.
- 2.3.9 The applicant is committed to avoiding the development of renewable energy infrastructure in areas where there would be an unacceptable effect on designated sites and where suitable mitigation cannot be achieved. The applicant is also committed to not considering sites that have an unacceptable effect on landscape character or amenity of National Parks and National Scenic Areas, and special consideration is attributed to internationally and nationally important species and habitats in the wider area.
- 2.3.10 The following factors have led to the selection of this Site for the Project:
- Acceptable solar resource during peak months.
 - Good levels of site accessibility and access from the motorway network.
 - The lack of statutory nature conservation designations on the site.
 - The close proximity to potential grid connection points.
 - The relatively sparse population of the surrounding area.
 - A good landscape fit.
 - A good opportunity to extend the green energy infrastructure for which the wider Whitelee Windfarm is associated with and the ability to provide connection to the windfarm – increasing operating efficiency.
 - Past knowledge of the site gained from the previous Whitelee Windfarm Extension Phase 3 application, including the ability to use previously gathered baseline data to inform design principles.
 - Designated as an area with potential for Wind Energy Development within the East Ayrshire Local Development Plan 2017 (LDP2017) which sets a policy context for renewable/green energy.

Benefits of the Project

- 2.3.11 The proposed solar PV farm would have an anticipated nominal capacity of up to 40MW. The solar PV farm will serve primarily to provide renewable energy to the green hydrogen production facility during peak solar months. Where seasonal variances do not support full deployment of electricity sufficient for the green hydrogen production facility, provision is made within the design to supplement any shortfall in supply by directing supply from either the BESS or from Whitelee Windfarm via the existing Whitelee Extension substation. Likewise, were a situation to arise during peak solar months where an oversupply of electricity is generated from the solar PV farm, the HV cable routing flow can be reversed to direct excess electricity to the BESS for storage and future reuse or to the existing Whitelee Extension substation for distribution to the Grid.
- 2.3.12 Further underlining the Project's green credentials. The *green* hydrogen production facility uses 100% renewable energy to produce high purity hydrogen via electrolysis of water, suitable for use straight away without further processing *Blue* hydrogen on the other hand is achieved using processes such as Steam Methane Reforming (SMR), which consume fossil fuels and produce hydrogen fuel of a lower purity level. With the national agenda toward decarbonisation in Scotland set, the applicant recognise the need to deliver new renewable energy technologies to the highest level of green credentials and this ability to capitalise on the existing wind energy resource as a fall back to the solar PV farm has been a key driver in the selection of Whitelee for the siting of this Project.
- 2.3.13 Scotland is legally bound through the Climate Change (Scotland) Act (2009) as amended to reduce carbon emissions to Net Zero by 2045, with interim targets to reduce emissions by 56% by 2020, 75% by 2030 and 90% by 2040. A series of annual targets towards this Net Zero and interim target have also been set. Presently, these annual targets have not been met in Scotland for the past two years, demonstrating the clear scale of the challenge that Scotland is urgently facing.
- 2.3.14 The Project is an exemplar in the multi-faceted approach to the delivery of new forms of green technologies which can support existing forms of renewable energy and represents a step toward making a substantial contribution to national climate change targets and in particular towards the interim target of a 75% reduction in greenhouse gas emissions by 2030.
- 2.3.15 Hydrogen is particularly valuable in terms of helping to decarbonise transportation methods that have, until now, been viewed as very difficult to decarbonise. Such transportation includes heavy industry and commercial transport, aviation, and maritime transport – often some of the most polluting transportation methods with the largest carbon footprints.
- 2.3.16 The green hydrogen production facility is therefore an opportunity to deliver renewable fuel to power a new, green fleet of transport and heavy freight vehicles. As the hydrogen is produced from water using 100% renewable energy, and as only water vapour and oxygen are the by-products of the heating of the source water, the green hydrogen production facility will reduce harmful emissions and move the country towards its national decarbonisation objectives by reducing the carbon emissions produced by the transport and freight sector in Scotland.
- 2.3.17 In the context of the wider international and national policy, aims and objectives, the Project would represent a significant opportunity for the delivery of new and diverse forms of renewable energy development, due to its interlinked solar PV, green hydrogen production and BESS elements.

Consenting considerations

- 2.3.18 Under Section 58(1) of the Planning Act, the duration prescribed for which a development must be enacted is 3 years from the date of decision. Without prejudice to the ultimate determination of this application, the applicant requests that any deemed consent granted under the provisions of the Planning Act be subject to an extended duration to no less than 10 years from the date of

decision. This request is made under section 58(2) of the Town and Country Planning (Scotland) Act 1997 which provides the determining authority with the power to lengthen the duration of enactment through a direction in line with the guidance of Circular 3/2013 Development Management Procedures.

3. Site and Proposed Development

3.1 Site location

- 3.1.1 The Site is located immediately adjacent to Whitelee Windfarm and is wholly contained within the local authority area of East Ayrshire. Overall, it encompasses a total area of approximately 1,000+ hectares. Of this area it is anticipated that between 40 and 50 hectares would be considered net developable area for the Project, with an additional c. 8km cable route connecting between the green hydrogen production facility, the BESS, and the existing Whitelee Windfarm Extension substation. Of the total cable route, 4.4km comprises new cable and 3.6km is existing cable between wind turbines to which the route will tie in.
- 3.1.2 The Site boundary extends from the B764 at its north west corner to an area of upper peatland in its north east corner which is located immediately adjacent (south) of a bank of commercial forestry (situated between the Site boundary and the B764). This northern area of the site is the location of the proposed solar PV farm. It then extends south over the existing Whitelee Windfarm HMP land and forestry tracks (the location of the proposed HV cable). The proposed HV cabling then connects to existing HV cable infrastructure associated with the existing Whitelee Windfarm Extension turbine spur located west of Craigendunton Reservoir, where the site continues to extend in a south eastern direction to incorporate the existing Whitelee Extension substation (south east corner) and the location of the proposed BESS (west of the existing Whitelee Extension substation) in its south western corner.
- 3.1.3 The Site is located approximately c. 6.8km (4.25 miles) from the nearest settlements of Eaglesham (East Renfrewshire, to north east), c. 7.4km (4.6 miles) from Fenwick (East Ayrshire, to south west), c. 5.8km (3.6 miles) from Waterside (East Ayrshire, to south west) and c. 8km (5 miles) from Moscow (East Ayrshire, to south).
- 3.1.4 The Site is located within a highly accessible area adjacent to the B764 which is located to the north of the Site boundary with access to the strategic motorway network from the M77 within c. 800m to the west of the proposed site access.
- 3.1.5 The red line Site boundary associated with this application is included within **Appendix A** of this document and can be viewed separately as **Figure 1.3**.
- 3.1.6 The Site boundary for the Proposed Development is the same as the Project Site Boundary used for the EIA and EIA Report. The extent of the EIA Report boundary is shown in **Figure 1.5** contained within Volume 7C of the EIA Report.

Proposed Development component locations

- 3.1.7 The main components of the Proposed Development are located as shown in **Table 3.1** below.

Table 3.1 Component locations

Component	UK Grid Reference (centred location)
Primary Site Access	NS 49870 47450
Solar PV farm	NS 50631 47244
BESS	NS 54619 44999

- 3.1.8 In addition to the main components of the Proposed Development outlined in Table 3.1 above. The location of the green hydrogen production facility (Full PP) is located within its own site which is located immediately adjacent to the solar PV farm and within the wider Project Site boundary (boundary for Proposed Development). This location is centred on Grid Reference NS 51284 47199.

Site characteristics

- 3.1.9 To the immediate north of the Site between the Site and the B764 is a coniferous forestry plantation. The area of land identified for the solar PV farm comprises plateau moorland and felled coniferous plantation, and to the immediate east of this area is the Eaglesham Moor part of the existing Whitelee Windfarm, which is nearby the Lochgoin circuit, Lochgoin reservoir, Lochgoin farmhouse and monument. Peat bog underlies a significant proportion of the northern part of the Site at varying depths. The layout of the solar PV farm (and the location of the associated green hydrogen production facility) has been selected to avoid areas of deeper peat and concentrate development in areas where peat bog has been identified as being 1m or less in depth.
- 3.1.10 The southern part of the Site comprises sections of commercial forestry to the north, west and south, interspersed with areas of moorland combined with existing access tracks between the existing wind turbines of the Whitelee Windfarm Extension. To the east is situated the existing Whitelee Windfarm Extension substation (c. 800m). To the distant northwest is Craigmund Reservoir (2km).

3.2 Proposals

Solar PV farm and access

- 3.2.1 It is anticipated that the solar PV farm will comprise c. 62,000 solar panels, each with height less than 3m at the frame's highest point, constructed as a series of arrays. The panels will connect via HV and LV cabling to a proposed substation building located within the green hydrogen production facility development area. From this substation, HV cabling provides further direct connection between the green hydrogen production facility and the BESS.
- 3.2.2 It is proposed to locate the solar PV farm within a section of the Site contained to north west of the Site boundary and centred on NS 50955 47366. This area of the Site sits south of Kingswell and Tent Knowe and east of Cauldstanes at Collory Bog and extends to approximately 12.5 hectares. This area allows the solar PV arrays to be located in such a way whereby they can be optimally integrated into the landscape with minimal regrading of the land or changes to its natural topography.
- 3.2.3 The final choice of solar PV panel model would be selected through a competitive procurement process prior to installation on site. At submission stage, it is uncertain which panel model would be used and therefore a degree of flexibility is required regarding the ultimate panel design and dimensions. However, based on the requirement to achieve a solar scheme which would provide up to 40MW output, it is anticipated that the installed nominal capacity of each panel will be at least 310W.
- 3.2.4 The proposed layout has been selected in response to various site constraints, with the specific intention of avoiding, where possible, areas of deep peat and good condition blanket mire. To achieve this, initial peat probing has been conducted across the identified solar search area and this data has been incorporated into a constraints plan, which has informed the layout.
- 3.2.5 In addition to the peatland constraints, there are a number of watercourses which cut across the solar PV farm. A standard buffer of 20m has been applied to these watercourses to mitigate against

any potential impacts on water quality and groundwater dependent terrestrial ecosystems (GWDTEs). Further detailed information on these watercourses can be found within the corresponding Hydrological Impact Assessment Report (report ref. 43122-WOOD-ZZ-XX-RP-OW-0001_S0_P01.1) submitted with this application.

- 3.2.6 The proposed link/haul road which travels east/west between the new access at the B764/Moor Road would support the construction of the solar panel arrays. The solar panel arrays have been designed around the need for this access, but its location may be micro-sited within 100m either side of its location as shown on **Figure 1.4** contained within **Appendix B**. This micro-siting is requested in order to allow a degree of flexibility to take into account localised ground conditions and other environmental constraints which may be identified during post-consent survey works. The applicant would seek to agree the use of a planning condition requiring all micro-siting to be agreed with the Local Planning Authority in advance of construction works taking place.

Proposed access

- 3.2.7 The Site would eventually be accessed via a proposed new vehicular junction to/from the B764 (NS 49870 47450) which leads to a proposed internal 1.5km link/haul road travelling east/west between the junction and the green hydrogen production facility. This access has been designed to a suitable standard for the use of 17.5m steel beam, 4 doll transporters (tube trailers) which are the largest vehicles which will use the link/haul road and are required for the export of hydrogen. The haul/link road also primarily supports access for smaller maintenance vehicles for the solar PV farm supporting the operation of the solar PV farm. For further information please refer to the Volume 2, Chapter 9 of the accompanying EIA Report.

Solar PV Ancillary Infrastructure

- 3.2.8 The solar PV farm will include several centre inverter stations (approximately 10 of), site tracks, HV and LV cabling, perimeter security fencing and CCTV cameras. The final detail of these layouts will be informed by further post-consent survey works, and the applicant would seek to agree the finalised designs and locations of all ancillary infrastructure through planning conditions.

Solar PV Temporary Construction Laydown Area

- 3.2.9 For the purposes of construction, a temporary construction laydown area is required. This area, located at NS 49974 47276, would measure approximately 0.8 hectares and would be formed of a hardstanding with perimeter security fencing, details of which will be agreed prior to construction activities taking place. The temporary construction laydown area is required throughout the duration of construction activities on site and would be removed prior to operation.

BESS

- 3.2.10 The BESS would have an operating capacity of up to 50MW. It is constructed as a portal frame building of approximate dimensions 70m x 62.5m x 6.8m (to apex) enclosing the following elements:
- 3 No. Battery rooms.
 - 2 No. Transformer/inverter compounds.
 - HV Switchgear room.
 - LV room.
 - Store.

- Office and WC.
- Supervisory Control and Data Acquisition (SCADA) equipment.

3.2.11 Outwith the main building is associated plant including:

- 2 No. HVAC condenser plinths.
- LV switchroom.
- Site security kiosk.
- Water tank (fire suppression system).
- 2m high security fencing.
- Up to 6 vehicle parking spaces.

3.2.12 The BESS design is based on that of the Whitelee BESS located adjacent to the Ardochrig electrical substation, which was consented by the ECU (ref. ECU00000729) in June 2019 and which is under construction at the time of writing.

3.2.13 The BESS is centred on Grid Reference NS 54619 44999 and its location is shown on **Figure 1.4** contained within **Appendix B**.

3.2.14 It is proposed that the BESS compound would be situated at the location of the former construction compound for the Whitelee Windfarm Extension, on a platform which extends to c. 1.1 hectares (100m x 110m footprint), and which would be within the southern part of the Site. This area of land is located at Rough Hill approx. 2.18 km south west of Craigendunton Reservoir. The BESS site is c. 800m west of the Whitelee Windfarm Extension substation where it will connect via buried HV cables.

BESS construction laydown area

3.2.15 For the purposes of construction, a temporary construction laydown area is required. This area, located at NS 54678 45042, would measure approximately 0.3 hectares and would be formed of a hardstanding with perimeter security fencing, details of which will be agreed prior to construction activities taking place. The temporary construction laydown area is required throughout the duration of construction activities on site and would be removed prior to operation.

BESS access

3.2.16 Additional to the new Site access outlined above, site access to the BESS is anticipated via the existing Whitelee Windfarm spine (link) road via the B764 (NS 51762 48585). This existing access currently serves as the operational access to the applicant's Control Centre and is a controlled access managed by the applicant. From this link road, direct access can be taken through the Whitelee Windfarm Extension access tracks directly to the substation and BESS at the south of the Site. This road has been built and designed to a standard capable of supporting abnormal loads – due to its use for the Whitelee Windfarm Extension construction and is therefore sufficient as a means of operational access to/from the BESS and also as a means of construction access for the BESS and any abnormal loads required.

HV cable

3.2.17 The route of the proposed HV cable is shown on **Figure 1.4** contained within **Appendix B**. The precise location of the cable route will be micro-sited post consent in order to provide flexibility for the construction of this component.

- 3.2.18 The HV cable comprises a mix of new cable and tie ins to existing HV cable apparatus at Whitelee Windfarm Extension.
- 3.2.19 A new section of HV cable measuring approximately 4km will run north/south between the substation contained within the green hydrogen production facility and an existing wind turbine located at the Rough Hill area of the Site, to the west of Craigendunton Reservoir (NS 51959 45164). The route will partially follow existing forestry tracks to minimise environmental impacts within the Habitat Management Plan (HMP) area located south of the solar PV farm and green hydrogen production facility.
- 3.2.20 At the point of the existing wind turbine identified in the preceding paragraph, the new section of HV cable would tie on to an existing section of HV cable which runs between the 6 turbines of the Rough Hill spur of the Whitelee Windfarm Extension over a length of approximately 3.6km, to the existing Whitelee Extension substation. By taking advantage of existing HV cable apparatus in this location, construction works and disruption to the windfarm are significantly minimised.
- 3.2.21 From the southernmost wind turbine of the Rough Hill spur (NS 54913 45179), the cable route branches east and west. To the east the existing HV cable route remains as existing over a distance of 330m, terminating at the existing Whitelee Extension substation. To the west a new section of cable measuring approximately 385m will terminate at the BESS.
- 3.2.22 Across its span, the proposed HV cable will be buried beneath ground.

HV Cable Route - New access tracks

- 3.2.23 The majority of the HV cable would make use of existing tracks within the Site. New lengths of track would be required for a section to the east of Flow Moss to Dunton Water. These new tracks would be retained following the completion of construction for east of access and maintenance of the HV cable apparatus and infrastructure as well as benefitting commercial forestry activities within the locale.

Ancillary infrastructure

- 3.2.24 In addition to the main temporary construction laydown areas, it is proposed that there will be several minor laydown areas located throughout the Site, which will be used in a temporary capacity for the duration of construction before being removed and restored. The location of these areas would be confirmed post-consenting during pre-construction mobilisation activities. Their finalised locations would be included within the Construction Environmental Management Plan (CEMP) supporting information which the applicant anticipates submitting for the approval of EAC prior to the commencement of construction activities on site.

3.3 Project programme

- 3.3.1 It is anticipated that construction activities associated with the entire Project would take approximately 53 weeks/12.25 months with a programme based on a predicted construction commencement date in April 2022 and a construction completion date of April 2023. The breakdown of construction activities as currently anticipated is as shown in **Table 3.2**.

Table 3.2 Summary construction programme

Activity	Projected Timeframe
Mobilisation – Civil Works	8 weeks
Site Access Construction	8 weeks
Haul/Link Road Construction	28 weeks
Solar PV frame installation	11 weeks
Solar PV panel installation	12 weeks
Solar PV cabling	12 weeks
BESS Construction Operations	37 weeks
Grid Connection	16 weeks
Site Restoration and Reinstatement	4 weeks

- 3.3.2 Construction activities across all components of the Project will occur on a 7 day per week basis. It is anticipated that permitted core working hours shall be between 07:00 (7am) until 19:00 (7pm) Monday – Friday and 08:00 (8am) until 16:00 (4pm) Saturdays and Sundays. The exact figures for construction staff on-site vary across the duration of the construction phase, and it is yet to be established what construction staff figures will be on a component-by-component basis. At peak it is currently predicted that there may be up to 200 members of staff on site per day.
- 3.3.3 Further details of the construction programme can be found within **Volume 2, Chapter 3** of the EIA Report.

Temporary works phase

Construction traffic and access

- 3.3.4 The Site has good access to the surrounding road network. It is envisaged that all development related vehicles would access the Site from the wider transport network via the M77/A77 corridor. Traffic to and from the north (of the Site) would leave the strategic road network at Junction 6, and traffic to and from the south (of the Site) would leave at Junction 7 and 8 of the M77, route along the A77 to the B764, and then east to the Site.
- 3.3.5 It is anticipated that the solar PV panels, plant and infrastructure will be primarily fabricated off-site and then transported to the Site via the motorway network, with access taken from the M77, junction 6. Upon arrival at the Site entrance, access will be taken to the northern part of the Site via the proposed new Site access and link road for works associated with the solar PV farm and the northern sections of the HV cable route.
- 3.3.6 For the BESS and the southern sections of the HV cable route, access will be taken through the existing Whitelee Windfarm. This access is proposed via the existing Whitelee Windfarm Control Centre access (spine) road located at the B764/Moor Road (NS 51764 48588) which runs north/south parallel to the Site's eastern boundary and allows for internal access routing to the existing Whitelee Extension substation and the BESS site via existing access tracks.
- 3.3.7 It is not anticipated that abnormal loads will be required to support the delivery of Site infrastructure and that in most cases standard HGV movements can be predicted. Where abnormal

loads may be required in limited circumstances, routing will be directly via the motorway network as above and as outlined within Volume 2, Chapter 9 of the EIA Report.

- 3.3.8 It is anticipated that prior to construction works being undertaken that a Construction Traffic Management Plan (CTMP) will be prepared in line with best practice guidance, and the applicant anticipates that such a requirement would form a condition of any consent granted.
- 3.3.9 Furthermore, it is anticipated that site personnel and construction workers will travel to the Site on a shared transportation basis and that the detail of this and its management would be contained within the CTMP.

Construction Environmental Management Plan

- 3.3.10 It is proposed that the management of all construction activities on site would be informed through the production of a Construction Environmental Management Plan (CEMP) which would be prepared and adopted prior to the onset of construction activities on site. The CEMP would be produced in line with best practice guidelines and in consultation with EAC and other identified stakeholders. As with the CTMP, it is anticipated that the requirement for a CEMP would form a condition of consent.
- 3.3.11 Combined, the CTMP and CEMP would form the primary management and reporting tools for all on-site construction activities.

Operational phase

- 3.3.12 The applicant's experience through operation of the UK's largest portfolio of windfarms suggests that there is no operational need to limit the lifetime of renewable energy development. Therefore, consent is being sought for the Proposed Development in perpetuity. Increasing the operational period allows the costs of renewable energy to be reduced and maximises the contribution that the Proposed Development (and the Project as a whole) can make towards climate change and renewable energy targets. Furthermore, there are no current statutory or legislative limits to the duration of consent for renewable energy development proposals.

Decommissioning

- 3.3.13 Decommissioning of components will take account of the environmental legislation and technology available at the time of decommissioning. While it is noted that consent is sought in perpetuity and therefore decommissioning would only occur when a component, or section of, reaches the end of its operational lifespan it is anticipated that replacement works would occur on a like for like basis. Where necessary, notice will be given to EAC in advance of commencement of decommissioning works, with all necessary licenses or permits being acquired. This will be in line with the decommissioning plan to ensure any works are timed to minimise environmental impact.

3.4 Peatland restoration considerations

- 3.4.1 In order to achieve the green production of hydrogen, the plant must be powered by 100% renewable energy. At present there is not enough spare capacity within the Whitelee Windfarm to support the demands of the green hydrogen production facility. This, coupled with the refusal of the Whitelee Phase 3 extension in 2015, means that the applicant has sought to look at alternatives to sole reliance on wind energy for this Proposed Development. This has resulted in the proposed solar PV farm which will be the primary generator of renewable energy supporting the green hydrogen production facility.

- 3.4.2 It is most efficient to site the solar PV arrays within close physical proximity to the green hydrogen production facility and avoid long cable runs where possible. Consequently, the location for the solar PV farm has, in part, been informed by the need for the green hydrogen production facility to take advantage of the Site's proximity to the motorway network. The result of this is that solar PV arrays would be constructed on areas of pre-existing peat bog.
- 3.4.3 The applicant recognises the potential impacts of construction on peat bog and the potential for the solar PV arrays to impact on the peatland habitat, including GWDTEs. Significant evaluation of the peatland habitat from both an ecological and a hydrological perspective has been considered in the generation of the Proposed Development – including recommendations for mitigation against potential impacts and for compensatory peatland restoration.
- 3.4.4 Further information on peatland restoration and habitat management is set out within **Volume 2, Chapter 6** of the accompanying EIA Report.

4. Design and access considerations

4.1 Introduction

- 4.1.1 This Section of the Supporting Statement comprises a brief statement regarding the design considerations of the Proposed Development. It demonstrates how the Site and its surroundings have been fully appraised to ensure that the final design solution achieves a balance across a range of factors which are required to be addressed. It describes the starting point for the design of the Proposed Development, the various factors that have driven the design process, and subsequent iterations to the layout that were made in response to the environmental and technical considerations.
- 4.1.2 This DS has been prepared in reference to Regulation 13 of the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013. Whilst the submission of a DS is not a requirement for Section 36 application, consideration of design and access relative to the Proposed Development has been included in the interest of producing a comprehensive application.

4.2 Design principles and design evolution

Technical and environmental constraints

- 4.2.1 This section discusses the key design issues and constraints relevant to the Proposed Development and the way they have been addressed in its layout and design.

Use

- 4.2.2 The Proposed Development comprises a solar PV farm, a BESS, ancillary infrastructure including an HV cable and Site access as outlined above within **Section 3**.
- 4.2.3 Due to the land required for such developments, they are generally located outside of urban areas and within the countryside, where the capacity to accommodate such developments exists. The Site offers many benefits in this regard, specifically due to its proximity to the national motorway network via the M77, its availability of developable space for the solar PV farm at a location where it is capable of providing sufficient solar yield, and its relationship with the adjacent Whitelee Windfarm which allows existing infrastructure to be efficiently utilised – offering the opportunity to further Whitelee's reputation as a centre for excellence in renewable energy technology and infrastructure within the UK.
- 4.2.4 The extent of the Proposed Development has been refined and finalised having consideration of potential environmental effects. A series of technical assessments have been undertaken to accompany this application assessing the potential environmental effects of the Proposed Development both on the Site and on identified receptors beyond the Site.
- 4.2.5 As a result of the iterative design process, the Proposed Development is confined to locations within the Site where effects have been limited as far as possible and are considered appropriate

Access and Cable routing

- 4.2.6 The onsite access tracks and cable routing have been designed to use existing forest tracks and windfarm tracks as far as possible while minimising cut and fill requirements, in order to reduce the

amount of ground disturbance, amount of material required for construction, loss of sensitive habitats, and landscape and visual effects, particularly during construction. Localised areas of deeper peat have been avoided wherever possible and the number of watercourse crossings has been minimised.

- 4.2.7 All new access tracks and the link/haul road have been designed to avoid excessive gradients to aid the safe usage of the tracks and delivery of plant components in particular.

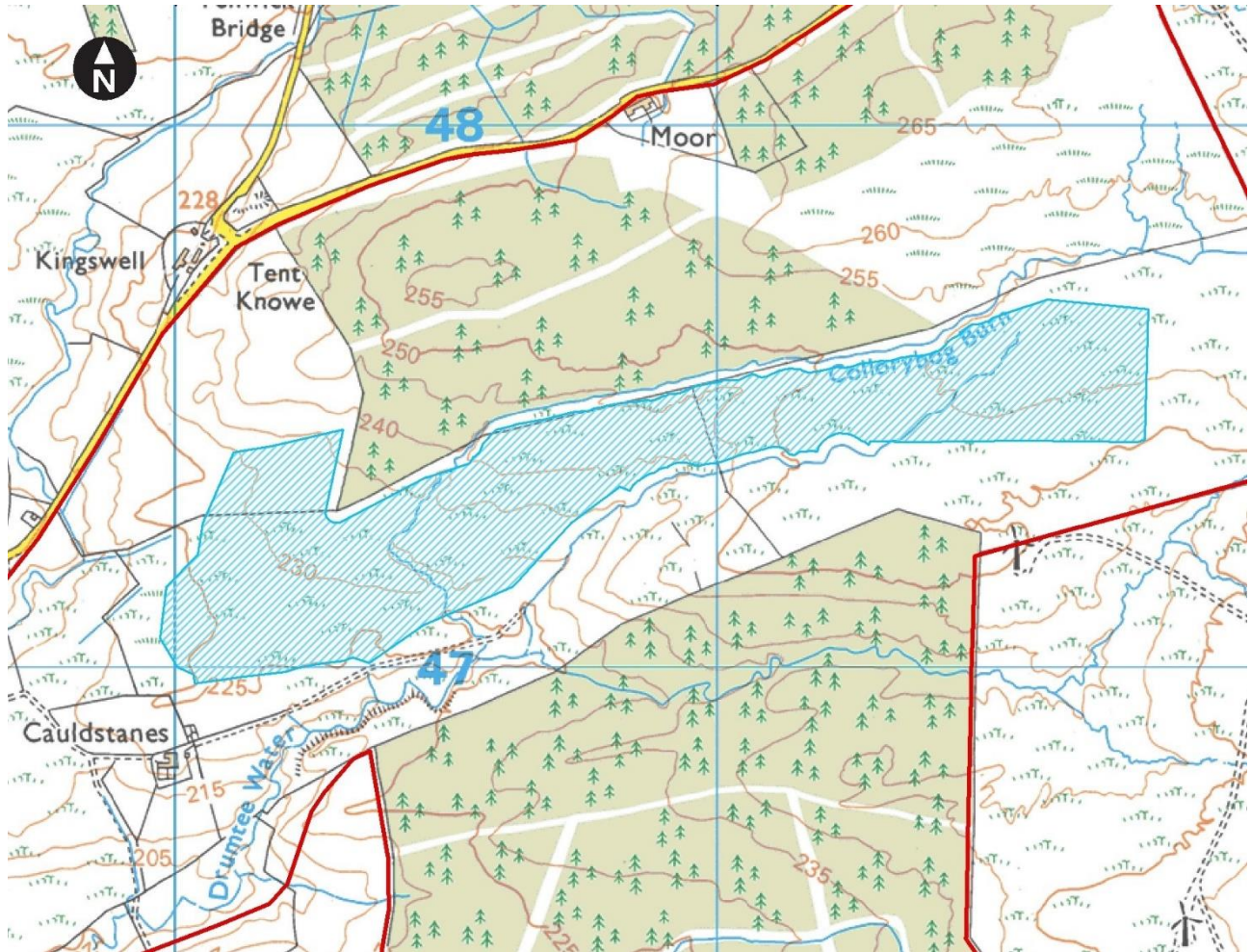
Solar PV - Siting

- 4.2.8 The impact upon the local landscape character has been given careful consideration during the site selection process for the Proposed Development. While a development of this size will inevitably have some effect on landscape character, it has been located so to minimise its effect as far as possible.
- 4.2.9 In support of this application, a Landscape and Visual Impact Assessment (LVIA) has been undertaken which considers the landscape and visual effects of the green hydrogen production facility. This LVIA can be viewed within Volume 2, Chapter 7 of the accompanying EIA Report.
- 4.2.10 It is considered that the landform and vegetation including a large bank mature forestry to the north boundary of the Site helps in the mitigation of the potential effects resulting from the installation of the development.
- 4.2.11 While it is recognised that the forestry to the north of the Site is commercial in nature and therefore its use as a screening device cannot be guaranteed in perpetuity, a balance between location and visual impact has had to be achieved. In order to deliver a financially viable scheme and in order to minimise other environmental impacts it has been necessary to site the solar PV farm within an area of the site capable of delivering sufficient solar yield.
- 4.2.12 Once the general area of the site was established (the solar search area – see below), it has been necessary to therefore determine the most appropriate location for the solar PV arrays, taking account of all environmental constraints. In undertaking this exercise a number of factors were considered:
- The relative landscape character of the northern section of Eaglesham Moor and potential for significant environmental effects resulting from loss of landscape character.
 - The topography of the landscape.
 - The proximity of sensitive receptors, including surrounding residential properties.
 - The ground conditions and the engineering considerations of construction of the Proposed Development on wet modified bog.
 - The impact on carbon rich soils.
 - Other biodiversity considerations arising from known constraints identified during pre-application survey work.
 - Hydrological considerations and potential impacts on watercourses, private water supplies and ground water dependent terrestrial ecosystems.
 - Any potential impacts arising from glint and glare.

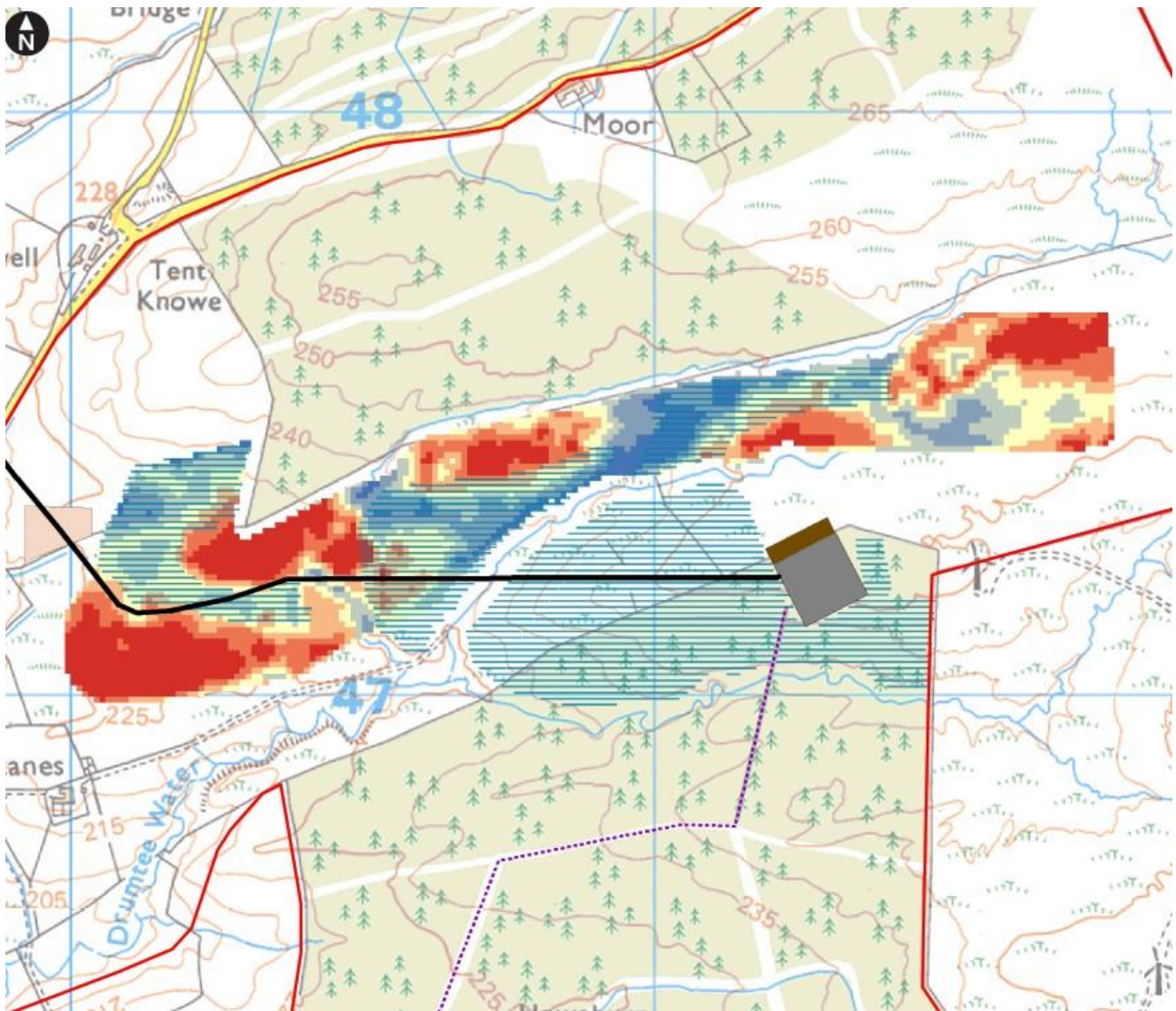
4.3 Design evolution and process

Solar PV

- 4.3.1 The Proposed Development as presented in this application and its accompanying EIA Report has been the subject of a number of iterations and refinements which seek to mitigate by design predicted adverse effects as far as reasonably practicable. The resultant proposal balances the environmental and technical constraints, whilst producing an economically viable Project overall. Design changes made as a consequence of the key constraints are considered to be mitigation which is 'embedded' in the design.
- 4.3.2 The solar PV farm will consist primarily of a series of solar PV arrays made up of individual solar PV panels up to a maximum of 3m in height supported by steel framework. In addition, LV cabling will be mounted directly to the panel arrays. The LV cabling will then meet a series of inverters/transformers where the voltage is stepped up and transmitted through buried HV cabling. The HV cables will connect to the proposed substation contained within the green hydrogen production facility site.
- 4.3.3 The ultimate Site selected for the Proposed Development was chosen through an iterative design process which sought to carefully balance the factors listed above. The scale of the solar PV farm has been driven since inception by the energy requirements of the Project overall, which in turn has been driven by a projected offtaker demand for green hydrogen of 10,000kg per day. The green hydrogen production facility associated with this Project requires 20MW of 100% renewable electricity in order to reach this level of output. This is a fixed parameter from the perspective of the Proposed Development as less electrical output would result in a reduction in the hydrogen production and in turn limit the viability of the Project as a whole.
- 4.3.4 Originally, the philosophy had been to over-engineer the solar PV farm by providing c. 150,000 solar PV panels generating c. 35MW of energy. This would produce more solar energy than as required by the green hydrogen production facility during peak solar production, which could then be stored in the BESS for use later or exported to the Electricity Grid.
- 4.3.5 Initially, the first stage of the design process was to identify the solar search area. This is an area of the site identified from the applicant's preliminary feasibility data as having the potential to support a solar scheme of c. 35MW. The solar search area, located within the north of the Site, is shown below.



- 4.3.6 During the iterative design process, and in response to addressing the complexities of constructing solar PV arrays on peat bog, as well as responding to physical and ecological site constraints, the design of the solar PV layout has been scaled back.
- 4.3.7 In order to achieve a suitable energy yield a minimum requirement of 62,000 solar PV panels was determined to be required. This is the minimum level of development necessary to ensure that the solar PV site performs effectively with regards to its purpose of generating enough low carbon renewable energy to support the Project (up to 40MW).
- 4.3.8 Following in-depth consideration of site constraints as well as consultation with the consenting authorities, statutory consultees and other interested third parties additional data was gathered in respect of the ground conditions within the wider northern section of Eaglesham Moor. To facilitate this, peat probing was undertaken which provided a constraints parameter both in terms of the siting of the proposed solar PV farm, but also, consequently that location of the green hydrogen production facility. The graphic below illustrates peat probing data from onsite survey work undertaken. A detailed version of this figure indicating the colour coding is provided as **Figure 6.2** and contained within **Volume 3, Appendix 3F** of the EIA Report.

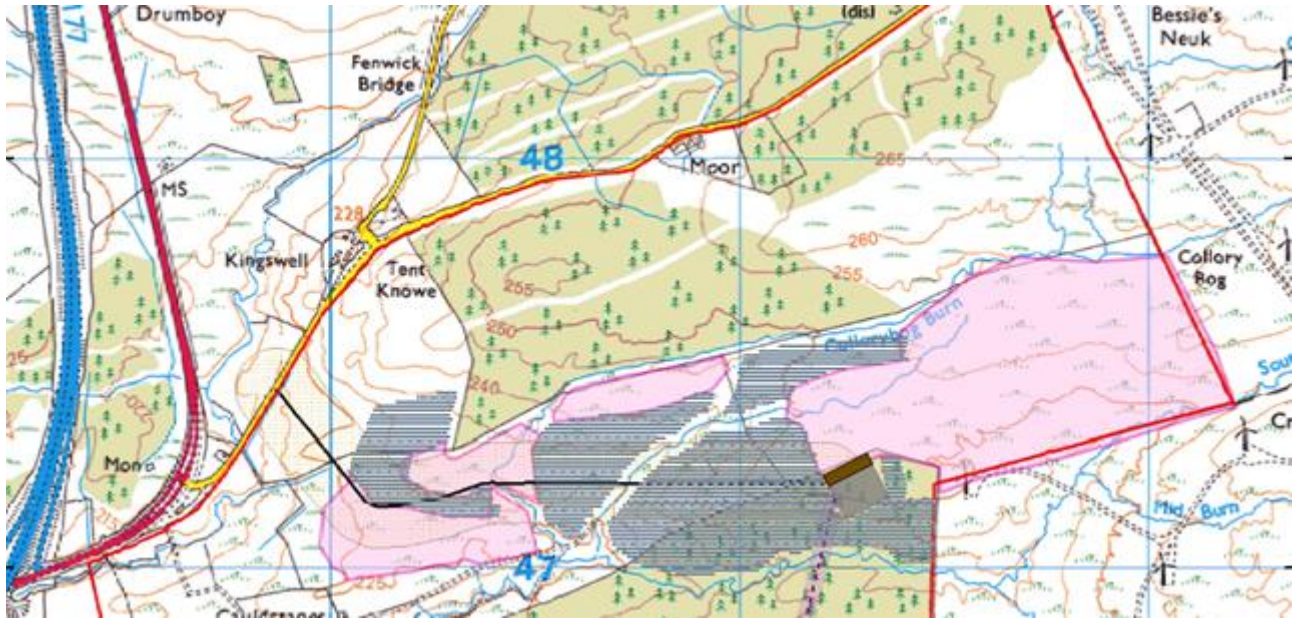


- 4.3.9 As greater knowledge of the underlying peatland was gained, the overall possible locations for the Proposed Development narrowed and it was determined that localised areas of deeper peat should be avoided. This, coupled with the requirement to identify watercourse buffers provided significant limitation to the location of the solar PV arrays; resulting in a layout which is split over multiple banks of arrays, rather than one singular layout.
- 4.3.10 The solar PV panels will be laid out in rows across the site and will be spaced to avoid any shadowing effect from one panel to another with topography and maximisation of solar resource availability dictating exact row spacing and geometry.
- 4.3.11 All of the plant on the solar PV farm will be at or below single storey level (at or below 4m in height). Even when viewed from nearby public vantage points, the scale of development will not be overbearing due to its limited height and relatively benign appearance (e.g. lack of movement and external illumination).
- 4.3.12 Each array of solar PV panels will be mounted on a simple metal framework which must be capable of withstanding appropriate environmental stresses for the location, such as wind or snow loading. The framework will be driven into the soil between 1 and 2 metres deep, removing the need for deep foundations. Such supporting systems are designed to avoid the use of concrete foundations and are reversible. The challenge of building such a development on a peat bog has also informed

the layout of the solar PV farm, as areas of deep peat were avoided. Peat probing has identified peat depth across the site which, in turn, has informed the finalised layout.

4.3.13

The image below illustrates the layout of the solar PV arrays relative to its Site context and the green hydrogen production facility. Further detailed information provided as **Figure 1.5** and contained within **Volume 3, Appendix 7C**.



4.3.14

There are a number of clear benefits deemed to arise from the proposed solar PV, and these can be summarised as follows:

- The solar PV farm is the principal source of green energy required for the production of green hydrogen at the Site.
- The solar PV is designed to support decarbonisation of electricity supply in support of EU targets and national planning policy through the introduction of green non-carbon reliant alternative forms of power.
- The solar PV site is not overtly sensitive in regard to environmental considerations such as; cultural heritage, noise, air, hydrology and flood risk and ecology.
- The solar PV farm is low density with limited visual impact and is located with a relatively isolated, rural location typified by plateau moorland and largely removed from sensitive receptors.
- The solar PV farm is moderate in physical size and will not result in any wider cumulative impact upon Whitelee Windfarm.
- The design, appearance, scale and layout of the solar PV farm has been given detailed consideration and is appropriate and in-keeping with the immediate surroundings – namely Whitelee Windfarm situated to the east.

BESS

4.3.15

The BESS design and layout is primarily derived from its function. The scale of the BESS is comparable to Whitelee BESS, located within Whitelee Windfarm at Ardochrig, which was consented in 2020 and is under construction at the time of writing. The design philosophy of the

BESS is to site as much of the infrastructure within the envelope of a single profiled steel-clad building akin to commonly visible rural and agricultural buildings, maintaining that vernacular.

- 4.3.16 The site of the BESS has been selected due to its advantageous proximity to the existing Whitelee Extension substation, thereby minimising cable runs and reducing the amount of excavation of undisturbed land. Additionally, the site itself is substantially disturbed land which was previously a laydown area for the Whitelee Extension, and which has since been used by Forestry and Land Scotland for its operational activities at Whitelee.
- 4.3.17 The BESS site selected offers the opportunity to take access via existing access routes established by Whitelee Windfarm with minimal disruption to environmental receptors.
- 4.3.18 There are a number of clear benefits deemed to arise from the proposed BESS, and these can be summarised as follows:
- The BESS is designed to support the flexible operation of the National Grid and decarbonisation of electricity supply in support of EU targets and national planning policy.
 - The BESS is located in close proximity to the existing Whitelee Extension substation, avoiding the need for lengthy transmission cables, ensuring an efficient and straightforward connection to the grid when required.
 - The BESS site is not sensitive in regard to environmental considerations such as cultural heritage, noise, air, hydrology and flood risk and ecology.
 - The BESS is located with an isolated, rural location, removed from sensitive receptors.
 - The BESS site benefits from the use of existing access tracks created as a result of the already operational Whitelee Windfarm, avoiding any significant disturbance to surrounding roadways and communities.
 - The BESS is relatively small in size and will not result in any wider cumulative impact upon the Whitelee Windfarm.
 - The design and appearance of the BESS has been given detailed consideration and is appropriate and in-keeping with its immediate surroundings – as well as existing infrastructure typical of the wider Whitelee Windfarm – namely a corresponding BESS located at Ardochrig which is also sited within close proximity to one of the Whitelee Windfarm substations.

Landscape considerations

- 4.3.19 The impact upon the local landscape character has been given careful consideration in developing the scheme for the Proposed Development. While a Proposed Development of this size will inevitably have some effect on landscape character it has been designed and located so to minimise these effects as far as possible. The area where the solar PV farm is proposed would allow the solar PV arrays to be located in such a way whereby they can be optimally integrated into the landscape with minimal regrading of the land or changes to its natural topography.
- 4.3.20 In support of this application, a Landscape and Visual Impact Assessment (LVIA) has been undertaken which considers the landscape and visual effects of the solar PV farm. For further information please refer to Volume 2, Chapter 7 of the associated EIA Report.
- 4.3.21 The BESS component located to the south has been scoped out of this assessment on landscape and visual effects as a result of the corresponding ZTV identifying no receptors which would be affected by its construction.

- 4.3.22 Furthermore, the proposed HV cable connecting the solar PV farm in the north to the BESS in the south will be buried and will have no effect on landscape character once installed.

Visual effects

- 4.3.23 In terms of visual effects, consideration was undertaken from seven viewpoints of which none are considered to be significantly affected by the Proposed Development. Detailed assessment of visual effects is further outlined in Volume 2, Chapter 7 of the associated EIA Report.
- 4.3.24 The panels are designed to be non-reflective and the accompanying Glint and Glare Assessment (document reference 43122-WOOD-ZZ-XX-RP-OP-0001_S0_P01.1) demonstrates that there will be very limited effects on road users and none which would present a significant effect requiring further consideration under the EIA Regulations, nor will there be reflections affecting residential properties owing to their remote location relative to the solar PV arrays.
- 4.3.25 As identified in **Section 4.4** below, NS Natural Heritage Considerations for Solar Photovoltaic Installations provides guidance for the consideration of key landscape and design issues for solar PV developments. These principles have been adopted throughout the design of the solar PV farm.

4.4 Design policy and guidance

- 4.4.1 The siting, layout and design of the Proposed Development has had particular regard to the following policy and guidance:
- Scottish Government – Large photovoltaic arrays: planning advice (May 2013).
 - NatureScot (NS) (Scottish Natural Heritage) – Natural heritage considerations for solar photovoltaic installations (Nov 2017).
 - Scottish Planning Policy (SPP).
 - East Ayrshire Local Development Plan (LDP2017) and associated Supplementary Guidance.

Scottish Government – Large Photovoltaic Arrays: Planning Advice Note

- 4.4.2 The Large Photovoltaic Arrays Planning Advice Note (PANs) provides advice for large scale solar farm developments. This PAN is supportive of well-designed large scale solar farm developments. The PAN notes that there is opportunity for solar energy to form an important part of Scotland's continued aims decarbonisation and switching to energy from cleaner sources.
- 4.4.3 This PAN highlights that due to the nature of large-scale solar farm developments, said developments often require a considerable amount of open space that has the potential to adversely affect local landscapes and ecological assets.
- 4.4.4 The PAN stresses the importance of such developments being sited carefully and utilising the inherent characteristics of the Site and its surrounding landforms, ridges and vegetation to screen these types of developments. Such screening is also important due to ensuring that the potential for glint or glare from the solar panels is kept to a minimum.
- 4.4.5 The PAN notes that the construction of these types of developments can potentially result in the damaging of local habitats and ecological assets. However, solar farm developments once constructed can produce ecological benefits if they are well designed and safeguard land for ecological corridors and new planting. Renewable energy developments can also benefit ecological assets through reducing the need for energy from less clean sources, such as coal, which is a needed shift in order to reduce climate change and its considerable effects.

NatureScot – Natural Heritage Considerations for Solar Photovoltaic Installations

- 4.4.6 NS produced the Natural Heritage Considerations for Solar Photovoltaic Installations document in order to lend support and advice to these types of renewable energy generation and the importance of tackling climate change.
- 4.4.7 The document provides advice on how best to mitigate the various potential affects solar developments could have and continuously enforces that such effects can be mitigated through good design and siting.
- 4.4.8 Solar developments are advised to reduce their potential effects on local landscapes through careful siting, use of screening, consideration of how to reduce the likelihood of glare, and careful selection of materials used in the development's construction. This document also notes the importance of considering the potential effects of any ancillary aspects of the development such as grid connections. These elements should also be well designed to reduce their potential effects on local landscapes and ecological assets.
- 4.4.9 Due to the nature of solar developments resulting in the creations of large areas of flat panels, the document highlights a need to consider how said developments can affect local drainage and what can be done to ensure such affects can be managed. Solar developments not on previously developed land should ensure the weight of the solar panels does not cause compaction of underlying soils.
- 4.4.10 NS does highlight further advantages of solar development than just the generation of renewable energy. Such advantages are the creation, after construction, of places that are rarely disturbed by people and therefore often act as quiet places for animals. This can be enhanced by the solar development incorporating habitat enhancement, ecological corridors, and providing nesting boxes etc. in order to turn the Site into a safe haven for a variety of species.

Local Development Plan Policies

- 4.4.11 The relevant development plan relating to the Proposed Development is the EAC Local Development Plan, which was adopted in 2017 (LDP2017). Consideration of the Proposed Development under the LDP2017 is provided later in this report under **Section 7**.

4.5 Summary

- 4.5.1 Various economic, technical and environmental factors were all considered in the iterative design process for the Proposed Development – primarily in relation to its siting and the size of the overall Site, rather than on the appearance of the Proposed Development – where there is extremely limited opportunity to alter the infrastructure requirements necessary to deliver the scheme. These factors were informed through a variety of baseline surveys, consultation with a range of stakeholders including the ECU, EAC and NatureScot.
- 4.5.2 The final design takes account of both desk-based and site-based surveys as well as consultation and is considered that the Proposed Development meets the balance of delivering a viable and sustainable renewable energy development within the Site whilst minimising the introduction of new environmental effects.

5. Legislative context

5.1 The statutory framework

The Electricity Act 1989

- 5.1.1 As the Proposed Development comprising the solar PV farm, BESS and ancillary infrastructure including the HV cable will have an installed capacity of greater than 50 MW, the application for consent and deemed planning permission is made to Scottish Ministers under S36 of the Electricity Act.
- 5.1.2 The applicant is a licenced generator and has obligations under Schedule 9 of the Electricity Act 1989 which requires it to have regard to certain environmental matters when formulating development proposals. It is obliged to have regard to the desirability of preserving natural beauty, conserving listed natural heritage interests and to protecting sites, buildings, and objects of architectural and historical interest. It must also do what it reasonably can to mitigate any effects of Proposed Development and it must not impact fisheries or fish stocks in any waters. The EIA Report submitted with the application demonstrates that due regard has been paid to Schedule 9 of the Electricity Act in relation to its predicted environmental effects with consideration being given to all matters listed within Schedule 9 during the Screening process. Appropriate mitigation has been considered in detail in respect of ecological impact. The other aspects of amenity described in Schedule 9 have been considered and evaluated through the design process and where it appropriate to do so, mitigation has been proposed.
- 5.1.3 Schedule 9 also imposes duties upon the Scottish Ministers when determining S36 applications. They are obliged to have regard to desirability of the matters mentioned in paragraph (a) of sub-paragraph 3(2) and must also have regard to the extent to which the applicant has complied with their duties to mitigate any effects on those resources. It is considered that the Scottish Ministers can be satisfied that the process undertaken has appropriately and addressed these matters comprehensively and at a level commensurate with the scale of this application and the level of potential environmental effect predicted.
- 5.1.4 In terms of determinations under S36, there are no specific statutory presumptions that apply. As identified above, there are considerations which must be taken into account and dealt with under Schedule 9.
- 5.1.5 In terms of determining the application the decision maker should identify all the relevant considerations .in that context, important factors that should be taken into account include, United Kingdom and Scottish climate change and energy policy, Scottish Government planning policy, relevant provisions of the Development Plan (in this case the LDP2017) and the views of statutory consultees and interested parties. All these matters are material and should be considered in the decision-making process. The ultimate weight of any factor in the decision-making process is a matter for the decision maker, though guidance on the weight that the applicant considers should be afforded to these considerations is provided in this Supporting Statement.
- 5.1.6 In the case of S36 applications, it is important to note that the role of the Development Plan is not the same as in the case of a planning application made under the Town and Country Planning (Scotland) Act 1997. The test set out in Section 25 of the Town and Country Planning (Scotland) Act 1997, which provides that development must accord with the terms of the Development Plan, is not engaged in the case of a S36 application. Whilst for such an application the Development Plan does not have primacy in the decision-making process, it may nonetheless be a relevant consideration in respect of determination of the application.

The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended)

- 5.1.7 The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) (the 2017 Regulations) set out the requirements for applications made under S36 of the Electricity Act in terms of EIA.
- 5.1.8 The EIA Regulations implement European Union (EU) Directive 2014/52/EU which amended Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment.
- 5.1.9 The EIA Regulations outline the process of an EIA and the criteria that would determine if an EIA were necessary or not, the relevant environmental studies and statements, how the information is evaluated by local Planning Authorities or other statutory consenting regimes and consulting bodies and how this is implemented through the Planning Act.
- 5.1.10 The Proposed Development falls within Schedule 2 of the 2017 Regulations and as such an EIA is only required if the Proposed Development is likely to have significant effects on the environment by virtue of factors such as its nature, size or location.

Screening

- 5.1.11 The applicant submitted a request for a Screening Opinion (document reference 43122-QOO-XX-02-CO-T-0002_S3_R1) to Scottish Ministers on 14th October 2020. During pre-application discussion it was deemed that a Screening Request would be made in respect of all Project components. This included those components of the Section 36 application, and at the discretion of the applicant, also those components of the Full Planning application.
- 5.1.12 Following statutory consultation with EAC, East Renfrewshire Council (ERC) and South Lanarkshire Council (SLC), the Scottish Ministers provided a Screening Opinion to the applicant on 12th February 2021 setting out their position that the Project was an EIA development and that subsequent applications under Section 36 of the Electricity Act and Section 32 of the Planning Act would require to be the subject of an EIA and be supported by an accompanying EIA Report. A summary of the findings of the Screening Opinion is outlined within Volume 2, Chapter 1 of the EIA Report. Copies of the Screening Request and Screening Opinion are provided within Volume 7 of the EIA Report.
- 5.1.13 The results of the EIA are presented in the accompanying EIA Report which, as prescribed in the EIA Regulations, is required to include a "description of the likely significant effects" of the Development; the effects which are not considered to be significant do not need to be described. It is therefore necessary for the scope of the EIA to be appropriately and clearly defined to ensure that any likely significant effects are described and assessed.
- 5.1.14 The EIA Report conveys the findings of the assessment of the potential significant environmental effects of the Development during construction, operation and decommissioning.

6. Energy policy and legal framework

6.1 Introduction

- 6.1.1 This Chapter explains the rationale for the Proposed Development in terms of international, UK and national (Scottish Government) renewable energy policy. It provides the framework of international agreement and binding targets upon which international and national energy policy is based. The international and national policy described and summarised below demonstrates the need for renewable energy from which the Proposed Development can draw a high level of support.

6.2 International policy context

- 6.2.1 The Scottish and UK legislative and policy framework on climate change is shaped by international climate change legislation and are considered in **Table 5.1** below. These incorporate binding targets in the reduction of greenhouse gas emissions and in the generation of energy from renewable sources.

Table 6.1 International policy documents

International Document	Overview
Kyoto Protocol 1997	An international treaty under the United Nations Framework Convention on Climate Change (UNFCCC) that commits state parties to reduce greenhouse gas emissions. The Protocol's first commitment period started in 2008 and ended in 2012. A second commitment period was agreed on in 2012, running to 2020, in which 37 countries have binding targets, including the EU and its Member States.
The COP21 UN Paris Agreement 2015	<p>The central aim of the Paris Agreement is to strengthen the global response to the threat of climate change by keeping the increase in global temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C. The first global "stocktake" to assess collective progress is to take place in 2023 and will follow every five years thereafter.</p> <p>In 2018 the Intergovernmental Panel on Climate Change (IPCC) published a special report on the impacts of global warming of 1.5°C above pre-industrial levels and related greenhouse gas emissions pathways, in the context of strengthening the global response to the threat of climate change. The report states that pathways limiting global warming to 1.5°C with no or limited overshoot would require rapid and far-reaching transitions in energy, with renewables being projected to supply 70–85% of electricity in 2050. The UK Government responded to the report by asking the UK Committee on Climate Change to update the advice it gives to Government on setting targets for carbon emissions and whether the UK needs to reduce carbon emissions at a faster rate or to a greater extent than originally planned. This continued focus on the decarbonisation of the energy generation sector will result in a reliance on mature renewable energy technologies such as solar PV.</p>
The COP26 UN Climate Change Conference UK 2020	The COP26 was originally scheduled to take place at the Scottish Event Campus (SEC) in Glasgow between the 9th and 20th November 2020. The Prime Minister appointed Alok Sharma as the COP26 President on 13 February 2020. On the 29 th May 2020, it was determined to move the COP26 UN climate conference date to take place between the 1 st and 12 th November 2021. Member states of the conference are expected to continue their efforts to take climate action.

6.3 UK energy policy

- 6.3.1 **Table 5.2** below contains the UK policy and guidance which governs energy generating developments. The UK policy contains many renewable energy and climate reduction targets, which highlights the importance the UK government places upon renewable energy generating developments.

Table 6.2 UK energy policy documents

International Document	Overview
Climate Change Act 2008	<p>The Climate Change Act is the basis for the UK's approach to tackling and responding to climate change. This Act committed the UK to reducing greenhouse gas emissions by at least 80% of 1990 levels by 2050. It also requires the Government to set legally-binding 'carbon budgets' to act as 'stepping stones' towards the 2050 target. A Committee on Climate Change was set up to ensure emissions targets are set based on expert independent assessment of the evidence and to monitor the UK's progress towards meeting the targets. Carbon budgets cover a five-year period and currently run to 2032. The UK is currently in the third carbon budget period (2018 to 2022).</p> <p>The Committee on Climate Change has confirmed that the first carbon budget was met and the UK is currently on track to outperform on the second and third, however, it is not on track to meet the fourth (2023 to 2027), and to meet future carbon budgets and the 80% target for 2050, the UK will need to reduce emissions by at least 3% a year, from now on, requiring more challenging measures to be applied by Government. The UK Government has confirmed its intention to set the Fifth Carbon Budget to reduce UK greenhouse gas emissions relative to 1990 levels by 57% by 2028-32, in line with the advice of the Committee on Climate Change.</p>
Climate Change Act 2008 (2050 Target Amendment) Order 2019	<p>Article 2 of this Order amends section 1 of the Climate Change Act 2008 (see above). Section 1(1) imposes a duty on the Secretary of State to ensure that the UK will reduce greenhouse gas emissions by 100% of 1990 levels by 2050. Previously this was 80%. This 'Net Zero' target is likely to affect and increase future Government renewable and low carbon energy targets and create a more positive policy environment for renewable energy.</p>
Committee on Climate Change Progress Report to Parliament June 2020	<p>On the 25 June 2020 the Committee on Climate Change (the CCC) published the 2020 report to Parliament, assessing progress in reducing UK emissions over the past year¹. The report highlights that although a limited number of steps have been taken over the past year to support the transition to a net-zero economy and improve the UK's resilience to the impacts of climate change, much remains to be done. The report indicates that reaching Net Zero emissions in the UK will require all energy to be delivered to consumers in zero-carbon form, i.e. renewables and nuclear, bioenergy and fossil fuels combined with carbon capture and storage.</p>
The Sixth Carbon Budget: The UK's Path to Net Zero	<p>On 9 December 2020, the CCC released the Sixth Carbon Budget² which updates intermediary targets for the UK's progress to Net Zero which states:</p> <p><i>"Our recommended pathway requires a 78% reduction in UK territorial emissions between 1990 and 2035. In effect, it brings forward the UK's previous 80% target by nearly 15 years. There is no clearer indication of the increased ambition implied by the Net Zero target than this."</i></p> <p>These targets must be considered as a factor in the determination of applications for alternative fuel projects which can reduce reliance on fossil fuel usage. In establishing intermediary targets towards Net Zero, the context exists for Local Authorities to recognise the action that must be taken sooner rather than later. As concluded in the Sixth Carbon Budget:</p>

¹ <https://www.theccc.org.uk/publication/reducing-uk-emissions-2020-progress-report-to-parliament/#key-findings>

² <https://www.theccc.org.uk/wp-content/uploads/2020/12/The-Sixth-Carbon-Budget-The-UKs-path-to-Net-Zero.pdf>

International Document	Overview
	<p><i>"The implication of this path is clear: the utmost focus is required from government over the next ten years. If policy is not scaled up across every sector; if business is not encouraged to invest; if the people of the UK are not engaged in this challenge – the UK will not deliver Net Zero by 2050."</i></p> <p>Furthermore, the Sixth Carbon Budget recognises the important role of low-carbon energy supply, stating:</p> <p><i>"The role for the hydrogen supply sector is to enable decarbonisation in other sectors while managing costs and wider energy system impacts. Hydrogen appears to be essential for reaching Net Zero, but it is important for it to be focused on the applications of highest value, where electrification is less feasible, and for it to be produced in a low-carbon way."</i></p>
UK Renewable Energy Strategy 2009	<p>This Strategy sets out the path for the UK to meet the legally binding target of 15% of all energy consumed in the UK to come from renewable sources by 2020. It includes action to deliver the 'lead scenario' of 30% of electricity, 12% of heat and 10% of transport energy to be generated from renewables by 2020. The Strategy will help us tackle climate change, reducing the UK's emissions of carbon dioxide by over 750 million tonnes between 2009 and 2030. The Strategy reaffirms the requirement to be the target of an 80% reduction in greenhouse gas emissions by 2050 identified in the Climate Change Act 2008.</p> <p>Regarding delivering renewable transport, the Strategy has the following vision:</p> <p><i>"Looking at the transport system between 2020 and 2050, the fuels we use will be cleaner, the technology greener and we will have seen a shift to renewable sources of transport energy such as sustainable biofuels, electricity and hydrogen."</i></p>
UK Renewable Energy Roadmap 2011 and updates in 2012 and 2013	<p>The 2011 roadmap analysed how the deployment of renewable energy might evolve by 2020, focussing on 8 technologies that have either the greatest potential to help the UK meet the 2020 target in a cost effective and sustainable way, or offer great potential for the decades that follow. This included solar PV. The 2012 update highlighted the urgent need for new large-scale renewable energy projects to ensure the 2020 targets are met. The 2013 update noted that the share of renewable energy generation had increased from 9.7% in 2012 to 15.5% in 2013, and that Scotland accounted for 33% of the total UK renewables output during this period. The importance and benefits of solar PV are particularly noted in paragraph 179:</p> <p><i>"...it is versatile and scalable, with deployment possible in a wide range of locations including domestic and commercial buildings and where appropriate on the ground; solar projects can be developed and installed very quickly; and the fuel, solar radiation is free."</i></p>
UK Solar PV Strategy Part 1: Roadmap to a Brighter Future (2013) and Part 2 (2014)	<p>The Solar PV Strategy sets out the UK's continued support and demand for solar PV developments and wishes to encourage more solar PV developments built across the UK. Solar PV forms an integral part of the UK's ability to meet its continually ambitious renewable energy and decarbonisation targets. This strategy document establishes the following guiding principles for solar PV developments (paragraph 28):</p> <ul style="list-style-type: none"> • <i>"Support for solar PV should allow cost-effective projects to proceed and to make a cost-effective contribution to UK carbon emission objectives in the context of overall energy goals."</i> • <i>Support for solar PV should deliver genuine carbon reductions that help meet the UK's target of 15 per cent renewable energy from final consumption by 2020 and in supporting the decarbonisation of our economy in the longer term."</i> • <i>Support for solar PV should ensure proposals are appropriately sited, give proper weight to environmental considerations such as landscape and visual impact, heritage, and local amenity, and provide opportunities for local communities to influence decisions that affect them."</i> • <i>Support for solar PV should assess and respond to the impacts of deployment on: grid systems balancing; grid connectivity; and financial incentives."</i> <p>Energy storage technologies and developments are noted as being important to maximising the benefits of renewable energy developments, especially wind and solar PV developments</p>

International Document	Overview
UK Clean Growth Strategy 2017	<p>The UK Government published the Clean Growth Strategy 'Leading the Way to a Low Carbon Future' in October 2017. It makes reference to the 2015 Paris Agreement and states: <i>"The actions and investments that will be needed to meet the Paris commitments will ensure the shift to clean growth will be at the forefront of policy and economic decisions made by Government and businesses in coming decades"</i>.</p> <p>The strategy recognises that meeting the fourth and fifth carbon budget raises challenges, stating:</p> <p><i>"In order to meet the fourth and fifth carbon budgets (covering the periods 2023 – 2027 and 2028-2032) we will need to drive a significant acceleration in the pace of decarbonisation and in this strategy we have set out stretching domestic policies that keep us on track to meet our carbon budgets"</i>.</p> <p>The strategy sets out two guiding objectives for the UK's approach to reducing emissions:</p> <ul style="list-style-type: none"> • To meet our domestic commitments at the lowest possible net cost to UK taxpayers, consumers and businesses. • To maximise the social and economic benefits for the UK from this transition. <p>The Strategy identifies that, to meet these objectives, the UK will need to nurture low carbon technologies, processes and systems that are as cheap as possible.</p>
UK Industrial Strategy 2017	<p>The Industrial Strategy White Paper entitled 'Building a Britain fit for the Future' was published by the UK Government in November 2017. The Industrial Strategy sets a path to improved productivity and identifies four Grand Challenges – developments in technology that are set to transform industries and societies around the world, and in which the UK has the opportunity to play a leading global role. One of these Grand Challenges is 'clean growth'. The Industrial Strategy sees the move to cleaner economic growth through low carbon technologies and the efficient use of resources as <i>"one of the greatest industrial opportunities of our time"</i> (page 42).</p> <p>The Strategy sets out the aim to maximise the advantages for UK industry through leading the world in the development, manufacture and use of low carbon technologies, systems and services which cost less than high carbon alternatives (page 42).</p>
HM Government Energy White Paper - Powering our Net Zero Future 2020	<p>The Energy White Paper: Powering our Net Zero Future was published in December 2020. It provides further clarity on the Prime Minister's Ten Point Plan for a Green Industrial Revolution and puts in place a strategy for the wider energy system that transforms energy, supports a green recovery and creates a fair deal for consumers. The role of solar technology in supporting the transition to a low carbon energy mix is identified with the statement that a low-cost, Net Zero consistent system is likely to be composed predominantly of wind and solar and that onshore wind and solar will be key building blocks of the future generation mix, along with offshore wind. The flexibility provided by battery storage is also recognised as a way of complementing wind and solar when such technologies cannot generate electricity.</p> <p>The White Paper also highlights an increasing role for hydrogen, identifying that part of the Ten Point Plan includes a statement that the UK is aiming for 5GW of low carbon hydrogen production capacity by 2030.</p>

6.4 Scottish Government energy policy

- 6.4.1 Energy policy is a matter reserved to the UK Parliament. The UK Government therefore retains control of the overall direction of energy policy including renewable energy targets. However, the devolved administrations, including the Scottish Government can, and have, prepared distinct climate change and related renewable policy for their devolved areas as well as implementing UK wide policies. **Table 5.3** contains the considered Scottish energy policy for the Proposed Development.

Table 6.3 Scottish Government energy policy documents

International Document	Overview
The Climate Change (Scotland) Act (2009)	<p>The 2009 Act is the key legislation in Scotland dealing with climate change and carbon targets. The Act included an interim greenhouse gas emissions reduction target of at least 42% for 2020 and an 80% reduction target for 2050 against 1990 levels. The Act requires Scottish Ministers to set annual targets for Scottish emissions from 2010 to 2050, consistent with meeting both the interim and 2050 targets. The Act has been amended in 2019 requiring 100% lower than the 1990s baseline level. Details of this are set out below.</p> <p>The Act requires that, as soon as reasonably practicable after setting the annual targets, Ministers publish a report setting out policies and proposals for meeting those targets. This is delivered through the publication of Climate Change Plans. The Scottish Government published its third Climate Change Plan in February 2018, setting out proposals and policies to reduce emissions by 66% by 2032 against 1990 levels.</p>
2020 Route map for Renewable Energy in Scotland 2011 (updated 2013 & 2015)	<p>The Scottish Government published the 2020 Route map in July 2011. It established a target for the equivalent of 100% of Scotland's electricity demand to be supplied from renewable sources by 2020, roughly equating to the equivalent of around 16GW of installed capacity. The Scottish Government recognised at that time that <i>"Meeting the equivalent of 100% of Scottish demand for electricity from renewables within the next 9 years will be a huge challenge" (page 19) and to meet the target will "demand a significant and sustained improvement over the deployment levels seen historically" (page 26).</i> This target remains unmet (see further below) and the challenge of further sustained deployment remains. The Route map also provided an increase in the Scottish Government's overall renewable energy target to 30% by 2020 and a new target of 500 MW of community and locally owned renewable energy by 2020.</p> <p>The Route map was updated in December 2013. It continues to recognise the role that renewable energy has in delivering secure, low carbon and cost-effective energy supplies and the investment and job opportunities it presents.</p> <p>A further Route map update published in September 2015 provided statistics on deployment of renewables at that time and sectoral updates. The Route map states the importance of solar PV provides to ensure a healthy energy mix. It also notes that despite the Scottish climate, solar is still a valuable type of development that is needed to meet Scotland's renewable energy targets. Solar PV developments are noted to have had their associated costs fall the most out of all the different types of renewable energy technologies, showcasing the competitiveness of solar PV schemes in the long term.</p> <p>At every stage of the Route map, the importance for energy storage developments was stressed as such developments aid in the storage of energy from renewable energy developments for use later. This means such schemes improve the amount of renewable energy available for the grid and ensures less renewable energy is potentially wasted.</p>
Electricity Generation Policy Statement 2013	<p>The Electricity Generation Policy Statement was published in June 2013. It examines the way Scotland generates electricity and considers the changes necessary to meet the various targets in the sector set by Government, including in the Climate Change (Scotland) Act 2009. It reiterates the Government's commitment to securing the transition to a low carbon economy and that Scotland has the potential to make a major contribution to the EU's overall renewables target.</p> <p>The Policy Statement is built around the 2020 target of the equivalent of 100% of Scotland's electricity demand to be supplied from renewable sources by 2020. It acknowledges that the target, which it estimates would require around 14 - 16GW of installed capacity, is a challenge. But it embodies the Government's belief that <i>"Scotland can and must exploit its huge renewables potential to the fullest possible extent – to help meet demand here and across Europe"</i> (paragraph 14).</p> <p>The Policy Statement highlights that the renewable targets underpin the Government's vision of a stable and desirable future generation mix for Scotland, built around the following key principles:</p>

International Document	Overview
	<ul style="list-style-type: none"> • A secure source of electricity supply. • At an affordable cost to consumers. • Which can be largely de-carbonised by 2030. • Which achieves the greatest possible economic benefit and competitive advantage for Scotland including opportunities for community ownership and community benefits.
The Chief Planner Letter to All Heads of Planning (November 2015)	<p>A letter from the Scottish Government Planning and Architecture Division to all Heads of Planning entitled 'Energy Targets and Scottish Planning Policy' was published in November 2015. The letter was issued following an announcement by the Secretary of State for Energy and Climate Change that the UK Government would be bringing to an early closure the Renewable Obligation subsidy scheme. The letter confirmed that the Scottish Government's policy remains unchanged and that it supports new onshore renewable energy developments.</p> <p>The letter adds that this policy support continues in the situation where renewable energy targets have been reached and confirms that there is no cap on the support for renewable energy development. In short, the need for renewable energy including solar PV developments is unconstrained.</p>
The Scottish Energy Strategy (December 2017)	<p>The Scottish Energy Strategy, which was published in December 2017, sets out the Scottish Government's 2050 vision for the future energy system in Scotland:</p> <p><i>"A flourishing, competitive local and national energy sector, delivering secure, affordable, clean energy for Scotland's households, communities and businesses"</i> (page 6).</p> <p>The Strategy reiterates the role that Scotland can play in delivering international and national commitments on reducing greenhouse gas emissions and notes that renewable energy and its associated infrastructure is now a major industrial sector in its own right, helping to sustain economic growth and employment.</p> <p>The 2050 vision is built around six priorities. Of particular relevance to the Proposed Development is the priority of 'renewable and low carbon solutions'. The Scottish Government states that it will:</p> <p><i>"Continue to champion and explore the potential of Scotland's huge renewable energy resource, and its ability to meet our local and national heat, transport and electricity needs – helping to achieve our ambitious emissions reductions targets."</i> (page 8).</p> <p>Two new targets for the Scottish energy system by 2030 are set out on page 7:</p> <ul style="list-style-type: none"> • The equivalent of 50% of the energy for Scotland's heat, transport and electricity consumption to be supplied from renewable sources. • An increase by 30% in the productivity of energy use across the Scottish economy. <p>The Strategy identifies that renewable electricity could rise to over 140% of Scottish electricity consumption, ensuring its contribution to the wider renewable energy target for 2030. The Strategy continues that this assumes a considerably higher market penetration of renewable electricity than today, requiring in the region of 17GW of installed capacity in 2030 (compared to 9.5GW of installed capacity as of June 2017).</p> <p>The role of renewable energy in achieving the longer-term vision is further emphasised on page 34 where it states:</p> <p><i>"Scotland's long-term climate change targets will require the near complete decarbonisation of our energy system by 2050, with renewable energy meeting a significant share of our needs"</i>.</p> <p>The Strategies vision for 2050 includes Scotland using low carbon electricity and hydrogen to meet Scottish demands for electricity. Hydrogen producing developments are therefore also seen with growing importance for the long-term sustainability of Scotland's energy market and generation.</p>

International Document	Overview
	<p>The vital role of solar PV developments, to achieve climate change targets is recognised by the Strategy:</p> <p><i>"Solar will play an important role in a low carbon energy system, helping meet Scotland's renewable generation ambitions. Combining storage with wind and solar assets presents a valuable solution for the energy system as a whole, offering the potential for demand to be managed locally. This kind of flexibility and control will be important as electric vehicles become an integral part of the transport system."</i></p>
Climate Change Plan 2018	<p>This Climate Change Plan is the Scottish Government's third report on proposals and policies for meeting its climate change targets. It sets out how Scotland can deliver its target of 66% emissions reductions, relative to the baseline, for the period 2018–2032. The Climate Change Plan comprises three parts. Part One sets out the context for the Scottish Government's climate change proposals and policies. It shows the emissions reductions pathway to 2032 and the crucial roles that will be played by local authorities and the wider public sector (and the planning system) and communities. The Scottish Government's statutory duties are covered in Part Two, alongside the annual emissions targets to 2032 and the monitoring framework and indicators that will be used to measure progress against the policies set out in the Plan. Part Three provides detailed information on the emissions envelopes and emissions reduction trajectories for each sector.</p> <p>The Climate Change Plan reiterates the Scottish Government's support for community and locally owned energy. It also restates the importance that the Scottish Government place on the need for a route to market for lowest cost renewable technologies, which solar PV currently is as the Strategy states (page 78):</p> <p><i>"Between 2010 and 2017, the cost of generating electricity from solar PV fell by over 70%..."</i></p> <p>The Climate Change Plan also notes the potential for hydrogen producing developments in achieving Scotland's transition to a decarbonisation.</p>
Climate Change (Emissions Reductions Targets) (Scotland) Act 2019	<p>The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 received Royal Assent on 31 October 2019. The Act amends the 2009 Act and requires that the net Scottish emissions account for the net-zero emissions target year is at least 100% lower than the baseline (the target is known as the "net-zero emissions target"). The "net-zero emissions target year" is 2045.</p> <p>The Act sets interim targets as follows:</p> <ul style="list-style-type: none"> • 2020 is at least 56% lower than the baseline. • 2030 is at least 75% lower than the baseline. • 2040 is at least 90% lower than the baseline. <p>In introducing the Net Zero target, the Climate Change Secretary stated <i>"There is a global climate emergency. The evidence is irrefutable. The science is clear. And people have been clear: they expect action. The Intergovernmental Panel on Climate Change issued a stark warning last year: the world must act now. By 2030 it will be too late to limit warming to 1.5 degrees."</i></p>
Update to the Climate Change Plan 2020	<p>An update to the Climate Change Plan was published in December 2020. It sets out the Scottish Government's pathway to achieving the targets set by the Climate Change (Emissions Reductions Targets) (Scotland) Act 2019 for Net Zero emissions by 2045. It identifies that wind and solar are now the lowest cost forms of new generation.</p> <p>The document states that actions to develop the role of hydrogen in Scotland's energy system will be taken forward, including building on the outputs of the Hydrogen Assessment project.</p>

6.5 Progress towards achieving targets

- 6.5.1 The Scottish Government's target is to achieve the equivalent of 50% of total Scottish energy consumption from renewable sources by 2030. Figures published by the Scottish Government in December 2020³ show that in 2019, 24% of total Scottish energy consumption came from renewable sources (19.2% in 2017, and 21.1% in 2018).
- 6.5.2 The Scottish Government also has a target to deliver the equivalent of 100% of Scottish electricity consumption from renewables by 2020. As noted in above, the '2020 Route map for Renewable Energy in Scotland' acknowledged that this was a challenging target that will demand a significant improvement over the deployment levels seen historically. In 2019, renewable sources generated the equivalent of 89.5% gross electricity consumption⁴, this is up from 76.2% in 2018.
- 6.5.3 The 2020 100% electricity target equates to around 16GW of installed renewables capacity. The 50% energy from renewable sources by 2030 target in the Scottish Energy Strategy (2017) may require in the region of 17GW of installed renewables capacity by 2030 (Scottish Energy Strategy page 34).
- 6.5.4 Figures released in the Energy Statistics for Scotland (December 2020) show that as of September 2020, 11.8GW of renewable electricity capacity was operational in Scotland (no change compared to September 2019). While there is an additional 13.9GW of capacity either under construction, consented, or in planning, the target relates to installed capacity, a point made clear in a number of Public Inquiry reports⁵.
- 6.5.5 In any event, the need for renewable energy is unconstrained regardless of progress towards targets. As noted by the Reporter for the Caplich Wind Farm, reiterating the position set out in the Chief Planner Letter to All Heads of Planning (November 2015), stating at paragraph 2.107 that *'It is clear therefore that, when considering the level of policy support that is offered by the Scottish Government to proposals such as this, it does not matter whether targets have been met or exceeded. Support for appropriate on-shore wind energy proposals will remain, even when existing targets have been met.'* It is important to note that, though the scheme was for a wind farm, it still stands that any renewable energy development *would not* be constrained by renewable energy targets.
- 6.5.6 The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 sets out even more ambitious targets, including increasing the 2045 target to 100% emissions reduction and making provisions for a net-zero greenhouse gas emissions target to be set on a credible and costed pathway. The UK Committee on Climate Change (CCC) in its advice to the UK and Scottish Governments on achieving the net-zero target stated that renewable electricity generation "*must quadruple*". The Scottish Government should make "*use of planning powers to drive decarbonisation*". In December 2019, the CCC stated "*Scotland's next Climate Change Plan must set out a comprehensive strategy detailing the policies and governance that will drive a rapid, sustained transformation to a net-zero society. Net-zero planning must be embedded across all levels of government in Scotland, it must also engage the public, provide a stable direction of travel and set out a simple, investable set of rules and incentives for business*".
- 6.5.7 The Caplich Public Inquiry report (the findings of which were adopted by the Scottish Ministers) also confirms that national planning policy as set out in NPF3 and SPP confirms the commitment to making Scotland a low carbon place and a world leader in low carbon energy generation.

³ Energy Statistics for Scotland December 2020.

⁴ Energy Statistics for Scotland December 2020.

⁵ South Kyle (2016), reference WIN-190-3, paragraph 2.68; Benbrack reference WIN-170-2002 paragraph 2.67; Caplich (2017) reference WIN-270-7 paragraph 2.116.

6.6 Summary conclusions on renewable energy policy

Conclusions on renewable energy policy

- 6.6.1 This Section has demonstrated the considerable importance renewable energy generating schemes will play in reducing mankind's continued contribution to climate change. This section has also demonstrated the continued importance the Scottish and UK governments and other national bodies are placing on combating climate change as the impacts of climate change become more apparent each year and the increasingly important role that is envisaged for hydrogen in helping to decarbonise industry and transportation.
- 6.6.2 The climate change and renewable energy policy framework is therefore a very important consideration that should attract significant weight in the determination of this S36 application.
- 6.6.3 In the context of the wider international and national policy, aims and objectives, the Project as a whole would represent a significant opportunity for the delivery of new and diverse forms of renewable energy development, due to its interlinked solar PV, green hydrogen production and BESS elements. Furthermore, the delivery of the Proposed Development has the consequence of supporting the associated green hydrogen production facility which, in turn, aims at reducing reliance on carbon-rich fossil fuels by providing a cost-effective viable green alternative.

Conclusions on UK and national energy policy

- 6.6.4 At a UK level there were established and legally binding renewable energy, electricity and carbon emission saving targets for 2020 (15% of final energy consumption) and beyond which remain unmet (12.3% in 2019). The UK Government has established yet more challenging emission reduction targets through the Climate Change Act 2008 (2050 Target Amendment) Order 2019, which increased the 2050 target to 100% emissions reductions of 1990 levels. This element of the policy framework constitutes an important material consideration in favour of the Proposed Development.

7. Planning policy

7.1 National planning policy

Introduction

- 7.1.1 National planning policy is set out within the National Planning Framework (NPF) and Scottish Planning Policy (SPP). The Planning (Scotland) Act 2019 proposes to review national policy with the preparation of NPF4. This review will incorporate Scottish Planning Policy and will become part of the Development Plan. The Scottish Government has now revised the timetable for the preparation of NPF4, with a Position Statement published in November 2020 and a draft in Autumn 2021.
- 7.1.2 The current documents therefore provide the current national policy framework, with the Scottish Energy Strategy and Onshore Wind Policy Framework providing up to date policy on the Scottish Minister's position and targets for the supply of energy from renewable sources.

The National Planning Framework 3

- 7.1.3 Scotland's Third National Planning Framework (NPF3 – Scottish Government, 2014) provides the statutory national framework around which to orientate Scotland's long-term spatial development. NPF3 represents the spatial expression of the Scottish Government's Economic Strategy (2011) and it highlights the spatial planning implications of multiple national policy documents and commitments, including the binding decarbonisation targets enshrined within the Climate Change (Scotland) Act 2009.
- 7.1.4 Overall, NPF3 emphasises the Scottish Government's commitment to increasing sustainable economic growth across all areas of Scotland and therefore orientates the efforts of Scotland's planning system towards this purpose. The introduction to the NPF3 notes the importance of maintaining economically active and vibrant rural areas whilst "safeguarding our natural and cultural assets and making innovative and sustainable use of our resources".
- 7.1.5 NPF3 sets out a national spatial strategy structured around four key themes. These are set below;
- A successful, sustainable place: this theme is underpinned by the objective of achieving "a growing low carbon economy" alongside creating "high quality, vibrant and sustainable places...". The Framework calls for a renewed focus on exploiting Scotland's energy resources, and in paragraph 2.7 the NPF3 identifies a need for development which "facilitates adaptation to climate change, reduces resource consumption and lowers greenhouse gas emissions".
 - A low carbon place: this theme relates to the legally binding target of reducing Scotland's greenhouse gas emissions by 80% by 2050 compared with 1990 levels, as set out in the Climate Change (Scotland) Act 2009. It states that "Our built environment is more energy efficient and produces less waste and we have largely decarbonised our travel".
 - A natural, resilient place: this theme is concerned with environmental protection and it is noted that Scotland's principal asset is the land, which must be managed sustainably as both an economic and dynamic resource and an environmental asset. It is noted in paragraph 4.22 of the SPP that "rural areas have a particular role to play in building Scotland's long-term resilience to climate change and reducing our national greenhouse gas emissions".
 - A connected place: this theme is orientated around maximising physical and digital connectivity around Scotland and between Scotland and the rest of the world.

The National Planning Framework 4 – position statement

- 7.1.6 The NPF4 Position Statement provides guidance on what direction the Scottish Government wishes to take planning and developments within Scotland in the future. The Position Statement is clear that difficult and considerable changes are needed within the Scottish planning system in order to rebalance it with climate change as a guiding principle. This shift is required in order to ensure Scotland can achieve its target of net-zero emissions by 2045.
- 7.1.7 The NPF4 Position Statement is in support of renewable energy developments and on the creation of hydrogen networks. Green hydrogen production facilities are especially noted for their ability to create a clean fuel that can be used by vehicles to further the Net Zero agenda toward a carbon neutral Scotland by 2045. The Position Statement appreciates that hydrogen is a newer technology and highlights how the final version of the NPF4 is likely to have new policies that are in support of such developments.

Scottish Planning Policy

- 7.1.8 Interim changes to the SPP, in advance of NPF4 being completed, were published in December 2020. The Scottish Government has identified 16 national outcomes which explain how the purpose of sustainable economic growth is to be achieved. Both the NPF3 and the SPP are underpinned by a common vision, which is articulated in paragraph 11 of the SPP:
- "We live in a Scotland with a growing, low-carbon economy with progressively narrowing disparities in well-being and opportunity. It is growth that can be achieved whilst reducing emissions and which respects the quality of environment, place and life which makes our country so special. It is growth which increases solidarity – reducing inequalities between our regions. We live in sustainable, well-designed places and homes which meet our needs. We enjoy excellent transport and digital connections, internally and with the rest of the world".*
- 7.1.9 The relevant policy in the SPP is a material consideration that carries significant weight. It sets out the Scottish Government's expectations regarding the treatment of specific planning issues within development planning and development management. The SPP includes policies relating to sustainable development and renewable energy which are directly applicable to the Proposed Development, as detailed below.
- 7.1.10 To implement this Vision statement the SPP identifies four planning outcomes based on the themes of the NPF3, which are:
- *"Outcome 1: A successful, sustainable place – supporting sustainable economic growth and regeneration, and the creation of well-designed, sustainable places."*
 - *"Outcome 2: A low carbon place – reducing our carbon emissions and adapting to climate change".* This outcome relates to the legally binding target of reducing Scotland's greenhouse gas emissions by 80% by 2050 compared with 1990 levels, as set out in the Climate Change (Scotland) Act 2009. The outcome further sets out Scotland's commitment to generating at least 30% of overall energy demand, and the equivalent of at least 100% of gross electricity consumption, from renewables by 2020. The need to facilitate this transition by supporting diversification in the energy sector and the importance of onshore wind are recognised within NPF3.
 - *"Outcome 3: A natural, resilient place – helping to protect and enhance our natural and cultural assets, and facilitating their sustainable use."* As noted in the NPF3, Scotland's principal asset is the land, which must be managed sustainably as both an economic and dynamic resource and an environmental asset. The role of rural areas in the transition towards a low carbon economy is recognised.

- *Outcome 4: A more connected place – supporting better transport and digital connectivity”.*

7.1.11

The most relevant paragraphs of the SPP are considered in **Table 6.1**.

Table 7.1 Relevant subject specific policies within the SPP

Subject Policy	SPP Reference	Overview
Principle Policy on Sustainability	Paragraphs 24 - 35	<p>includes a presumption in favour of sustainable development . This relates to the identification of the need for, and the acceptability of, the development. Thirteen principles (found at paragraph 29 of SPP) which should guide planning policies and decisions have been identified. The principles of relevance to the Proposed Development include:</p> <ul style="list-style-type: none"> • <i>“Giving due weight to net economic benefit.</i> • <i>responding to economic issues, challenges and opportunities, as outlined in local economic strategies.</i> • <i>Supporting good design and the six qualities of successful places.</i> • <i>Supporting delivery of infrastructure.</i> • <i>Supporting climate change mitigation and adaptation.</i> • <i>Having regard to the principles for sustainable land use set out in the Land Use Strategy.</i> • <i>Protecting, enhancing and promoting access to natural heritage, including green infrastructure, landscape and the wider environment.</i> • <i>Avoiding over-development, protecting the amenity of new and existing development and considering the implications of development for water, air and soil quality.”</i>
Supporting Business and Employment	Paragraphs 92 - 108	<p>This section highlights the need to <i>“give due weight to net economic benefit of proposed development”</i> (paragraph 93). The SPP identifies energy as one of several key growth sectors which should be appropriately supported through Development Plans.</p>
Valuing the Historic Environment	Paragraphs 135 - 151	<p>The SPP states that planning should promote the care and protection of the designated and non-designated historic environment and should take account of all aspects of the historic environment.</p>
A Low Carbon Place	Paragraphs 152 - 174	<p>It is noted that taken together, the NPF3 and the SPP should <i>“facilitate the development of generation technologies that will help to reduce greenhouse gas emissions from the energy sector...efficient supply of low carbon and low cost heat and generation of heat and electricity from renewable energy sources are vital to reducing greenhouse gas emissions and can create significant opportunities for communities”</i> (paragraph 152-153).</p> <p>The SPP identifies four planning principles (paragraph 154) related to the delivery of electricity and heat infrastructure, three of which are of relevance to the Proposed Development:</p> <ul style="list-style-type: none"> • <i>“Support the transformational change to a low carbon economy.</i> • <i>Support the development of a diverse range of electricity generation from renewable energy technologies.</i> • <i>Guide development to appropriate locations and advise on the issues that will be taken into account when specific proposals are being assessed... ”.</i>

Subject Policy	SPP Reference	Overview
		Paragraph 169 identifies several considerations which are likely to be relevant when determining proposed energy infrastructure developments. These include economic impacts and benefits, renewable energy targets, effects on greenhouse gas emissions, cumulative impacts and environmental impacts including residential amenity considerations such as noise; landscape and visual impacts; public access, tourism and recreation, hydrology; geology; natural and built heritage; impacts on the transport network, aviation interests and telecommunications; and requirements for decommissioning and restoration.
Valuing the Natural Environment	Paragraphs 193 - 233	<p>The SPP identifies several planning principles related to natural heritage protection and ecological resilience. Principles (paragraph 194) of relevance to the Proposed Development include that planning should:</p> <ul style="list-style-type: none"> • <i>“Facilitate positive change while maintaining and enhancing distinctive landscape character.</i> • <i>Conserve and enhance protected sites and species....</i> • <i>Promote protection and improvement of the water environment...in a sustainable and co-ordinated way.</i> • <i>Seek to protect soils from damage.</i> • <i>Protect and enhance ancient semi-natural woodland as an important and irreplaceable resource, together with other native or long-established woods, hedgerows and individual trees with high nature conservation or landscape value.</i> • <i>Seek benefits for biodiversity from new development where possible...”.</i>
Maximising the Benefits of Green Infrastructure	Paragraphs 219 - 233	The SPP identifies several planning principles related to the protection, enhancement and promotion of green infrastructure including core paths and other important routes.
Managing Flood Risk & Drainage	Paragraphs 254-268	A precautionary approach to flood risk from all sources is promoted and where relevant, flood risk assessments and the deployment of SUDs are required.
Promoting Sustainable Transport and Active Travel	Paragraphs 269-291	Notes the requirement to consider traffic impacts including cumulative.

National planning advice and Circulars

- 7.1.12 National planning policy is supported by Planning Circulars, Planning Advice Notes (PANs), Advice Sheets and Ministerial/Chief Planner Letters to Planning Authorities. Planning Circulars contain guidance on policy implementation through legislative or procedural change, while PANs expand on national policy and incorporate best practice advice.
- 7.1.13 The following Scottish Government/NS Planning Circulars and Advice documents are of relevance and are contained within **Table 6.2**.

Table 7.2 Relevant national planning advice and Circulars

PAN or Circular	Overview
Online Planning Advice regarding Flood Risk (published 18th June 2015)	This advice document provides brief guidance on all aspects of flood risk. It was produced to support the SPP and its goals for ensuring flood risk is properly considered, managed and mitigated in potential developments. This document also ensures that information regarding flooding is made available and kept up to date by SEPA and that Local Authority's LDP and development management procedures consider flooding to be a considerably important aspect new developments must consider and address.
Draft Advice on Net Economic Benefit and Planning (2016)	This draft advice note seeks to educate developers and Local Authorities on how to consider net economic benefits that can exist in some, but not all, developments. Where the decision to grant planning permission is finely balanced or difficult to ascertain due to LDP requirements and/or other material considerations, the net economic benefit of a proposed development should be considered. The document is clear that any proposed net economic benefit needs to be proportionate, supported by evidence and transparent to ensure any predictions are as accurate as possible.
Draft Peatland and Energy Policy Statement (2016)	<p>In June 2016, the Scottish Government published its draft Peatland and Energy Policy Statement, which provides the basis from which the Scottish Government and its agencies will act in development and implementing policies in relation to peatland and energy. This policy is a material consideration for new energy developments and the impact they may have on peatland habitats.</p> <p>The Policy Statement notes that; <i>"analysis by the James Hutton Institute suggests Scotland's peatlands store approximately 2,000 Mt carbon (or over 7,000 million tons CO2 equivalent). For Scotland to meet its greenhouse gas emissions reduction targets, this vast carbon store must be maintained and where possible enhanced."</i></p>
Historic Environment Policy for Scotland (2019)	<p>The Historic Environment Policy for Scotland (HEPS) sets out how to approach decisions in the planning system affecting the historic environment. It is non statutory but should be considered whenever a decision will affect the historic environment. It includes six policies for managing the historic environment, including:</p> <ul style="list-style-type: none"> • HEP1 – Decisions affecting any part of the historic environment should be informed by an inclusive understanding of its breadth and cultural significance. • HEP2 – Decisions affecting the historic environment should ensure that its understanding and enjoyment as well as its benefits are secured for present and future generations. • HEP4 – Changes to specific assets and their context should be managed in a way that protects the historic environment. Opportunities for enhancement should be identified where appropriate. If detrimental impact on the historic environment is unavoidable, it should be minimised. Steps should be taken to demonstrate that alternatives have been explored, and mitigation measures should be put in place.
PAN 2/2011 Planning and Archaeology (July 2011)	This PAN provides advice on how important archaeology is and how the planning system is important to its continued protection, maintenance and even enhancement. The PAN advises that local authorities and developers should consider the importance of the archaeological sites that are being.
PAN 1/2011 Planning and Noise (March 2011)	This PAN outlines the importance of developers and local authorities working to ensure new developments do not pollute their surrounding with undue noise.
PAN 3/2010 Community Engagement (August 2010)	This PAN seeks to advise developers on how to conduct effective engagement for National and Local bodies and stakeholders.
PAN 60 Planning for Natural Heritage (2000, revised January 2008)	This PAN provides guidance on the importance of natural heritage and the duty of local authorities and developers to ensure Scotland's important natural heritage is maintained and/or enhanced.
PAN 51 Planning, Environmental Protection and Regulation (Revised October 2006)	This PAN outlines the importance of local authorities and SEPA's role in protecting the environment. Developments should not unduly compromise the environment and it is important for developers to consult with SEPA and other bodies to ensure the full extent of a development affects are understood and mitigated.

PAN or Circular	Overview
PAN 79 Water and Drainage (September 2006)	This PAN outlines the importance of Scotland's water resources and infrastructure including drainage. It also outlines how developments need to consider flooding and how they must not increase the risk of flooding in their surroundings.
PAN 75 Planning for Transport (August 2005)	This PAN seeks to inform developers and local authorities on the importance of good quality infrastructure and developments that are well integrated into their surroundings
PAN 68 Design Statements (August 2003)	This PAN seeks to encourage the submission of design statements alongside applications for new developments.
NatureScot Natural Heritage Considerations for Solar Photovoltaic Installations (Version 3, 2017)	<p>This document confirms NatureScot's support of renewable energy technologies and their fundamental role to combating climate change. The document is clear that climate change is the single greatest threat to natural heritage. The document states the following regarding solar PV developments "In most circumstances and in most locations the impact from this type of development on the natural heritage will be minimal". Solar PV developments must carefully consider the following key considerations:</p> <ul style="list-style-type: none"> • Landscape character and setting. • Actual equipment to be installed. • Layout and design. • Ancillary infrastructure. • Maintenance regime of land around panels during life of project.
NatureScot Renewable Energy and the Natural Heritage – Position Statement (2014)	This document provides support to the aims of the National Planning Framework 3 and its goals to transition Scotland to a low carbon economy. Solar energy is identified as a crucial component to this transition. This document acknowledges that renewable energy developments will create a change within Scotland's landscapes, habitats and species, but insists this change is manageable and is appropriate where the development is well designed.

7.2 Local planning policy

The role of the Development Plan

- 7.2.1 In considering the overall statutory and regulatory framework within which the Proposed Development should be assessed, the statutory Development Plan is a material consideration which should be taken into account in the round with all other relevant material considerations. It is important to note however, that Section 25 of the 1997 Act is not engaged as there is no 'primacy' of the Development Plan in an application made under the Electricity Act. This matter is now settled following various High Court and Court of Session cases in recent years⁶.

Development Plan policies

- 7.2.2 The relevant Development Plan relating to the Proposed Development is the EAC LDP2017. The relevant LDP policies are contained within **Table 6.3** below.

⁶ See R (on the application of Samuel Smith Old Brewery (Tadcaster) v Secretary of State for Energy & Climate Change; William Grant / Dorenell s.36 Wind Farm Judicial Review case of June 2012; and, Fauch Hill / Harburnhead s.36 Wind Farm Decision (July 2014).

Table 7.3 East Ayrshire LDP2 policies

Policy/Guidance	Overview and Objectives	Response
Overarching Policy OP1	<p>This policy provides a list of criteria all development proposals must satisfy to be deemed acceptable. Where a development proposal demonstrates their contribution towards sustainable development, should these contributions outweigh their lack of consistency with parts of this policies criteria then their contributions towards sustainable development can soften the criteria.</p> <p>As this policy is overarching the policy is concerned with ensuring developments conform with all policies of the LDP, have no unacceptable impacts on the environment, are well designed and of an appropriate size and scale to their surroundings, creates no unacceptable impacts on the landscape character and protect important natural and built heritage assets</p>	The Proposed Development has been designed to a standard which is suitable for its form and function and has been sited and scaled to minimise its appearance and impact on key receptors such as landscape and visual. In broad terms, the proposal would accord with the overarching aims of Policy OP1 of the LDP2017.
Policy IND3: Business and Industrial Development in the Rural Area	Policy IND3 allow for the creation of renewable energy related developments within rural areas where the development proposal has demonstrated it has been considered critically against relevant policy and satisfies those policies. The policy is therefore wide ranging in terms of renewable energy developments as it enforces the importance of the other policies within the LDP and for developments to be considered critically against their various requirements.	The Proposed Development satisfies Policy IND3 through considering itself against the other policies of the LDP2017 that are relevant and satisfying their various requirements.
Policy RES11: Residential Amenity	Policy RES11 requires development proposals to not compromise the amenity and characteristics of residential areas, protecting said areas from potentially damaging developments. Established residential properties will have come to expect a certain level of residential amenity that new developments should not compromise.	The Proposed Development is in accordance with Policy RES11 through being located away from established residential areas and being of a high-quality design that sites its elements carefully and seeks to screen itself from the small number of residential properties that are in close proximity to it.
Policy RE1: Renewable Energy Developments	Policy RE1 is an overarching policy for renewable energy developments. The policy establishes the criteria in Schedule 1: Renewable Energy Assessment Criteria, which is a set of criteria all renewable energy development proposals must comply with. It also stresses the importance for renewable energy development proposals are appropriate to their surroundings.	The Proposed Development conforms with Policy RE1 by satisfying the criteria of Schedule 1 and by considering and proving it is appropriate to its surroundings.
Schedule 1: Renewable Energy Assessment Criteria	Schedule 1 provides the detailed criteria established by Policy RE1 that renewable energy development proposals must consider.	<p>The Proposed Development has been assessed against the Schedule 1 criteria and found to be in accordance with it, alongside being intrinsically designed with these policy objectives in mind.</p> <p>The accompanying EIA Report addresses those topics which have been identified through consultation with the ECU, EAC and other consultees, concluding that no significant effects will arise as a result of the proposed development which cannot be adequately mitigated.</p> <p>Notably, the site contains no statutory designations and therefore those criteria contained within Schedule 1 which are not relevant or present no impact from the proposed development (such as historic</p>

Policy/Guidance	Overview and Objectives	Response
		environment) have not been incorporated within the scope of the EIA Report.
Policy RE5: Financial Guarantees	This policy seeks to ensure financial guarantees from developers where the Council expects the development in question to have restoration, aftercare, decommissioning and/or mitigation costs. Such financial contributions are required to be agreed before work commences on the development should it be deemed acceptable.	Based on the information above, the Proposed Development is sought in perpetuity and therefore policy RES5 has limited scope in the assessment of this application. Should elements of the Proposed Development be decommissioned over time, the applicant would propose to engage directly with EAC concerning the methodology for decommissioning. Should it be deemed necessary that consent is contingent on financial guarantees, the applicant would seek to engage at an early opportunity with EAC in order to ascertain the necessity and scope of such a guarantee.
Policy T1: Transportation Requirements for New Development	<p>Policy T1 requires development proposals to satisfy the requirements of the Ayrshire Roads Alliance and align with any Regional and Local Transport Strategies.</p> <p>Development proposals are required to demonstrate that their development would be accessible, preferably by sustainable and active means.</p>	<p>The East Ayrshire Local Transport Strategy 2009 – 2014 is the most recent strategy and the Proposed Development has been designed to accord with its aims, objectives, and vision.</p> <p>The Proposed Development has been well designed to ensure access points and access tracks are well designed and sited in the best possible locations. The re-use of existing access tracks has also been utilised where possible.</p>
Policy WM1: Sustainable Waste Management	Policy WM1 requires development proposals to meet the aims of the Scottish Governments Zero Waste Plan and follow the principles of the Waste Hierarchy. Development proposals are therefore required to ensure they minimise any waste produced and recycle as much waste as possible. The policy encourages developments that manage to use recycled material.	The Proposed Development would be constructed and operated in line with the Waste Hierarchy and has been designed to ensure any waste produced is kept to a minimum and recycled where possible. Once operational, it is not anticipated that the Proposed Development will generate any significant levels of waste which would require further consideration under Policy WM1.
Policy WM3: Sustainable Waste Management and New Developments	Policy WM3 requires development proposals to have waste separation on site during construction to ensure as much waste as possible has the potential to be recycled and not lost to landfill. Major and significant local developments could also be required to produce a Site Waste Management Plan to demonstrate in detail how waste generation will be minimised during the site's construction and operation.	While the Proposed Development is not anticipated to be a significant generator of waste materials, it would be constructed and operated with sufficient waste separation services to ensure general and other waste is likely to be recycled, with minimal waste being lost to landfills.
Policy ENV1: Listed Buildings	Policy ENV1 provides protection to both the character and setting of listed buildings within East Ayrshire. The demolition or loss of listed buildings would rarely be supported.	Lochgoin Monument is a grade B listed building and lies approximately 1.4km to the south east. Given the distance from the Proposed Development and the nature of its setting, it is considered that the Proposed Development would not harm its significance. The Proposed Development would be in accordance with Policy ENV1 through not resulting in the loss of any listed buildings and not compromising any listed buildings' character or setting

Policy/Guidance	Overview and Objectives	Response
Policy ENV2: Scheduled Monuments and Archaeological Resources	<p>Policy ENV2 provides protection to the character and setting of scheduled monuments, only permitting support for development proposals where any adverse effects on scheduled monuments has exceptional overriding circumstances.</p> <p>This policy also affords protection to the archaeological resources located within East Ayrshire. Archaeological assets discovered should remain in situ where possible and developers are required to provide for the archaeological excavation of the asset where this is not possible.</p>	<p>The Proposed Development would be in accordance with this Policy as it would not have any significant adverse effects on any scheduled monument. The Proposed Development would also manage the discovering of any archaeological assets in-line with this Policy and has been designed to avoid any existing currently known archaeological assets.</p>
Policy ENV6: Nature Conservation	<p>This Policy affords protection to the important natural resources, assets and biodiversity found within East Ayrshire. Development proposals that adversely affect Natura 2000 or SSSI sites would only be permitted where they would not have adverse effects on the integrity of these sites. Potential effects on sites of local importance due to the composition of natural assets within them, are also protected. Development proposals are required to minimise and mitigate their potential effects on these sites and on protected species that might operate in and around the development site. The policy also seeks to ensure that development proposals are designed in such a manner that opportunities to incorporate or extend existing habitat networks are considered.</p>	<p>The Proposed Development would be in accordance with Policy ENV6 due to it not having any significant negative effects on the natural assets located within East Ayrshire and being designed and sited in such a manner that it has appropriately mitigated any potential effects on these assets as possible. Furthermore, it is noted that no statutory nature designations are included within or adjacent to the Site.</p>
Policy ENV8: Protection and Enhancing the Landscape	<p>This Policy affords protection to the landscapes of East Ayrshire and seeks enhancement of East Ayrshire's landscapes over the lifetime of the LDP. The policy requires development proposals to be well designed and of a size, scale and layout that is in accordance with the landscape character the site is located within. The Policy notes that the finishing's, colours and materials used in developments is also of considerable importance and such aspects of development should be carefully considered to ensure development proposals mitigate and reduce their potential effects on landscapes and their characteristics as much as possible.</p> <p>The policy highlights the following important landscape features that should be conserved and considered in development proposals:</p> <ul style="list-style-type: none"> • <i>"Settings of settlements and buildings within the landscape.</i> • <i>Skylines, distinctive landforms features, landmark hills and prominent views.</i> • <i>Woodlands, hedgerows and trees.</i> • <i>Field patterns and means of enclosure, including dry stone dykes.</i> • <i>Rights of way and footpaths."</i> 	<p>The Proposed Development is in accordance with Policy ENV8 due to it having been designed in accordance with this Policy's requirements and has been sited in such a way so as to mitigate and reduce its potential landscape effects.</p>
Policy ENV9: Trees, Woodland and Forestry	<p>This Policy affords protection to the trees, woodlands and forests located within East Ayrshire. Development proposals must justify the loss of such natural assets and must achieve clear and considerable public benefit from their development. Compensatory planting and similar schemes could be used by development proposals to help justify the loss of trees.</p>	<p>The Proposed Development is in accordance with Policy ENV9 and would not result in the direct removal of significant sections of forestry. Furthermore, the forestry that is within and surrounding the Site is commercial woodland and therefore trees are often harvested, and replacement trees replanted. The applicant has no control over these forestry operations as the forestry within the locale is managed by Forestry and Land Scotland who maintain an ongoing presence on site.</p>

Policy/Guidance	Overview and Objectives	Response
Policy ENV10: Carbon Rich Soils	This Policy affords protection to the important peatland soils within East Ayrshire. The Policy seeks to minimise any potential effects or loss of peatland soils as these are an important source of carbon storage. The policy does make special exceptions for renewable energy developments, which may be built on carbon rich soils where their economic and public benefit outweighs the potential loss of said soils.	The Proposed Development has been carefully designed and its elements sited in order to minimise the amount of peatland affected, and in general, areas of deep peat have been avoided. Where areas of peatland cannot be avoided – such as is the case with the siting of the solar PV arrays, responsible management of the peatland habitat has been a fundamental consideration in the generation of the Proposed Development and appropriate mitigation through compensatory peatland restoration in other locations within the Site has been proposed.
Policy ENV11: Flood Prevention	This Policy seeks to ensure new developments within East Ayrshire are not at risk of flooding and do not increase the risk of flooding in their surroundings. Development proposals are required to mitigate their susceptibility to flooding, ensuring their resulting development would be as flood resilient as possible.	The Site has extremely localised areas of high, medium and low risk of surface water flooding throughout the site – most of which are concentrated in areas following existing watercourses. The layout of the Proposed Development has been carefully designed around these potential flood risk areas and appropriate buffers have been applied to watercourses to limit the potential impact on the Proposed Development resulting from a flood event.
Policy ENV12: Water, Air and Light and Noise Pollution	This Policy seeks to ensure development proposals within East Ayrshire do not create unreasonable levels of water, air, light and noise pollution. Development proposals are required to mitigate any effects from pollution as much as possible.	The Proposed Development provides little to no pollution. The solar PV farm, once constructed will result in close to zero pollution impacts. Similarly the BESS would be expected to have extremely minor impacts in respect of noise and light pollution. Notably due to the siting of these element away from sensitive receptors, suitable mitigation can be applied and controlled through standard planning conditions.
Policy ENV14: Low and Zero Carbon Buildings	Policy ENV14 seeks to ensure that new developments within East Ayrshire incorporate low and zero carbon technologies and reduce their creation of greenhouse gases as much as possible.	The buildings comprising the Proposed Development have been designed to the needs of this Policy. The Proposed Development would also result in the creation of a renewable energy generating development, contributing to Scotland's shift from polluting forms of energy generation to cleaner forms of energy generation. The green credentials of the Proposed Development are without dispute.

7.3 Other material considerations

The emerging Local Development Plan

- 7.3.1 EAC is currently in the process of preparing the Local Development Plan 2 (LDP2), a successor to the current LDP2017. EAC has progressed to the stage of issuing a Main Issues Report (MIR) which contains the main issues the Council seeks to address in LDP2 and helps to identify how the Council will consider development proposals in the future.

- 7.3.2 At the time of submission, LDP2 is not at a stage where it would be considered as a fundamental material consideration in the assessment of the Proposed Development. This notwithstanding and having consideration to the request for a 10-year enactment period, it is noted that there are no present changes captured within the LDP2 MIR which would conflict with the aims and rationale behind the Proposed Development. In fact, it is reasonable to assume, that within the next 10 years, the national agenda toward green technologies and renewables will only become more acute.

East Ayrshire Economic Development Strategy 2014 – 2025

- 7.3.3 This document provides the economic aspirations of the East Ayrshire region. Key to this application is EAC desire to ensure the East Ayrshire region increases its sustainability and places it as key to ensuring long term economic growth. The document also highlights renewables as being a priority growth sector.

7.4 Planning policy assessment

Introduction

- 7.4.1 This section of the Supporting Statement provides an assessment of the Proposed Development against relevant national and LDP2017 policies and other material considerations (as set out in **Sections 6.1 and 6.2** respectively).

Contribution to renewable energy regeneration targets

- 7.4.2 The Proposed Development would have an anticipated nominal capacity of up to 40 MW in regard to the solar PV farm and a 50MW discharge in respect of the BESS. The BESS elements of the Proposed Development would further aid in ensuring the renewable energy produced by the solar PV element of the Proposed Development is fully utilised with as little renewable energy as possible lost. The Proposed Development is therefore considered to be of significant value in meeting the considerable and ambitious energy regeneration targets established within **Section 6**.

Land use and principle of development

- 7.4.3 The principle of the Proposed Development on national policy level has been assessed as acceptable. At a local level, the EAC seeks to achieve high quality development with *"a presumption in favour of development which contributes to sustainable development"*.
- 7.4.4 The Spatial Strategy of the LDP2017 sets out a series of requirements which support this presumption in favour of sustainable development, these include but are not limited to:
- *"Directing development to accessible locations to reduce the overall need to travel. Where travel is necessary, locations accessible by a variety of modes of public transport as well as walking and cycling are prioritised."*
 - *Identifying development opportunities in locations with the infrastructure and landscape capacity to accommodate them.*
 - *Identifying opportunities for renewable energy development, particularly wind energy development, giving due regard to relevant environmental, community and cumulative impact considerations.*
 - *Making provision for sensitive development in the rural area with those most sensitive parts being afforded higher levels of protection.*

- *Ensuring that all development is of the highest quality design and contributes positively towards making the area concerned a successful place thereby improving the quality of life and health of residents, stimulating private investment, attracting visitors to the area and assisting in reducing carbon emissions."*

- 7.4.5 Broadly speaking, the Proposed Development would comply with the general principles of the spatial strategy insofar as it is sited at a location close to the motorway network and is therefore highly accessible. It is also sited adjacent to the existing wind farm at Whitelee. It is located within a rural area with extremely limited sensitivity and no statutory designations and limited impact on identified receptors. It offers an opportunity to capitalise on the location of Whitelee and Eaglesham Moor as a centre for renewable and green energy in Scotland and will continue to improve the overall quality of life and health of residents through its primary benefit of reducing reliance on carbon rich fossil fuels.
- 7.4.6 In determining the suitability of the Proposed Development in its principle, consideration of land use is essential. In this case, the LDP2017 is the primary consideration for establishing land use compatibility and whether or not a development would be deemed to be contrary to the Development Plan. By virtue of the broad compliance with the LDP2017 Spatial Strategy and by virtue of the designation of the site as an area of renewable (wind) development which is a comparable renewable energy use to solar in terms of the broad benefits offered. The Proposed Development is therefore compliant with the overall aims and agendas of the LDP2017 and is not contrary to the LDP2017.
- 7.4.7 Policy IND3 relates to industrial development within a rural setting. IND3 supports development outwith settlement boundaries only where strict selection criteria is met. In the case of the Proposed Development this would be criteria (vii) *"Renewable energy developments within the Rural Area that have been subject to detailed consideration against policy criteria"*.
- 7.4.8 The accompanying EIA Report successfully demonstrates that the Proposed Development would cause no unacceptable significant adverse effects on the environment which would be contrary to policy criteria with regard to its principle.
- 7.4.9 Therefore, the Proposed Development is considered to accord with the vision and Spatial Strategy of the LDP2017, overarching policy OP1 and Policy IND 3.

Landscape and visual impact

- 7.4.10 The Landscape and Visual Impact Assessment (LVA) which accompanies the EIA Report this application has been undertaken in accordance with the third edition of Guidelines for Landscape and Visual Impact Assessment (GLVIA3) by chartered landscape architects at Wood. The assessment process has encompassed the construction, operation, and decommissioning phases of the Proposed Development.
- 7.4.11 The Site is located in an area where the existing landscape character and features act to reduce the Site's sensitivity and limit both the visibility and numbers of people close to the site who might otherwise view the components of the Proposed Development. The most visible component of the Proposed Development would be the solar PV farm, whilst there would be very limited visibility of the BESS from the surrounding area.
- 7.4.12 As with most built developments, the Proposed Development would generate localised landscape effects where construction activity and built components would affect landscape character and elements. Landscape effects are concerned with how the Proposed Development would affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape, and its distinctive character. The local topological features and scale of the Proposed Development would be such that the greatest landscape effects would be limited to between approximately 0.3-

1km on the host Plateau Moorland with Windfarms Landscape Character Type (LCT). In addition, the Proposed Development would be visible in the landscape in the context of the Whitelee wind turbines, a key feature of the LCT which present a noticeable manmade element in the landscape, as well as the M77, a key linear feature in the Plateau Moorland with Windfarms LCT, along with coniferous forestry, dispersed farms and agricultural buildings. As such the Proposed Development would present as a 'new' element in the landscape, but in part of the landscape already characterised by large scale man-made features where it would be perceived as a relatively small scale, mostly horizontal additional feature that would be less visible due to the surrounding undulating landform.

- 7.4.13 The Proposed Development is not located within any designated landscapes, neither are there any designated landscapes within the study area.
- 7.4.14 The greatest visual effects from the introduction of the Proposed Development would be mostly limited to receptors within approximately 1km of the solar PV farm, in particular to the west and southwest, with less visual effects from other directions and beyond 1km. There would also be very limited visual effects of the BESS from the surrounding area. Visual receptors most affected by the solar PV farm would be residents at Cauldstanes, Best Friends and Drumtee, and road users and cyclists of the A77 and B764 along short sections of these routes. None of the residential properties would be unacceptably affected by the Proposed Development in terms of their residential visual amenity. Visual effects from the east and south including all the recreational routes would be limited by the landform which slopes down to the west such that most views of the solar PV farm would be mid to long range. Where visible in these views, the component would be seen as low-lying features, beyond the prominent Whitelee wind turbines, backclothed by landform and forestry and would sit below the horizon.
- 7.4.15 The overall effects of the Proposed Development on the landscape and visual resource are limited to a very small geographical area and a small number of receptors would be affected.
- 7.4.16 With consideration to national policy and guidance, as well as policy ENV8 of the LDP2017, the Proposed Development is compliant from a landscape and visual impact perspective.
- 7.4.17 For full details please refer to the Volume 2, Chapter 7 of the associated EIA Report.

7.5 Ecology and ornithology

- 7.5.1 Ecological surveys have been undertaken across the Site, including a Phase 1 habitat survey, a National Vegetation Classification (NVC) survey and protected mammal surveys (including badger, otter and water vole); and a desk study comprising an extensive historical baseline for the Site and wider area (including protected mammal surveys, bat surveys, fish habitat surveys), as well as contemporary bird monitoring data for the adjacent and overlapping Whitelee Wind Farm Habitat Management Area (HMA).
- 7.5.2 The Ecological Impact Assessment has been based on not only the results of field surveys and a desk study, but also relevant published information (for example on the status, distribution and sensitivity to environmental changes and ecology of the features scoped in to the assessment), and professional knowledge of ecological processes and functions.
- 7.5.3 The designed layout of the Project as a whole has evolved through the iterative design process, taking consideration of sensitive ecological features including habitats and species present within the site and appropriate buffers. Specifically, the layout has been designed to avoid deeper peat and more sensitive areas of bog habitat, non-statutory designated sites in close proximity to the Site (Fenwick Moor Provisional Wildlife Site), GWDTEs and watercourses.

- 7.5.4 Access track and cable route layout have been designed as far as reasonably practicable to use the minimum land take; cabling infrastructure will be installed alongside existing forestry tracks and make use of opportunities to tie into existing HV cable infrastructure associated with Whitelee Windfarm, thus limiting loss of habitat to new tracks.
- 7.5.5 The solar PV farm, BESS, and temporary construction laydown areas have been sited to avoid sensitive vegetation communities where possible, targeting shallow peat, existing disturbed ground, grassland or clear-felled areas.
- 7.5.6 Tight construction footprints would be adhered to in order to minimise damage to sensitive habitats, and consideration will be given to limiting passes of machinery over bog and use of low-pressure machines. All access tracks on peat depths exceeding 1m would be of floating design, to minimise effects on peat.
- 7.5.7 For each scoped-in important ecological feature (IEF), effects were assessed against the current baseline conditions for that feature during construction, operation and decommissioning. IEFs included wet modified bog communities, otter, black grouse and curlew.
- 7.5.8 A Habitat Management Plan (HMP) will be implemented during the construction and operation phases that will focus on restoration of wet modified bog within suitable Habitat Management Units within the site, primarily through the blocking of drains in areas where historical drainage channels are more concentrated, grazing exclusion fencing and removal of self-seeded conifer regeneration. The HMP will address the indirect land take and potential degradation from the solar array over bog habitats, and the direct and indirect land take from the solar array and green hydrogen storage compound on former plantation within the existing Whitelee HMP. Subject to the provision of a net balance of suitable habitat restoration land it is concluded that the Proposed Development would not result in a significant effect on the blanket bog resource. The HMP will also co-relate to the CEMP and CTMP in order to provide a cohesive framework in relation to construction but will also remain in place beyond the construction phase and continue through the operational phase of the Proposed Development.
- 7.5.9 As noted above, working practices to minimise effects on terrestrial, ornithological and freshwater ecology during construction would be set out in a CEMP and implemented under the direction/supervision of a suitably qualified Environmental Clerk of Works (ECOW), and would include:
- A Species Protection Plan (SPP) for otter would be prepared to ensure compliance with legislation. It would include details of pre-construction surveys to check on the presence of otters and the following suite of embedded measures that would be implemented across the site to avoid causing harm to or disturbing this species. Taking this and other mitigation measures into account, it was concluded that the Proposed Development would not have a significant effect on otter.
 - A range of environmental measures have been embedded into the Proposed Development to minimise any potential impacts on breeding birds. Working practices to minimise effects on ornithological features during construction will be set out in a Bird Protection Plan (BPP). Taking this and other mitigation measures into account, it was concluded that the Proposed Development would not have a significant effect on birds.
 - Similarly the iterative design process has incorporated embedded measures to minimise or 'design-out' the risk of significant effects on freshwater ecology: numbers of watercourse crossings have been restricted to a practical minimum; watercourse crossings have been designed in accordance with good practice, maintaining connectivity of watercourse habitat and avoiding impeding fish passage/migration; a minimum stand-off ('buffer') of 20m between site infrastructure (permanent and temporary) and watercourses / waterbodies (with the

exception of watercourse crossings) has been incorporated into the design; and the timing of in-channel works would avoid sensitive life stages of fish. Taking this and other mitigation measures into account, it was concluded that the Proposed Development would not have a significant effect on freshwater fish.

7.5.10 For full details please refer to the Volume 2, Chapter 6 of the associated EIA Report.

7.6 Geology, hydrology (including flood risk) and hydrogeology

- 7.6.1 A thorough appraisal of the current baseline environmental characteristics of the Site and a surrounding buffer area has been undertaken (1km in the northern section, 250m in the southern section), with reference to geology, hydrology (including flood risk) and hydrogeology.
- 7.6.2 The assessment identified a number of water environment receptors at potential risk from the Proposed Development. These included groundwater (bedrock aquifer and associated Water Framework Directive (WFD) groundwater body), surface water (three watercourses and associated WFD surface water bodies and one reservoir), nine licenced abstractions/ discharges, five private water supplies (PWSs), four designated conservation sites and one GWDTE.
- 7.6.3 An assessment has been undertaken of the significance of the potential effects of the Proposed Development on a receptor group and individual receptor basis. With 'embedded' mitigation, it was assessed that there would be no likely significant adverse effects related to the Proposed Development.
- 7.6.4 In addition, the cumulative impacts assessment indicated that there would be no cumulative effects within the Proposed Development or wider Study Area or in the same surface catchments.
- 7.6.5 On this basis, standalone and cumulative effects of the Proposed Development on all water receptors are not significant.
- 7.6.6 For full details please refer to the Volume 2, Chapter 8 of the associated EIA Report.

7.7 Transport and access

- 7.7.1 The Site would be accessed by a 1.5km link/haul road to/from the B764/Moor Road. The B764/Moor Road links into the A77 road, which then adjoins the M77 through junction 6. The EIA Report traffic and transport assessment found that the B764/Moor Road and the A77 are lightly used roads with good safety records. As such it is considered that the site is well placed for connections to the local highway network.
- 7.7.2 Most traffic generated by the Proposed Development is associated with the construction phase which is anticipated to last up to 12 months. The approach considered in this assessment assumes that abnormal loads will not be required for the solar PV farm, green hydrogen production facility and other associated infrastructure and only the BESS would require the transport of abnormal loads which would be routed from the M77, via the A77 and B764 before utilising the existing Whitelee Extension spine road which has been designed to accommodate abnormal loads for the transport of wind turbine infrastructure.
- 7.7.3 The proposed 1.5km link road that adjoins the B764/Moor Road has been designed to Design Manual for Roads and Bridges (DMRB) design standards and can achieve the relevant highways visibility splays and accommodate a large 17.5m articulated lorry (17.5m, 4 axle doll Transporter), which the largest design vehicle that could potentially use the access.

- 7.7.4 It is assumed that most construction traffic will approach the Site from the north, via the M77, A77 and B764 as detailed above. The main potential transportation impacts would be associated with the movement of abnormal loads, heavy goods vehicles (HGVs), light vehicles (cars and vans) (LVs), to and from the Site during the construction phase.
- 7.7.5 It is estimated that a total of up to 122 vehicle movements (where one movement equals one arrival or departure) would be associated with the construction phase of the Proposed Development, as a worst case scenario. This figure includes 64 HGV and abnormal load delivery movements and 58 LV movements.
- 7.7.6 The supporting Transport Statement identifies that the local road network has the capacity to accommodate this traffic and that percentage impacts indicated that per day there will be a negligible effect on local road networks.
- 7.7.7 The assessment of potentially significant environmental effects undertaken in the traffic and transport assessment utilised the Institute of Environmental Assessment (IEA) publication Guidance Notes No. 1: Guidelines for the Environmental Assessment of Road Traffic (GEART). In applying the GEART, it has been concluded that:
- The increase in overall traffic flow and HGV flow was identified to have no potential significant effects.
 - The consequential potential of driver delay due to increase in overall traffic flow was identified to have no potential significant effects.
 - The residual effect on pedestrian amenity is considered not significant in terms of the EIA Regulations.
 - The effect of the transportation of hazardous loads (in this case hydrogen) is negligible and does not require further assessment.
- 7.7.8 A Construction Traffic Management Plan (CTMP) will be developed in agreement with EAC (the local Highways Authority) and Transport Scotland which will detail the exact measures to be implemented during construction of the Proposed Development.
- 7.7.9 Traffic generated during the operation and maintenance of the Proposed Development would be less than the construction phase and this is expected to be not significant.
- 7.7.10 With specific regard to policy T1 policy T2 and policy T4 of the LDP2017, it is considered that the Proposed Development meets the aims of the Plan by ensuring that it will not give rise to potential impact of the performance or safety of the trunk road network, nor will the development give rise to any detrimental effects to the public transport network or core paths and natural routes.
- 7.7.11 As identified above, the impacts of the Proposed Development are greatest during the construction phase and although the Proposed Development does result in increased vehicle movements to the site during operational phase, these are very limited and present no significant impacts.
- 7.7.12 While it is recognised that the LDP2017 provides a focus on the need to support active travel options as well as reduce reliance on the private car, owing to the remote nature of the Site relative to local settlements and the lack of public transport infrastructure within an accessible distance of the Site it is not possible to provide a designed solution to address these policy requirements. This notwithstanding, the applicant would seek to prepare a Travel Plan, which would offer options for alternative forms of travel to/from the site as deemed appropriate and it is considered that this would be a reasonable condition of consent.
- 7.7.13 Based on the foregoing, it is considered that on balance the Proposed Development would comply with the general principles of the transport policies contained within the LDP2017 and that where the

Project cannot fully comply with policy – such as in the case of active travel requirements – that a balanced judgement should be taken with weight given to the nature and location of the Proposed Development and the Site.

- 7.7.14 For further details of traffic and transport impacts please refer to Chapter 9 of Volume 2 of the EIA Report includes an assessment of the effects of the Project on traffic and transport receptors.

7.8 Other matters

Waste

- 7.8.1 The Proposed Development would be constructed and operated in line with the Waste Hierarchy and has been designed to ensure any waste produced is kept to a minimum and recycled as much as possible. It would also be constructed and operated with sufficient waste separation services to ensure general and other waste is likely to be recycled, with minimal waste being lost to landfills. The Proposed Development is therefore in compliance with the requirements of Policy WM1 of LDP2017.

Air Quality

- 7.8.2 The peak period for the creation of air pollutants would occur during the construction of the Proposed Development. This would be due to the emissions by construction vehicles (plant and personal) required in order to construct the Proposed Development. The operation of the Proposed Development would result in few emissions as the solar PV farm and battery storage elements do not produce air pollutants, and such pollutants would only come from the vehicles staff would use to manage and inspect the site.
- 7.8.3 Based on the foregoing, the Proposed Development is considered to comply with Policy ENV12 of the LDP2017 as it will not give rise to adverse impacts on local air quality levels, either on its own or cumulatively with other developments.

Glint and glare

- 7.8.4 Glint in this context refers to a momentary flash of bright light typically received by moving receptors or from moving reflectors.
- 7.8.5 Glare in this context refers to a continuous source of bright light typically received by static receptors or from large reflective surfaces.
- 7.8.6 Solar PV arrays are designed to absorb light, which is then used as a source of energy to generate electricity. For this reason, all solar PV arrays are fundamentally designed to avoid any significant reflection (either as glint or glare). The relative reflectivity of solar PV panels is therefore very low in comparison to other common surfaces. For example, the percentage of light reflected from vegetation is around 50%; the similar figure for solar PV is 5%⁷.
- 7.8.7 No significantly visible solar reflections are projected from the solar PV farm. This is the case for aviation, road users and residential dwellings. No specific mitigation measures are therefore proposed specifically relating to glint and glare.
- 7.8.8 Further detail can be found in the Glint and Glare Assessment (doc. reference 43122-WOOD-ZZ-XX-RP-OP-0001_S0_P01.1), which accompanies this application.

⁷ Technical Guidance for Evaluating Selected Solar Technologies on Airports, Federal Aviation Administration (FAA), date: 04/2018,

Noise

- 7.8.9 The Proposed Development is not anticipated to give rise to significant operational noise levels.
- 7.8.10 In terms of the solar PV farm, the greatest opportunity for noise is from the proposed access and link/haul road however as the Proposed Development and the Project as a whole is not anticipated to be a significant generator of traffic, the impact would be low and could be appropriately addressed via safeguarding conditions.
- 7.8.11 In terms of the BESS, operational noise would be minimal and it is considered that the proposed BESS location is sufficiently distant from nearby residential receptors. A summary of the distances to the closest residential properties is as follows:
- Moor – 4.8km to north of BESS (under ownership of applicant, confirmed as presently unoccupied).
 - Kingswell – 5.3km to north west of Site beyond B764.
 - Cauldstanes – 4.9km to north west of Site.
 - Best Friends – 5.3km to north west of Site beyond B764.
 - Drumtee – 3.3km to north west of Site.
 - Lochgoyne – 2.4km to north of Site.
- 7.8.12 The applicant contends that given the distance to local residential receptors, coupled with the low level of operational noise, that standard safeguarding conditions concerning noise could be included within any grant of Planning Permission.
- 7.8.13 It is anticipated that noise levels may be increased during construction and decommissioning activities and the management of this is proposed to be included within both the CEMP and CTMP.
- 7.8.14 Furthermore, the site is not located within a Noise Management Area, nor is it subject to a Noise Action Plan and on this basis, and taking account of the above information, it is considered that the Proposed Development would be consistent with the requirements of Policy ENV12, subject to safeguarding conditions.

Decommissioning and site restoration

- 7.8.15 Policy RE5 of the LDP2017 and the SG for financial contributions requires financial guarantees to be made available for the decommissioning and restoration of sites where necessary. The Proposed Development is being requested to operate in perpetuity. It is therefore considered that if approved, that conditions relating to the decommissioning and restoration of the Site would be applied to the Proposed Development, satisfying national and local planning policy.

Lighting

- 7.8.16 The proposed solar PV farm does not contain any lighting proposals, nor is it anticipated that lighting will be required for this component.
- 7.8.17 The proposed BESS will contain lighting proposals which have yet to be determined, however owing to the remote location of the BESS site in relation to sensitive receptors (i.e. residential property) it is not considered that the BESS will give rise to any detrimental impact, nor will it give rise to levels of light pollution which would require consideration under the EIA Regulations.

7.8.18

Based on this, it is considered that the Proposed Development would not present a detrimental impact on amenity or on light pollution levels and it is anticipated that lighting proposals can be acceptably controlled via suspensive and safeguarding planning conditions.

8. Summary and conclusions

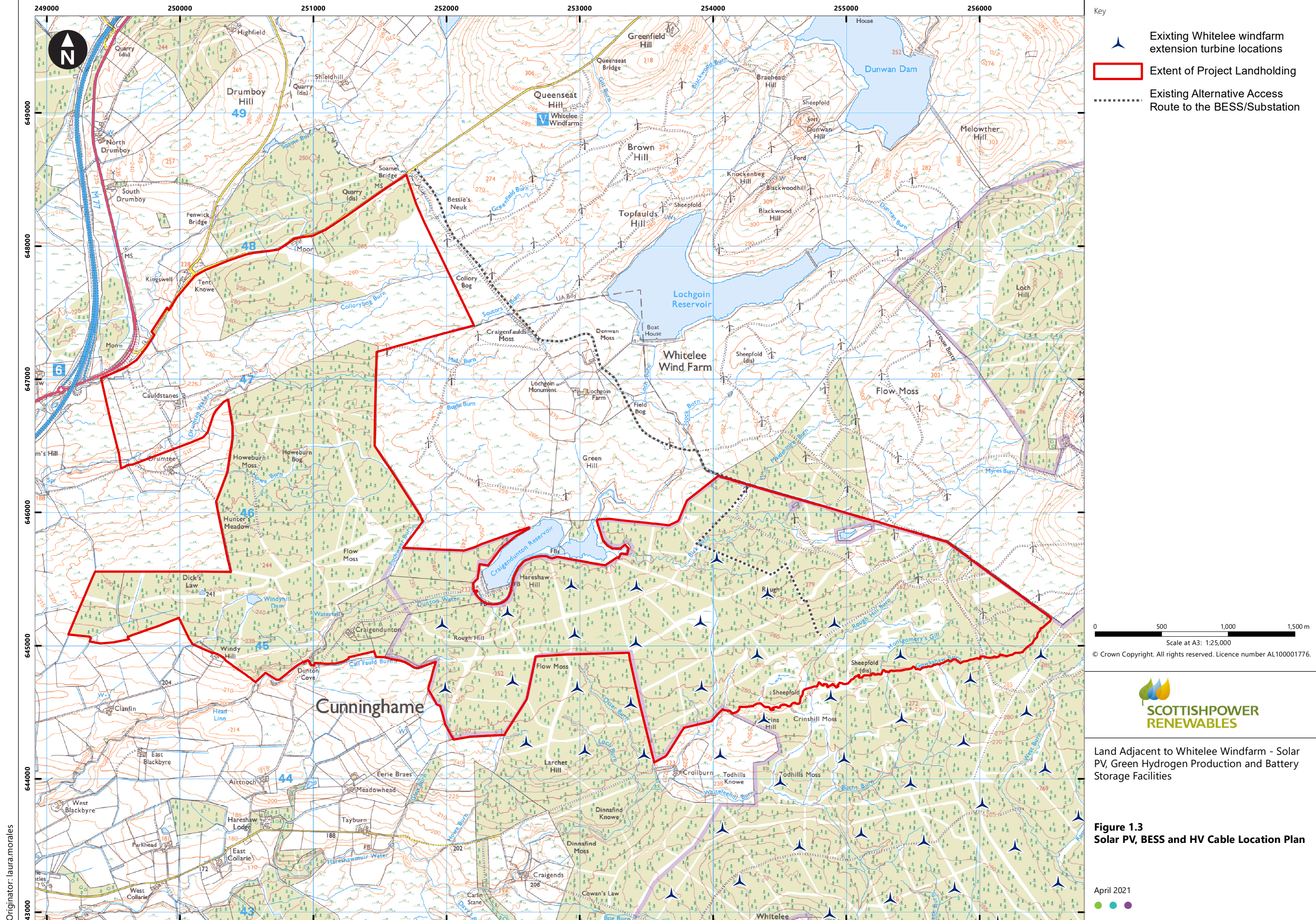
- 8.1.1 There has been a step change in recent Government policy and attitudes towards the importance of reducing greenhouse gas emissions as soon as possible in order to significantly reduce the risks and impacts of climate change. In May 2019, the Scottish Government declared a 'climate emergency'. This resulted in the Climate Change (Emissions Reductions Targets) (Scotland) Act 2019, which received Royal Assent in October 2019. This Act now commits Scotland to a target of Net Zero emissions of all greenhouse gases by 2045, with interim targets to reduce emissions by 56% by 2020, 70% by 2030 and 90% by 2040. The Act also places climate change duties on all Scottish public bodies, requiring them to exercise their functions in a manner which is consistent with meeting the Net Zero target.
- 8.1.2 In its advice to the UK and Scottish Governments on achieving the Net Zero target, the UK Committee on Climate Change have stated that renewable energy generation "must quadruple" and that the Scottish Government should make "use of planning powers to drive decarbonisation." Increased support for the role of the planning system in more radically reducing greenhouse gas emissions has also come across as a central theme in consultee responses to the Scottish Government's Call for Ideas on the next National Planning Framework with a recognition that the existing NPF3 and SPP have yet to fully reflect the legislation and policy requirements relating to climate change.
- 8.1.3 The Proposed Development represents the applicant's ambition to diversify its portfolio of 100% renewable green energy and when viewed within the context of the national decarbonisation agenda represents a convergence of new and cutting-edge technologies working as one to deliver the most sustainable renewable development possible.
- 8.1.4 The Scottish Government has recently identified investment in renewables as playing an important role in contributing towards Scotland's "green recovery" following the global COVID-19 pandemic. The Project overall represents a c. £35 million capital investment, which can be viewed as a direct contributor to this national agenda.
- 8.1.5 National and local planning policy is strongly supportive of new development proposals for renewable energy generation. However, policy is clear that such development is not at any cost. National and local planning policy provides that development must be guided to appropriate locations and that environmental effects need to be judged to be acceptable.
- 8.1.6 The Site at Whitelee has been chosen for a number of reasons. It benefits from sufficient solar coverage, it is located adjacent to an existing centre of renewable (wind) energy generation in Scotland with pre-existing connections to the National Grid which support the inclusion of a BESS, it is free from any statutory designations, has few ecologically sensitive species present, and is within a sparsely settled area which is sufficiently distant from main populated settlements.
- 8.1.7 Furthermore, the suitability of the Site for development is established in its principle within the EAC LDP2017 and while it is noted that the intended Whitelee Phase 3 development was not previously supported in this location, it is considered that the principle reason for refusal (L&V impact) is suitably addressed through the low density design and visually unobtrusive layout of the Proposed Development.
- 8.1.8 The EIA Report Ecological Impact Assessment (Volume 2, Chapter 6) identifies the only significant adverse impact is in relation to peatland habitat; however, suitable compensatory habitat management has been provided to offset these impacts. Furthermore, other supporting technical reports which accompany this application identify no significant environmental impacts as a result of the Proposed Development. Those non-significant impacts which have been identified

can be sufficiently mitigated in most circumstances and those which cannot be mitigated against are considered sufficiently minor so as to not require further consideration.

- 8.1.9 Furthermore, the BESS site has been located in an area which not only minimises the cabling works required to connect to the existing Whitelee Extension substation, but also in a remote location with extremely limited environmental receptors which have the potential to be affected by its construction and operation.
- 8.1.10 From the benefits of the Proposed Development alongside the minimal degree of environmental impact which would arise, its compliance with national and local planning policy and also the weight which should be given to the Climate Change (Emissions Reductions Targets) (Scotland) Act 2019 and the national agenda towards decarbonisation and Net Zero objectives, it is concluded that the planning balance lies firmly in favour of the Proposed Development and it is respectfully requested that the Scottish Ministers support the Proposed Development and grant consent.

Appendix A

Location Plan





Appendix B

Site Layout Plan

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