

14 FORESTRY

14.1 Introduction

This Chapter considers the potential implications of the Ladyfield Renewable Energy Park (the Development) on the woodland resource within the site boundary and its long-term management. This Chapter was prepared by DGA Forestry LLP.

Forestry is not being regarded as a receptor for EIA purposes. Commercial forests are a dynamic environment, and their structure continually undergoes change due to:

- normal felling and restocking by the landowner;
- natural events, such as storm damage, pests or diseases; and
- external factors, such as a wind farms or other development.

This Chapter therefore describes:

- the plans as a result of the proposed development for felling, restocking and forest management practices;
- the process by which these were derived;
- the changes to the physical structure of the forestry within the site boundary; and
- forestry waste arising from the Development.

The forestry proposals are interrelated with environmental effects, which are assessed separately in other chapters of the EIA Report. This Chapter should therefore be read in conjunction with other EIA Report chapters as they are interrelated to the proposed changes in the forest structure:

- Chapter 2: Development Description;
- Chapter 6: Landscape and Visual Impact Assessment;
- Chapter 7: Ornithology;
- Chapter 8: Ecology;
- Chapter 10: Hydrology and Hydrogeology; and
- Chapter 11: Geology, Soils and Peat

The responsibility for the management of the remainder of the forest outwith the site boundary lies with the landowners and therefore the wider felling operations, restocking, and aftercare operations within these areas do not form part of the proposed development for which consent is sought.

The majority of the Development is located within existing commercial forestry plantations (as shown on Figure 14.1) with areas of open hill to the east. The woodlands are privately owned and managed. The forestry proposals have been developed to:

- Identify areas of forest to be removed for the construction and operation of the proposed development;
- Identify those areas which may or may not be replanted as part of the proposed development; and
- Propose management practices for the forestry works.

In general, throughout this Chapter data labelled 'baseline' refer to the current crop composition and any existing plans without any modification as a result of the Development. Data labelled "Renewable Energy Park" or "Development" refer to the forestry plans incorporating the Development.

This Chapter is structured as follows:

- Legislation, Policy and Guidance;
- Forestry Study Area;
- Forest Planning Process;

- Development of the Ladyfield Renewable Energy Park Long Term Forest Plan;
- Baseline Conditions;
- Ladyfield Renewable Energy Park Long Term Forest Plan;
- Requirement for Compensatory Planting;
- Forestry Waste;
- Forestry Management Practices; and
- Summary.

This chapter is supported by the following figures:

- Volume 2a: Figures
 - Figure 14.1: Forestry Study Area
 - Figure 14.2: Baseline Species Composition
 - Figure 14.3: Baseline Felling Plan
 - Figure 14.4: Baseline Restock Species Plan
 - Figure 14.5: Renewable Energy Park Construction Felling Plan
 - Figure 14.6: Renewable Energy Park Felling Plan
 - Figure 14.7: Renewable Energy Park Restock Species Plan

Figures are referenced in the text where relevant.

14.2 Legislation, Policy and Guidance

Relevant overarching planning policies for the proposed development are detailed within the Planning Statement that accompanies the application. A desktop study was undertaken drawing upon published National, Regional and local level publications, assessments and guidance to establish the broad planning and forestry context within which the proposed development is located.

Forestry related policies and documents listed below have been considered within the forestry assessment. The following section provides an outline of those planning and other policies which are relevant to the proposed development, and in particular to forestry.

Forestry and Land Management (Scotland) Act 2018

Until 1st April 2019, the Scottish Ministers owned the National Forest Estate (NFE), provided funding and had responsibility for forestry strategy and policy, but the management of the NFE and delivery of forestry functions had been the responsibility of the Forestry Commissioners.

The Forestry Commission was a cross-border public authority and a United Kingdom (UK) non-ministerial department with a statutory Board of Commissioners. The Commission was made up of a number of parts, including in Scotland:

- Forest Enterprise Scotland (FES), which carried out forestry operations and managed the NFE on Scottish Ministers' behalf; and
- Forestry Commission Scotland (FCS), which was responsible for the other forestry functions in Scotland.

When full devolution of forestry to the Scottish Government was completed on 1st April 2019, FCS and FES became two new agencies of the Scottish Government:

- Scottish Forestry (SF), responsible for regulatory, policy and support functions; and
- Forestry and Land Scotland (FLS), responsible for the management of the NFE and any other land managed for the purposes of the Forestry and Land Management (Scotland) Act 2018.

With the introduction of the Forestry and Land Management (Scotland) Act 2018³⁹³ and its associated Regulations on 1st April 2019, the old regulatory regime of felling control under the

³⁹³ The Scottish Government (2018). The Forestry and Land Management (Scotland) Act 2018, Edinburgh. Available at <http://www.legislation.gov.uk/asp/2018/8/contents/enacted> [accessed 03/10/2023].

Forestry Act 1967³⁹⁴ was repealed in Scotland. From 1st April 2019, anyone wishing to fell trees in Scotland requires a Felling Permission issued by SF, unless an exemption applies or another form of felling approval such as a felling licence (including a forest plan) has previously been issued.

Under the new Regulations felling which is authorised by planning permission consent continues to be exempt from the Regulations and does not require a Felling Permission issued by SF.

National Planning Framework 4

The Scottish Ministers adopted and published National Planning Framework 4 (NPF4)³⁹⁵ on February 13 2023. NPF4 continues the theme of seeking to expand Scotland's woodland resource and the most relevant policy is Policy 6 'Forestry, Woodland and Trees', the intent of which is to "protect and expand forests, woodland and trees". It states that development proposals involving woodland removal will only be supported where they will achieve significant and clearly defined additional public benefits in accordance with relevant Scottish Government policy on woodland removal and, where woodland is removed, compensatory planting will most likely be expected to be delivered.

It further states that development proposals on sites which include an area of existing woodland or land identified in the relevant Forestry and Woodland Strategy as being suitable for woodland creation will only be supported where the enhancement and improvement of woodlands and the planting of new trees on the site (in accordance with the Forestry and Woodland Strategy) are integrated into the design.

Scotland's Forestry Strategy 2019 - 2029

Scotland's Forestry Strategy 2019 – 2029 (SFS)³⁹⁶, was published in 2019 after a consultation period. The Strategy provides an overview of contemporary Scottish forestry; presents the Scottish Government's 50-year vision for Scotland's forests and woodlands; and sets out a 10-year framework for action.

The vision is that "...in 2070, Scotland will have more forests and woodlands, sustainably managed and better integrated with other land uses. These will provide a more resilient, adaptable resource, with greater natural capital value, that supports a strong economy, a thriving environment, and healthy and flourishing communities."

It lists a number of objectives summarised below:

- Increase the contribution of forests and woodlands to Scotland's sustainable and inclusive economic growth;
 - Improve the resilience of Scotland's forests and woodlands and increase their contribution to a healthy and high quality environment; and
 - Increase the use of Scotland's forest and woodland resources to enable more people to improve their health, well-being and life chances.
- It further describes the priorities as:
- Ensuring forests and woodlands are sustainably managed;
 - Expanding the area of forests and woodlands, recognising wider land-use objectives;
 - Improving efficiency and productivity, and developing markets;
 - Increasing the adaptability and resilience of forests and woodlands;
 - Enhancing the environmental benefits provided by forests and woodlands; and
 - Engaging more people, communities and businesses in the creation, management and use of forests and woodlands.

There are ambitious targets included within the Strategy for new woodland creation:

³⁹⁴ UK Government (1967). Forestry Act 1967 (as amended). HMSO, London. Available at <https://www.legislation.gov.uk/ukpga/1967/10/contents> (accessed 03/10/2023)

³⁹⁵ The Scottish Government (2023): National Planning Framework 4, Edinburgh

³⁹⁶ The Scottish Government (2019). Scotland's Forestry Strategy 2019 -2029, Edinburgh

- 10,000 hectares (ha) per year in 2018;
- 12,000 ha per year from 2020/21;
- 14,000 ha per year from 2022/23; and
- 15,000 ha per year from 2024/25.

The stated objective is to increase Scotland's woodland cover from the current 18.5% to 21% by 2032.

Scotland's Third Land Use Strategy 2021 - 2026

Scotland's Third Land Use Strategy 2021 – 2026³⁹⁷ stresses the importance of forestry in the balancing the demands on land use in Scotland and its transition to a net zero economy. It states: "...there will need to be a significant land use change from current uses to forestry and peatland restoration." This will involve rapidly increasing the pace of woodland and forest creation. To support this, Scotland's Forestry Strategy 2019 – 2029 emphasises the continued protection of Scotland's forest resource.

Right Tree in the Right Place

'Right Tree in the Right Place - Planning for Forestry & Woodlands' 2010³⁹⁸ sets out detailed guidance to planning authorities when considering development proposals involving forestry and woodland. It advises that planning authorities should:

- Assess the current and likely future public benefits (social, economic and environmental) deriving from the existing woodland;
- Determine whether the development should be modified or the woodland redesigned to avoid or reduce woodland loss (e.g. by accommodating new development within 'open space' within woodlands);
- Where woodland loss cannot be avoided, assess the public benefit of the proposed development to see if it would justify the loss of the woodland;
- Consider whether any loss of woodland should be mitigated by compensatory planting; and
- Consider whether any felling consent needs to specify the timing of forestry operations to avoid disturbance to wildlife present on the Site.

If an authority decides that a development proposal involving woodland loss should receive planning permission, it should specify the precise area of felling permitted and ensure that planning conditions and/or agreements would ensure the provision of any compensatory planting which is required.

Control of Woodland Removal Policy

In parallel with the SFS and other national policies on woodland expansion, there is a strong presumption against permanent deforestation unless it addresses other environmental concerns. In Scotland, such deforestation is dealt with under the Scottish Government's 'Control of Woodland Removal Policy' 2009³⁹⁹. The guidance relating to the implementation of the policy was revised and updated in 2019⁴⁰⁰.

The purpose of the policy is to provide direction for decisions on woodland removal in Scotland. The policy document lays out the background to the policy, places it into the current policy and regulatory context, and discusses the principles, criteria and process for managing the policy implementation. The following paragraphs summarise the policy relevant to the Development.

³⁹⁷ Scottish Government (2021): Scotland's Third Land Use Strategy 2021 - 2026 <https://www.gov.scot/publications/scotlands-third-land-use-strategy-2021-2026-getting-best-land/> [accessed 10/03/2023]

³⁹⁸ Forestry Commission Scotland (2010): Right Tree in the Right Place - Planning for Forestry & Woodlands. Forestry Commission, Edinburgh

³⁹⁹ Forestry Commission Scotland (2009). The Scottish Government's Policy on Control of Woodland Removal. Edinburgh

⁴⁰⁰ Forestry Commission Scotland (2019): Scottish Government's policy on control of woodland removal: implementation guidance. Available at <https://forestry.gov.scot/publications/349-scottish-government-s-policy-on-control-of-woodland-removal-implementation-guidance> (Accessed 03/10/2023)

The principal aims of the policy include:

- To provide a strategic framework for appropriate woodland removal; and
- To support climate change mitigation and adaptation in Scotland.

The guiding principles behind the policy include:

- There is a strong presumption in favour of protecting Scotland's woodland resources; and
- Woodland removal should be allowed only where it would achieve significant and clearly defined additional public benefits. In appropriate cases, a proposal for compensatory planting may form part of this balance.

Woodland removal, without a requirement for compensatory planting, is most likely to be appropriate where it would contribute significantly to:

- Enhancing priority habitats and their connectivity;
- Enhancing populations of priority species;
- Enhancing nationally important landscapes, designated historic environments and geological Sites of Special Scientific Interest (SSSI);
- Improving conservation of water or soil resources; or
- Public safety.

Woodland removal, with compensatory planting, is most likely to be appropriate where it would contribute significantly to:

- Helping Scotland mitigate and adapt to climate change;
- Enhancing sustainable economic growth or rural/community development;
- Supporting Scotland as a tourist destination;
- Encouraging recreational activities and public enjoyment of the outdoor environment;
- Reducing natural threats to forests or other land; or
- Increasing the social, economic or environmental quality of Scotland's woodland cover.

The consequences of the policy are stated as:

- Minimising the inappropriate loss of woodland cover in Scotland;
- Enabling appropriate woodland removal to proceed with no net loss of woodland -related public benefits other than in those circumstances detailed in the policy; and
- Facilitating achievement of the Scottish Government's woodland expansion ambition in a way that integrates with other policy drivers (such as increasing sustainable economic growth, tackling climate change, rural/community development, renewable energy and biodiversity objectives).

Addressing the policy requirements can be met through changes to forest design, increasing designed open space, changing the woodland type, changing the management intensity, or completing off site compensation planting.

Argyll and Bute Woodland and Forestry Strategy

The Argyll and Bute Woodland and Forestry Strategy⁴⁰¹ was published in 2011. The vision for the strategy was defined as:

"The woodlands of Argyll and Bute will make a significant contribution to climate change mitigation and adaptation, have significant levels of economic value retained locally, enhance biodiversity and environmental quality and support the further development of recreation opportunities, for the benefit and well-being of local people and visitors alike. Sustainable and responsible stewardship of the resource will enable communities to play an active role in the ownership and management

⁴⁰¹ Argyll and Bute Council and Forestry Commission Scotland (2011) The Argyll and Bute Council Woodland and Forestry Strategy [Online] Available at: <https://www.argyll-bute.gov.uk/planning-and-building/planning-policy/argyll-and-bute-woodland-and-forestry-strategy> (Accessed 03/10/2023)

of woodlands in their area, developing business opportunities and helping to maintain the viability of rural living."

The Argyll and Bute Woodland and Forestry Strategy was developed as statutory supplementary planning guidance which will be adopted as part of the Argyll and Bute Local Development Plan⁴⁰². The strategy integrates with other Argyll and Bute Council (the Council) and partnership strategies and action plans, including the Council's Core Path Plan⁴⁰³, Economic Development Action Plan⁴⁰⁴ and the Argyll and Bute Renewable Energy Action Plan Strategy⁴⁰⁵. It will primarily be used to guide woodland expansion within the region.

The Argyll and Bute Woodland and Forestry Strategy is based on the following seven themes:

- Climate change;
- Timber;
- Business development;
- Community development;
- Access and health;
- Environmental quality; and
- Biodiversity.

Strategic priorities have been defined for each of the above themes which are translated into detailed priority actions.

Section 3.6 of the Argyll and Bute Woodland and Forestry Strategy states that the net area of forest cover within the region is forecast to decrease due to forest restructuring as part of existing approved Forest Plans. The loss of woodland area is estimated at 7 - 8 %, equivalent to the removal of 15,000 ha of woodland. In Section 3.7, the strategy refers to further woodland loss having arisen in recent years as a result of wind farm development in afforested areas and refers to the Scottish Government's Control of Woodland Removal Policy.

It noted that further wind energy development within the National Forest Estate may result in further woodland removal. Given the importance of maintaining and expanding total woodland cover, and in the light of the Control of Woodland Removal Policy, the strategy states that any loss of woodland will require compensatory planting.

Where new windfarm development is proposed (particularly if woodland removal is required), the strategy proposes that native woodland creation and habitat enhancement programmes could be delivered, at least in part, through developer contributions. Similarly, where important sites for timber production are likely to be lost or reduced in size in this way, appropriate provision for replanting should be secured to safeguard future timber resources.

Under the theme of Climate Change a key Strategic Priority is stated as:

"CC1: Encourage the net expansion of woodland cover in Argyll and Bute in order to further contribute to national targets for carbon sequestration."

Priority Actions to support this include:

"CC1.1: Ensure that forest restructuring results in no net loss of woodland."

⁴⁰² Argyll and Bute Council (2015) Argyll and Bute Local Development Plan [Online] Available at: <https://www.argyll-bute.gov.uk/ldp> (Accessed 03/10/2023)

⁴⁰³ Argyll and Bute Council (2011) Core Path Plan: Formalised Draft [Online] Available at: <https://www.argyll-bute.gov.uk/core-paths> (Accessed 03/10/2023)

⁴⁰⁴ Argyll and Bute Council (2010) Argyll and Bute Council's Economic Development Action Plan [Online] Available at: <https://www.argyll-bute.gov.uk/business-and-trade/economic-development-action-plan#:~:text=Argyll%20and%20Bute%20Council%20has.and%20Scotland%20as%20a%20whole> (Accessed 03/10/2023)

⁴⁰⁵ Argyll and Bute Council (2010) Argyll and Bute Renewable Energy Action Plan Strategy [Online] Available at: <https://www.argyll-bute.gov.uk/moderngov/documents/s152942/Update%20on%20Renewable%20Energy%20Action%20Plan%20-%20Covering%20Report.pdf> (Accessed 03/10/2023)

CC1.2: Ensure that woodland removal associated with developments such as windfarms is compensated for at a ratio of at least 1:1 in terms of area and quality of woodland."

The Argyll and Bute Woodland and Forestry Strategy therefore supports and reinforces the aims of the Scottish Government's Control of Woodland Removal Policy.

14.3 Scoping Response and Consultation

Consultation was undertaken as part of the EIA process with the organisations shown in Table 14.1, with specific consultee comments addressed accordingly.

Table 14.1: Consultation Responses

Consultee	Type and Date	Summary of Consultation Response	Response to Consultee
Argyll and Bute Council	Scoping Response 15/02/2022	<p>Forestry</p> <p>It is noted from the Scoping Report that the approach will be set out which would be used to integrate the proposal into the existing woodland structure. A Wind Farm Forest Plan would be prepared, which would detail felling and replanting proposals, illustrating the forestry requirements associated with the construction and operation of the proposal. The site is located in an area with extensive commercial woodlands which are privately owned. The land available for the development is largely forested with the remainder comprising open ground and margins beyond the woodland edge. It is noted that Scottish Forestry are the key consultee on this matter and they will be consulted as part of the EIA process. The Council has no further comment.</p> <p>Questions for Consultees</p> <p>Q14.1: Do the consultees agree with the proposed methodology and scope of assessment?</p> <p>Please refer to advice of Scottish Forestry</p> <p>Q14.2: Are the consultees aware of any new guidance which should be taken into account?</p> <p>Please refer to advice of Scottish Forestry</p>	See response to Scottish Forestry below.
Scottish Forestry	Scoping Response 03/08/2021	<p>Q14.1: Do the consultees agree with the proposed methodology and scope of assessment?</p> <p>Yes, the methodology and scope seem comprehensive. Cumulative impact may be an issue in the area due to the felling associated with the proposed SSEN transmission line and this should be considered in the report.</p>	A cumulative impact assessment is not required as the SSEN transmission line lies outwith the Forestry Study Area.

Consultee	Type and Date	Summary of Consultation Response	Response to Consultee
Scottish Forestry	Scoping Response 03/08/2021	Q14.2: Are the consultees aware of any new guidance which should be taken into account? All relevant guidance is published on our website. New additions include: Scottish Forestry Phytophthora ramorum Action Plan and Scottish Forestry - Cultivation Guidance (which may be relevant to any Compensatory Planting Plan)	Guidance noted and incorporated into the assessment where required.
Scottish Forestry	Scoping Response 03/08/2021	Woodland Management and Tree Felling Where woodland removal is proposed for development, the relevant Environmental Impact Assessment (EIA) regulations will apply and the EIA Report should justify and provide evidence for the need for woodland removal and the associated mitigation measures.	The rationale for the selection of the Site and the layout of the Development is detailed in Chapter 3: Site Selection and Design. In summary the design has sought to minimise the removal of tree cover through design. A key element to reduce impact to woodland cover is the reduction of turbines and associated infrastructure from an initial 22 turbine layout to the final layout of 13 turbines. In addition, woodland removal has been minimised further by keyholing infrastructure as set out in this chapter. Mitigation measures are set out in this chapter.
Scottish Forestry	Scoping Response 03/08/2021	The first consideration for the applicant should be whether the underlying purpose of the proposal can reasonably be met without resorting to woodland removal. Design approaches that reduce the scale of felling required to facilitate the development must be considered and integration of the development with the existing woodland structure is a key part of the consenting process.	A Forestry Management Plan is included within this chapter which allows the Development to be integrated into the forest structure.
Scottish Forestry	Scoping Response 03/08/2021	Integration of the project into future forest design plans is a key part of the development process. The removal of large areas of woodland will not be supported. When a proposed development or infrastructure requires to go through forestry, consideration should be given to forest design guidelines. The EIA Report should include a stand-alone chapter on 'Woodland management and tree felling' (a forest plan) prepared by a suitably qualified professional and supported by existing records, site surveys and aerial photographs. In order to present the relevant information about the forest	A Forestry Management Plan is included within this chapter which allows the Development to be integrated into the forest structure.

Consultee	Type and Date	Summary of Consultation Response	Response to Consultee
		<p>and to secure compliance with the UK Forestry Standard, the applicant should consider the appropriate scope/scale for such plan.</p> <p>In certain cases a forest plan of the proposed development area only is not appropriate. The applicant should consider the whole ownership, or multiple ownerships, or expands the scope of the forest plan so that to present the relevant information about that forest. Details of the proposed mitigation measures must be included in the EIA Report, not left to post-consent habitat management plans (or others) to decide and implement.</p>	
Scottish Forestry	Scoping Response 03/08/2021	<p>The chapter should describe and recognise the social, economic and environmental values of the forest and the woodland habitat and take into account the fact that, once mature, the forest would have been managed into a subsequent rotation, often through a restructuring (re-designing) proposal, according to the UK Forestry Standard, that would have increased the diversity of tree species and the landscape design of the forest.</p>	<p>A Forestry Management Plan is included within this chapter which allows the Development to be integrated into the forest structure and has been developed in line with the UKFS.</p>
Scottish Forestry	Scoping Response 03/08/2021	<p>The chapter should describe the baseline conditions of the forest, including its ownership. This will include information on species composition, age class structure, yield class and other relevant crop information. The chapter should describe the changes to the forest structure, the woodland composition and describe the work programme:</p> <ul style="list-style-type: none"> • the proposed areas of woodland for felling to accommodate the proposed infrastructures, including access roads, tracks, underground pipes and cables and any ancillary structures. Details of the area to be cleared around those structures should also be provided, along with evidence to support the proposed scale and phasing of felling; • trees felled must be replanted on-site or compensated for (off-site planting) and these areas must be clearly identified in the plan. On-site replanting must always be considered first. The replanting operations must be appropriately described, including changes to the species composition, age class structure, timber production and traffic movements. Tree/shrub 	<p>Baseline conditions and assessment of proposed felling, restocking and compensatory planting are provided in this chapter.</p>

Consultee	Type and Date	Summary of Consultation Response	Response to Consultee
		<p>species must be suited to the site and the objectives of management;</p> <ul style="list-style-type: none"> • areas of open ground in the forest that are designed for biodiversity or landscape enhancement or for recreation opportunities should not be considered for on-site replanting (to compensate for woodland removal in other parts of the forest). 	
Scottish Forestry	Scoping Response 03/08/2021	The applicant should consider the potential cumulative impact of existing and the proposed development on the forest resource in respect to the local and regional context. In particular consideration must be given to the implication of felling operations on such things as habitat connectivity, biodiversity, water management, landscape impact, impact on timber transport network and forestry policies included in the local and regional Forestry and Woodland Strategies and local development plans.	<p>A cumulative impact assessment is not required as the SSEN transmission line lies outwith the Forestry Study Area.</p> <p>As stated in the chapter, the forestry assessment has been carried out in line with national and regional policies and guidance. Impacts on transport networks, hydrology, landscape and biodiversity are assessed within specialist chapters for each discipline with data derived from the forestry assessment.</p>
Scottish Forestry	Scoping Response 03/08/2021	A long term forest plan should be provided as part of the EIA Report (as a technical appendix for context) to give a strategic vision to deliver environmental and social benefits through sustainable forest management and describes the major forest operations over a 20 years period.	A Forestry Management Plan is included within this chapter which allows the Development to be integrated into the forest structure.
SEPA	Scoping Response dated 04/08/2021	<p>6. Forest removal and forest waste</p> <p>6.1. Key holing must be used wherever possible as large scale felling can result in large amounts of waste material and in a peak release of nutrients which can affect local water quality. The supporting information should refer to the current Forest Plan if one exists and measures should comply with the Plan where possible.</p> <p>6.2. Clear felling may be acceptable only in cases where planting took place on deep peat and it is proposed through a Habitat Management Plan to reinstate peat-forming habitats. The submission must include:</p> <ol style="list-style-type: none"> A map demarcating the areas to be subject to different felling techniques. Photography of general timber condition in each of these areas. A table of approximate volumes of timber which will be removed from site and volumes, sizes of chips or brash and depths that will be re-used on site. A plan showing how and where any timber residues will be re-used for 	A forestry felling plan is provided as part of the forestry assessment. Forest Waste is considered within this chapter, full details of proposals for dealing with waste will be included in the CEMP, prepared prior to the commencement of construction.

Consultee	Type and Date	Summary of Consultation Response	Response to Consultee
		ecological benefit within that area, supported by a Habitat Management Plan. Further guidance on this can be found in Use of Trees Cleared to Facilitate Development on Afforested Land – Joint Guidance from SEPA, SNH and FCS.	

14.4 Forestry Study Area

The Forestry Study Area (FSA), as shown on Figure 14.1, extends to approximately 890 ha and comprises of privately owned and managed woodlands. These woodlands are covered by the Ladyfield Long Term Forest Plan (LTFP), reference: 4674458. This LTFP is due to expire in 2024 and is likely to be renewed by the landowner prior to construction.

The forests contain a limited range of woodland types due to the original planting programme together with areas of unplantable land and open ground. The crops are comprised largely of commercial conifers with small areas of both mixed conifers and mixed broadleaves and open ground. The woodlands are currently within the felling and restocking phase. Further information on the composition of the woodlands in the FSA is provided in the baseline description below.

14.5 Forest Planning Process

One of the original key objectives of the Forestry Commission was forest expansion, in both state and private forests, to produce a strategic reserve of timber, and consequently, a limited range of species was planted. More recently, greater emphasis has been placed on developing multi-purpose forests, which require a restructuring of age and species in existing woodlands. Restructuring is achieved through the forest planning process.

A LTFP relates to individual forests or groups of woodlands. It describes the woodlands, places them in context with the surrounding area, and identifies issues that are relevant to the woodland or forest. A LTFP describes how the long-term strategy would meet the management objectives of the owner, the criteria of the UK 'Forestry Standard' (UKFS)⁴⁰⁶ and the UK 'Woodland Assurance Standard 4th Edition' (UKWAS)⁴⁰⁷, under which the woodlands would be managed if certificated.

A LTFP involves a scoping exercise whereby the views of Statutory Consultees, neighbours and stakeholders are sought, resulting in an agreed Scoping Report. The results of the scoping exercise are incorporated into the Forest Plan. The LTFP covers social and environment aspects, such as conservation, archaeology, landscape and the local community, in addition to forestry and silvicultural considerations.

Restructuring of age class and species are important factors in this process to ensure proposals meet the current standards. The Ladyfield Renewable Energy Park LTFP is prepared along the same principles with the relevant information being provided by other members of the project team. A baseline LTFP (without Renewable Energy Park) will typically contain felling and restocking proposals covering a 10 year period in detail, with outline proposals for the remainder of the forest.

Restructuring presents forest managers with many challenges and opportunities, particularly in relation to the management of potential catastrophic windblow due to storm damage. The forest planning process allows forest managers to review and revise proposals in a structured way to take

⁴⁰⁶ Forestry Commission (2017). The UK Forestry Standard: The Government's Approach to Sustainable Forestry, Forestry Commission, Edinburgh

⁴⁰⁷ UKWAS (2018). The UK Woodland Assurance Standard Fourth Edition, UKWAS, Edinburgh.

account of such external factors. The inclusion of a Renewable Energy Park within the forest is an example of one such external factor.

The current guidelines require diversification of species and woodland types as part of the forest planning process, specifically an increase in the proportion of broadleaf woodland, other conifers, and open ground. The incorporation of the proposed development into the forest would result in further restructuring of the forest.

14.6 Development of the Ladyfield Renewable Energy Park Long Term Forest Plan

Introduction

This Section describes the process by which the Ladyfield Renewable Energy Park LTFP is prepared. Existing crop information is collated from the landowner including current forestry information on species, planting year and felling and restocking plans where available. This is followed by field surveys and further desk-based assessment as necessary.

Details of wind turbine locations, new tracks, storage compounds, borrow pits, substation compound and other infrastructure are provided by other disciplines within the project team. This data would then be amalgamated with the forestry data to construct the forestry proposals for the proposed development.

The location of wind turbines and infrastructure is heavily influenced by environmental constraints and technical considerations (e.g. sensitive habitats, wind resource capture, ground conditions, etc). The final location of wind turbines and infrastructure takes the various site constraints into consideration. Land management requirements associated with the construction of the proposed development would also be incorporated into the forestry proposals, where appropriate.

Within forests and woodlands, areas of crop may require to be felled to accommodate the construction and operation of the proposed development. The felling programme for the proposed development would largely be driven by technical constraints relating to both forestry and development.

In this case, taking into account the ecological constraints as mentioned in Chapter 8: Ecology a 2ha (80 metre (m) radius) 'keyhole' was adopted around wind turbines. These keyholes are areas that require to be felled for construction, operation and environmental mitigation.

A 10m buffer has been applied around each other item of temporary and permanent infrastructure, in addition to the area required for the infrastructure. An indicative 30m corridor has been applied to all new access tracks and upgraded existing tracks to be used for wind turbine delivery and construction purposes. This would be reviewed at the detailed design stage post consent and prior to construction. Please refer to Chapter 2: Development Description which contains information on all the infrastructure elements.

Felling Plan

Felling required for a development can be divided into two categories.

- Firstly, that required during the construction phase of the Development, which for the purposes of this assessment, has been anticipated as commencing in 2026; and
- Secondly, felling required during the operational period of the Development. In this case there is no felling required outwith that required for the construction phase.

The crops were assessed to identify those areas which would require to be felled for a number of reasons as described above. Due to the crop growth rates and current crop height, it has been assessed that the infrastructure within woodland areas would require a combination of keyholing into the younger and poorer crop and in the mature crops, clear felling of entire coupes back to either a wind firm edge or management boundaries. Where entire coupes are to be felled, the infrastructure would be incorporated into the Species Restocking Plan as described below.

Additional minor felling would be required for forest management purposes, for example, to reduce the risk of subsequent windblow; to reduce coupe isolation and fragmentation; and to ensure access for future forest operations.

The resultant Felling Plan shows which woodlands within the FSA would be felled as a result of the Development and when this felling would take place.

Species Restocking Plan

The Species Restocking Plan shows which woodlands would be restocked and with which species. The majority of the areas to be felled for the Development would be restocked except for the areas detailed below:

- Land required for the Development's permanent infrastructure subject to the buffer zones described above; and
- Land to be left unplanted for forest management; or forest design purposes.

It has been assumed that, where possible, some temporary infrastructure such as edges of the re-profiled on-site borrow pit would be re-instated and available for restocking post construction. To ensure that the forestry establishes successfully, the soil should be restored to a depth of 1m.

In preparing the Species Restocking Plan, a number of points would be considered as detailed below:

- Fragmentation of coupes to be minimised as much as possible;
- Coupe shapes would be modified to ensure that access for future forestry operations, principally harvesting, is maintained; and
- Coupe shapes and edges would be modified to follow good practice, such as avoidance of peat and watercourses for example.

Species composition was considered taking into account the Development operational requirements such as separation distances between wind turbines and forest edges, landowner objectives and forestry policies.

The Renewable Energy Park forestry felling and restocking proposals have been assessed by each of the separate environmental disciplines / consultants as part of the EIA process where required, and the effects are reported in individual chapters of this EIA Report and their supporting appendices.

14.7 Baseline Conditions

Future Baseline

Argyll Estates (the 'Landowner') is currently undertaking felling operations within the Site under their approved Felling License and irrespective of the Development intends to fell areas within the Site in accordance with their Felling License.

The Development is not considered likely to start construction earlier than 2025. Therefore, for future baselines within assessments in this EIAR, felling scheduled for 2025 or earlier has been assumed to have been undertaken and completed. Any forestry compartments scheduled for felling beyond 2025, are assumed (within future baselines) to be existing at the point of construction and thus could be affected by the Development.

As the precise timescale for felling is not within the control of the Applicant, this approach is considered a worst-case scenario. The Applicant would have been content with a targeted approach of differential or 'keyhole' felling to facilitate the project but given the intentions of the Landowner, this worst-case scenario has been adopted for all assessments.

In accordance with the Landowner's Felling License, restocking will take place within areas felled under their Felling License, whilst taking account of the wind turbine keyhole areas, tracks and associated infrastructure undertaken as part of the Development.

For the purposes of this EIAR, the areas of felling considered to be covered by the Landowner's Felling License and separately the felling considered to be required as part of the Development is provided in Figure 2.14.

Species Composition

The current baseline species composition of the woodlands within the FSA is shown in Figure 14.2 and illustrated in Table 14.2 below.

Please note there may be minor discrepancies in the totals within the tables contained in this Chapter. This is due to rounding of the individual values for the different parameters in the database.

Table 14.2 Baseline Species Composition

Species	Area (ha)	Area (%)
Open ground	265.7	29.9%
Felled awaiting restock	23.1	2.6%
Mixed broadleaves	17.1	1.9%
Mixed woodland	16.0	1.8%
Sitka spruce	562.9	63.3%
Sitka spruce/Mixed broadleaves	4.4	0.5%
Totals	889.3	100.0%

The main species are commercial conifers, principally Sitka spruce, which in pure or mixed stands, accounts for approximately 63.8% of the total FSA. Mixed woodlands account for 1.8% of the FSA and broadleaf woodland 1.9%. Open ground accounts for approximately 29.9%.

Growth rates vary across the site with growth rates on the upper margins of the forest far poorer than on the lower, more sheltered slopes.

The species composition reflects the practice and guidance which prevailed at the time the woodlands were established. Restructuring as part of a LTFP would aim to introduce an increased proportion of broadleaves and other conifers into the woodland composition.

Baseline Felling Plan

The Baseline Felling Plan forms part of the current LTFP prepared by the forest managers. It considers the requirement to restructure the age class of even aged forests as described above. The Baseline Felling Plan is illustrated in Figure 14.3 and presented in Table 14.3 below. The data is summarised in 5-year bands as per standard practice.

Table 14.3 Baseline Felling Plan

Felling Phase	Area (ha)	Area (%)
No felling	266.6	30.0%
Phase 1: 2014-2018	0.0	0.0%
Phase 2: 2019-2023	125.9	14.2%
Phase 3: 2024-2028	59.9	6.7%
Phase 4: 2029-2033	18.2	2.0%
Phase 5: 2034-2038	197.3	22.2%
Outside Plan Period	201.1	22.6%
Long Term Retention	20.3	2.3%

Felling Phase	Area (ha)	Area (%)
Totals	889.3	100.0%

A proportion of the FSA is designated as 'No Felling' due either to open ground, land awaiting restocking or crops with no felling year assigned.

A large area of the FSA is designated as "Outside Plan Period". These areas are generally immature crops whose prospective felling year lies outside of the current LTFP period, which covers 10 years of felling and restocking from time of approval. Woodlands not covered by a current felling phase have been assigned to Outside Plan Period unless they have been previously identified as Long Term Retentions or Natural Reserves.

Some areas of crop in the baseline felling plan have been assigned a delayed felling age by the forest managers. These areas are Long Term Retentions (LTR), crops to be retained beyond their age of economic or silvicultural maturity for conservation and biodiversity purposes. These woodlands would otherwise be managed as normal and would in due course be felled and replanted. The identification of LTRs is part of the requirements of UKWAS and the UKFS.

The baseline felling programme is designed to provide the required separation between felling coupes, where possible. This may take more than one rotation to achieve, especially in the uplands where wind firm boundaries between felling coupes are limited.

Baseline Restocking Species Composition

The baseline restocking species composition as detailed in the baseline LTFP is illustrated in Figure 14.4 and outlined in Table 14.4 below.

Table 14.4 Baseline Restocking Species Composition

Species	Area (ha)	Area (%)
Open ground	272.5	30.6%
Mixed broadleaves	42.9	4.8%
Sitka spruce	400.1	45.0%
Sitka spruce/Open ground	60.4	6.8%
Sitka spruce/Mixed broadleaves	5.6	0.6%
Low density Sitka spruce	107.8	12.1%
Totals	889.3	100.0%

The baseline restocking proposals illustrate how the forest would be structured at the end of the LTFP period if the entire plan was implemented. Table 14.5 below compares the baseline current species composition and the baseline restocking species composition at the end of the LTFP period without the implementation of the proposed development.

Table 14.5 Comparison of Baseline Species Composition

Species	Baseline	Restock	Difference	
	Area (ha)	Area (ha)	Area (ha)	Area (%)
Open ground	265.7	272.5	6.8	0.8%
Felled awaiting restock	23.1	0.0	-23.1	-2.6%
Mixed broadleaves	17.1	42.9	25.8	2.9%
Mixed woodland	16.0	0.0	-16.0	-1.8%
Sitka spruce	562.9	400.1	-162.8	-18.3%
Sitka spruce/Mixed broadleaves	4.4	5.6	1.2	0.1%

Species	Baseline	Restock	Difference	
	Area (ha)	Area (ha)	Area (ha)	Area (%)
Sitka spruce/Open ground	0.0	60.4	60.4	6.8%
Low density Sitka spruce	0.0	107.8	107.8	12.1%
Totals	889.3	889.3		

The changes between the current baseline current species composition and that contained within the baseline restocking plan are discussed below:

- The proportion of Sitka spruce decreases by 162.8 ha;
- Areas of Sitka spruce on the upper margins are redesignated as Sitka spruce/Open ground and low density Sitka spruce, this reflects the poor growth rates and lower stocking density of this area and also creates a softer edge to the open hillside beyond; and
- The area of broadleaf woodland increases by 25.8 ha.

The majority of these changes reflect the ongoing proposed restructuring of the first rotation crops to meet current guidelines and the restocking of land felled and awaiting restocking.

14.8 Ladyfield Renewable Energy Park Long Term Forest Plan

Introduction

The effect of the Development on the structure of the woodlands within the FSA has been compared against the Baseline LTFP. This has concentrated on changes to the felling and restocking species plans required to accommodate the proposed development.

Construction has been provisionally programmed for 2026, which falls within Phase 3: 2024-2028 of the current LTFP.

Development Felling Plan

The Development Felling Plan is shown across two figures. Figure 14.5 identifies the felling required for construction of the Development and the advanced felling as a result of the Development, these data are summarised in Table 14.6 below. Figure 14.6 shows how this felling relates to the associated LTFP on the various properties, these data are summarised in Table 14.7 below.

Table 14.6 Felling Required for Construction

Felling Type	Area (ha)	Area (%)
No felling - open ground	265.7	29.9%
No felling - woodland	544.4	61.2%
Renewable Energy Park Infrastructure Felling	50.4	5.7%
Renewable Energy Park Management Felling	28.9	3.2%
Totals	889.3	100%

The total felling required to accommodate construction of the Development, including infrastructure and advanced felling, totals 79.3ha.

Table 14.7 Proposed Development Felling Plan

Felling Phase	Area (ha)	Area (%)
No felling	266.6	30.0%
Phase 1: 2014-2018	0.0	0.0%

Felling Phase	Area (ha)	Area (%)
Phase 2: 2019-2023	113.7	12.8%
Phase 3: 2024-2028	131.5	14.8%
Phase 4: 2029-2033	18.2	2.0%
Phase 5: 2034-2038	144.2	16.2%
Outside Plan Period	196.0	22.0%
Long Term Retention	19.0	2.1%
Totals	889.3	100.0%

The baseline and Renewable Energy Park Felling Plans are compared in Table 14.8 below.

Table 14.8 Comparison of Felling Plans

Felling Phase	Baseline	Renewable Energy Park	Difference	
	Area (ha)	Area (ha)	Area (ha)	Area (%)
No felling	266.6	266.6	0.0	0.0%
Phase 1: 2014-2018	0.0	0.0	0.0	0.0%
Phase 2: 2019-2023	125.9	113.7	-12.2	-1.4%
Phase 3: 2024-2028	59.9	131.5	71.6	8.1%
Phase 4: 2029-2033	18.2	18.2	0.0	0.0%
Phase 5: 2034-2038	197.3	144.2	-53.1	-6.0%
Outside Plan Period	201.1	196.0	-5.1	-0.6%
Long Term Retention	20.3	19.0	-1.3	-0.1%
Totals	889.3	889.3		

Of the 79.3 ha of felling required for construction of the Development, 71.6 ha would be advanced from later phases in the LTFP. This is balanced out by reduced felling in other periods as detailed below;

- 12.2 ha is clearance of recently restocked trees previously felled in Phase 2;
- 53.1 ha advanced from Phase 5;
- 5.1 ha is advanced from Outside Plan Period; and
- 1.3 ha advanced from LTR.

The balance of the felling required for construction is felling which would take place in its currently planned felling period.

Approximately 0.33ha of felling is required to facilitate access off the A819. This area is designated as Ancient Semi Natural Woodland. An additional area of broadleaf planting of approximately 1.13 ha has been identified within the Site to compensate for this loss. Full details of the impact of this felling and the mitigation measures in place are detailed in Chapter 8: Ecology.

Development Restocking Species Plan

The Baseline Species Plan has been amended to integrate the Development infrastructure requirements into the forest design and to take account of the site conditions. The Development Restocking Species Plan is shown in Figure 14.7 and summarised in Table 14.9. 'Renewable Energy Park open ground' refers to the permanent loss of crop to the permanent infrastructure only of the Development.

Table 14.9 Development Restocking Species Composition

Species	Area (ha)	Area (%)
Open ground	271.7	30.6%
Mixed broadleaves	41.6	4.7%
Sitka spruce	374.3	42.1%
Sitka spruce/Open ground	53.2	6.0%
Sitka spruce/Mixed broadleaves	5.6	0.6%
Low density Sitka spruce	93.4	10.5%
Renewable Energy Park open ground	49.5	5.6%
Totals	889.3	100.0%

The Baseline and Development Restocking Species Plans have been analysed to assess the changes that construction of the Development would have on the species composition of the forests. These data are presented in Table 14.10.

Table 14.10 Restock Species Plan Comparison

Species	Baseline Restocking Plan	Renewable Energy Park Restocking Plan	Difference	
	Area (ha)	Area (ha)	Area (ha)	Area (%)
Open ground	272.5	271.7	-0.8	-0.1%
Mixed broadleaves	42.9	41.6	-1.3	-0.1%
Sitka spruce	400.1	374.3	-25.8	-2.9%
Sitka spruce/Open ground	60.4	53.2	-7.2	-0.8%
Sitka spruce/Mixed broadleaves	5.6	5.6	0.0	0.0%
Low density Sitka spruce	107.8	93.4	-14.4	-1.6%
Renewable Energy Park open ground	0	49.5	49.5	5.6%
Totals	889.3	889.3		

The change in area of stocked woodland in the forests due to the Development is shown in Table 14.11 below.

Table 14.11 Stocked Woodland Area Comparison

Woodland Area	Baseline Restock	Renewable Energy Park	Difference (ha)	Difference (%)
Stocked	616.8	568.1	-48.7	-5.5%
Unstocked	272.5	321.2	48.7	5.5%
Totals	889.3	889.3		

The changes in the structure of the woodlands due to the Development are discussed below:

- there would be a net reduction in the area of all types of Sitka spruce of 47.4 ha;
- broadleaf woodland would decrease by 1.3 ha;
- Renewable Energy Park permanent open ground would total 49.5 ha; and
- the net reduction in stocked woodland area within the FSA would be 48.7 ha equivalent to 5.5% of the FSA.

14.9 Requirement for Compensatory Planting

As a result of the construction of the Development, there would be a net loss of woodland area. The area of stocked woodland in the FSA would decrease by 48.7 ha.

In order to comply with the criteria of the Scottish Government's Control of Woodland Removal Policy, compensation planting would be required. The Applicant is committed to providing appropriate compensatory planting. The extent, location and composition of such planting to be agreed with SF, taking into account any revision to the felling and restocking plans prior to the commencement of construction of the proposed development.

14.10 Forestry Waste

The Scottish Environment Protection Agency (SEPA) guidance document WST-G-027, 'Management of Forestry Waste' (SEPA, 2017) 408 highlights that all waste producers have a statutory duty to adopt the waste hierarchy as per the Waste (Scotland) Regulations 2012 (the Scottish Government, 2012)⁴⁰⁹, which amended Section 34 of the Environmental Protection Act (EPA) 1990 (duty of care) (UK Government, 1990)⁴¹⁰. This places a specific duty on any person who produces, keeps or manages (controlled) waste to take all such measures available to them to apply the waste hierarchy in Article 4 (1) of the revised Waste Framework Directive (rWFD)⁴¹¹, which is:

- Prevention;
- Preparing for re-use;
- Recycling;
- Other recovery, including energy recovery; and
- Disposal, in a way which delivers the best overall environmental outcome.

Further guidance is contained in the document LUPS-GU27, 'Use of Trees Clear Felled to Facilitate Proposed Development on Afforested Land'" (SEPA, 2014)⁴¹².

A hierarchy of uses for forestry materials is proposed, derived from the waste hierarchy contained within the Regulations, summarised as follows:

- Prevention via the production of timber products and associated materials for use in timber and other markets;
- The re-use of materials on-site for a valid purpose, where such a use exists e.g. track construction including floating tracks;
- There is no valid re-cycling use for forestry residues;
- Other recovery via collection and use as biomass for energy recovery or other markets, where not included above; and
- Where no valid on-site or off-site use can be found for the material, disposal would be in a way that is considered to deliver the best overall environmental outcome.

Where no valid on-site or off-site use, or other disposal method, can be found for the material, it should be regarded as waste and handled accordingly. Disposal of timber residues as waste in or

⁴⁰⁸ SEPA (2017): SEPA Guidance Notes WST-G-027 "Management of Forestry Waste".
https://www.sepa.org.uk/media/28957/forestry_waste_guidance_note.pdf [accessed 04/03/2022]

⁴⁰⁹ The Scottish Government (2012): The Waste (Scotland) Regulations 2012 No. 148. Available at:
<https://www.legislation.gov.uk/sdsi/2012/9780111016657> [accessed 03/10/2023]

⁴¹⁰ UK Environmental Protection Act 1990 1990 c. 43 Part II Duty of care etc. as respects waste Section 34. Available at:
<http://www.legislation.gov.uk/ukpga/1990/43/section/34> [accessed 03/10/2023]

⁴¹¹ EU Waste Legislation Waste Framework Directive Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0098> [accessed 03/10/2023]

⁴¹² SEPA (2014): LUPS-GU27 "Use of Trees Cleared to Facilitate Development of Afforested Land."
https://www.sepa.org.uk/media/143799/use_of_trees_cleared_to_facilitate_development_on_afforested_land_sepa_snh_fcs_guidance-april_2014.pdf [accessed 03/10/2023]

on land requires a landfill permit or a waste exemption licence and should be considered the option of last resort.

As discussed in this Chapter, the crops will be replanted except where required for infrastructure associated with the Development. Brash would be left in situ to provide nutrients for the next rotation where the crops are being replanted as per standard forestry practice. Where crops are not being replanted brash would be removed and treated in line with the proposed hierarchy described above.

Stumps would be left in situ as per good practice guidance, except where excavated as part of the construction activities. Excavated stumps would be treated in line with the proposed hierarchy described above.

In areas of lower yielding crops, into which the Development would be keyholed, the objective would be to recover as much merchantable timber as possible. Failing that to treat them in line with the hierarchy outlined above. Where suitable, whole trees would be extracted and used in the biomass market. As a result, it is anticipated the forestry waste arising from the works would be minimal.

It is proposed that full consideration and further clarification on this issue would be included in a Forestry Waste Management Plan to form part of the Construction Environmental Management Plan (CEMP) following receipt of planning consent and prior to commencement of construction.

14.11 Forestry Management Practices

Crop Clearance

Areas of crops of sufficient tree size and standing volume would be harvested conventionally. Timber operations would be undertaken with conventional harvesting and forwarding equipment utilising, as required, flotation tracks.

Stemwood down to 7 centimetres (cm) or below would be removed from site and sold into the timber markets. The harvester would maximise timber recovery wherever possible, this would result in the maximum timber volume being recovered to ensure the volume used in the brash mats is kept to a minimum. On wetter ground the harvester would build stronger brash mats to ensure there would be minimal damage to the peat and soil structure by the forwarder during extraction. On soft ground, the bottom layers of brash mats become embedded into the soil and removal could result in more environmental damage than leaving the material to naturally degrade.

In areas of young or lower yield class crops, where little or no merchantable timber would be recovered, a number of options could be utilised depending on the factors prevailing at the time of clearance. The methodology used would depend on tree size; site conditions; the availability of suitable equipment; and the markets prevailing at the time of the works being carried out. Where there is suitable access and ground conditions the trees could be whole tree harvested and extracted to roadside for chipping as biomass.

Where trees are very small due to age or poor growth it may be more viable to fell the crop manually using scrub cutters or chainsaws. The end use of the material would depend on the factors mentioned above but in some cases there would be no recoverable material. Where material was recoverable it could potentially be used on-site in the base of floating roads; extracted and processed for biomass; or used for ecological enhancement if applicable.

Stumps would be left in situ as per the guidance contained in the Forestry Commission Research Note "Environmental effects of stump and root harvesting" (Forestry Commission, 2011)⁴¹³ except where they would be removed for borrow pits, excavated tracks, wind turbine foundations and other infrastructure requiring excavation. Such material would be treated as described above.

⁴¹³ Forestry Commission Research Note "Environmental effects of stump and root harvesting" (Forestry Commission, 2011). [Environmental effects of stump and root harvesting - Forest Research](#) [accessed 03/10/2023]

Restocking/Planting Methodology

Restocking would be carried out to current standard practice, the forest manager's internal guidance and practices and in accordance with the guidelines contained in the UKFS and UKWAS as a minimum, where applicable. The methodology would vary depending on the type of restocking being carried out. The following information is provided for guidance as to the restocking methodology which may be adopted.

On commercial conifer areas the methodology would normally include:

- Site preparation by machine cultivation and drainage;
- Manual planting;
- Subsequent follow-up establishment operations such as the replacement of failures, weeding and protection measures until the crops are satisfactorily established; and
- Replanting would be carried out with the conifer species identified in the restocking plan at the minimum density of 2,500 trees per ha.

Restocking within the broadleaf woodland areas would be carried out to the same specification with the following changes:

- A lower planting density of 1,600 trees per ha; and
- The principal species would be mixed native broadleaves including, for example, downy and silver birch with small components of other species as appropriate to site such as oak, rowan, hazel, gean, grey willow, goat willow, alder and woody shrubs.

Aftercare Works

Aftercare establishment works would normally include, but are not limited to, the following:

- the woodlands would be beaten up (replacement of failures) to ensure satisfactory stocking levels by year 5, broadleaf woodlands by year 10;
- the woodlands would be weeded as necessary to ensure satisfactory establishment by year 5 / year 10 for broadleaf woodlands;
- the woodlands would be protected against pine weevils by management inspections and remedial treatment as necessary;
- the woodlands would be protected against browsing damage from wild and domestic animals;
- the woodlands would be protected against fire;
- fertiliser would be applied as necessary to ensure satisfactory establishment and growth; and
- other works as reasonably required ensuring satisfactory establishment of the woodlands.

14.12 Standards and Guidelines

All forestry operations would be carried out in strict accordance with current good practice and guidelines. This would include, but not be limited to:

- UK Forestry Standard (Forestry Commission 2017) ⁴¹⁴;
- Forest Industry Safety Accord Guides (or equivalent) (FISA, 2014); and
- Current relevant legislation including, but not limited to, Health and Safety at Work Act 1974 (UK Government, 2014) ⁴¹⁵.

14.13 Summary

The total study area extends to 889.3 ha and is comprised of privately owned and managed woodlands.

⁴¹⁴ Forest Industry Safety Accord (2014). FISA Safety Guides (various). Edinburgh.

⁴¹⁵ UK Government (1974): Health and Safety at Work etc. Act 1974 available at <http://www.legislation.gov.uk/ukpga/1974/37/contents> [access 03/10/2023]

Felling would be advanced on 71.6 ha for construction of the Development.

The species composition of the forest would change as a result of the proposed development forestry proposals. In particular, the area of Sitka spruce would decrease by 47.4 ha.

The area of unplanted ground would increase and, as a result, there would be a net loss of woodland area of 48.7 ha equivalent to 5.5% of the FSA.

In order to comply with the Scottish Government's Control of Woodland Removal Policy, compensation planting would be required to mitigate for the loss of woodland area. The Applicant is committed to providing appropriate compensatory planting. The extent, location and composition of such planting to be agreed with SF, taking into account any revision to the felling and restocking plans prior to the commencement of construction.