Chapter 15: Forestry

Contents

15 Forestry

15.1 Executive Summary

15.1.1 The Proposed Development is partially located within commercial forestry. The forestry assessment has identified that areas of forestry would require to be felled for the construction and operation of the Proposed Development.

15.1.2 The Forestry Study Area (FSA) extends to approximately 368.7 hectares (ha) of privately owned and managed woodlands, comprised largely of commercial conifers with small areas of mixed broadleaves and open ground planted in the late 1990s. The FSA is slightly larger than the application site boundary, as shown on Figure 15.1.

15.1.3 A total of 50.4 ha would require to be felled to enable the construction and operation of the Proposed Development. Where possible, areas to be felled for the Proposed Development would be restocked except for land required to ensure safe operation of the Proposed Development's permanent infrastructure and land to be left unplanted for forest management; or forest design purposes.

15.1.4 Felling to accommodate the Proposed Development infrastructure within the woodland would result in a 24.3 ha decrease in the area of stocked woodland within the FSA. Additional compensatory planting will therefore be created off-site.

15.2 Introduction

15.2.1 This chapter considers the potential implications of the Proposed Development on the woodland resource within the site boundary and its long-term management. This chapter was prepared by James Anderson (MSc) of DGA Forestry LLP. The forestry assessment has identified that areas of forestry would require to be felled for the construction and operation of the Proposed Development. Proposed on-site replanting and additional planting of native woodland results in an increase in the area of stocked woodland within the Proposed Development site boundary.

15.2.2 Commercial forestry is not regarded as a receptor for Environmental Impact Assessment (EIA) purposes. Commercial forests are a dynamic environment, and their structure continually undergoes change due to the following:

- 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.

15.2.3 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; and
- the changes to the physical structure of the forestry within the site boundary.

15.2.4 This chapter also discusses the issue of forestry waste arising from the Proposed Development.

15.2.5 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, for example: Landscape and Visual (Chapter 7); Ecology (Chapter 8); Ornithology (Chapter 9); and Cultural Heritage and Archaeology (Chapter 11) as they are interrelated to the proposed changes in the forest structure.

15.2.6 The responsibility for the management of the remainder of the forest outwith the infrastructure footprint 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.

15.2.7 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.

15.2.8 In general, throughout this chapter data labelled 'baseline' refers to the current crop composition and any existing plans without any modification as a result of the Proposed Development. Data labelled

'Proposed Development' refers to the forestry plans incorporating the Proposed Development infrastructure.

15.2.9 This chapter is structured as follows:

- Planning, Policy and Guidance;
- Consultation;
- Forestry Study Area;
- Forest Plans;
- Development of the Wind Farm Forest Plan;
- Baseline;
- Proposed Development Forest Plan;
- Requirement for Compensatory Planting;
- Forestry Waste;
- Forestry Management Practices;
- Conclusion; and Summary.

15.3 Legislation, Planning Policy and Guidance

15.3.1 Relevant overarching planning policies for the Proposed Development are detailed within Chapter 4. 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.

15.3.2 Forestry related policies and documents listed below have been considered within the forestry assessment. The following section provides an outline of the legislation, guidance and policies which are relevant to the Proposed Development, and in particular to forestry.

Forestry and Land Management (Scotland) Act 2018

15.3.3 Until 1st April 2019, 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.

15.3.4 The Forestry Commission was a cross-border public authority and a United Kingdom 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.
- Forestry Commission Scotland (FCS), which was responsible for the other forestry functions in Scotland.

15.3.5 When full devolution of forestry to the Scottish Government was completed on 01 April 2019, FCS and FES became two new agencies of the Scottish Government:

- Scottish Forestry (SF), responsible for regulatory, policy and support functions.
- 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.

15.3.6 With the introduction of the Forestry and Land Management (Scotland) Act 2018 and its associated Regulations on 01 April 2019, the old regulatory regime of felling control under the Forestry Act 1967 was repealed in Scotland. From 01 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.

15.3.7 Under the new Regulations introduced by the Forestry and Land Management (Scotland) Act 2018, 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.

Scotland's Forestry Strategy 2019 - 2029

15.3.8 Scotland's Forestry Strategy 2019 - 2029 (SFS), was published in 2019 after a consultation period. The SFS 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.

15.3.9 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."*

15.3.10 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.

15.3.11 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.

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

- 10,000 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.

15.3.13 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

15.3.14 Scotland's Third Land Use Strategy 2021 – 2026 stresses the importance of forestry in 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.

National Planning Framework 4

15.3.15 National Planning Framework 4 (NPF4) was adopted by the Scottish Ministers on 13 February 2023. NPF4 notes 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.

15.3.16 It further notes 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.

Right Tree in the Right Place

15.3.17 'Right Tree in the Right Place - Planning for Forestry & Woodlands' 2010 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 a 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 Proposed Development.

15.3.18 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

15.3.19 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' 2009. The guidance relating to the implementation of the policy was revised and updated in 2019.

15.3.20 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 Proposed Development.

15.3.21 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.

15.3.22 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.

15.3.23 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.

15.3.24 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.

15.3.25 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).

15.3.26 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.

The Borders Forestry and Woodland Strategy

15.3.27 The Scottish Borders Woodland Strategy was published in 2005 (Scottish Borders Council (SBC), 2005). The vision for the strategy is defined as:

"The Strategy is designed to reflect and deliver on the priorities of national and local level forestry and other policies, planning and action frameworks, as well as Scottish Borders businesses, environmental interests and the wider local community, as expressed in other Scottish Borders 'New Ways' documents. It seeks to integrate all the relevant interests and sectors to promote and co-ordinate the management of trees, woodlands and forests to ensure maximum social, economic and environmental benefits are derived. It goes well beyond simply the planting, management, harvesting and primary processing of the timber resource, and seeks to influence other land use reforms for the 21st century. In doing so the SBWS also promotes the wider role of forestry as an exemplar of working to sustainable development principles."

15.3.28 The Scottish Borders Woodland Strategy provides a planning tool and policy guidance for SBC to use in conjunction with its New Way Forward Structure Plan. The Strategy provides a framework policy document for the development of forestry in the Scottish Borders, to help secure financial resources to deliver the Strategy's vision and assist the Forestry Commission (now Forestry and Land Scotland) in considering the suitability of applications for grant assistance for planting and management of woodlands. The Strategy integrates with other SBC and partnership strategies and action plans, including SBC's Local Biodiversity Action Plan, SBC's Economic Strategy and the Scottish Borders Social and Health Strategy.

15.3.29 The Strategy is based on the following five themes:

- contributing to the sustainable development of the Scottish Borders economy;
- expanding and diversifying the Scottish Borders woodland resource;
- protecting and enhancing the Scottish Borders landscape, biodiversity and cultural heritage;
- the role of trees, woodlands and forests in contributing to the quality of life in the Scottish Borders;
- connecting people and communities with Scottish Borders trees, woodlands and forests; and
- strategic priorities have been defined for each of the above themes which are translated into detailed priority actions.

15.3.30 Under the theme of expanding and diversifying the Scottish Borders woodland resource, the Strategy targets expanding woodland cover within the region from the current 18.5 % to 25 % by 2050.

15.3.31 Wind farm developments are only briefly mentioned in the Strategy, which notes that renewable energy schemes such as wind farms are important for supporting a strong Forestry Sector Network.

15.3.32 The Scottish Borders Woodland Strategy predates the Scottish Government's Control of Woodland Removal Policy; therefore, this is not referenced in the document, which instead calls for the permanent removal of some conifer plantations in certain circumstances, and which can be seen as being in direct conflict with the Control of Woodland Removal Policy. Therefore, the Scottish Borders Woodland Strategy is considered to be out of date and doesn't align with current national policy.

15.4 Consultation

15.4.1 In addition to formal EIA Scoping, consultation was undertaken by DGA Forestry LLP throughout the EIA process with the relevant stakeholders to inform the assessment and understand their position. A summary of this is provided in Table 15.1.

Table 15.1 – Consultation

Consultee	Comment Summary	Response
Scottish Forestry (SF) 09 January 2023	SF do not agree that impacts upon forestry should be treated through a technical supplement. SF expect that there will be a specific forestry chapter in the EIA Report since the mapping suggest that there will be a significant / measurable impact on forestry.	This standalone forestry chapter has been prepared as part of the EIA Report detailing the impact on forestry through the felling and restocking proposals for the Proposed Development. It identifies the changes to the forestry structure within the Proposed Development site boundary.
	Any woodland removal for development purposes will be subject	The Proposed Development forestry plans take into account The Scottish Government's Control of Woodland

Consultee	Comment Summary	Response
	to Scottish Government's Policy on Control of Woodland Removal.	Removal Policy and the associated implementation guidance. The changes to the area of woodland would be assessed as per Annex V of the implementation guidance.
	Any proposed compensatory planting areas will be the subject of the Forestry (Environmental Impact Assessment) (Scotland) Regulations 2017.	Noted.
	Any additional felling which is not part of the planning application will require permission from SF under the Forestry and Land Management (Scotland) Act 2018 (the Act).	Noted.
NatureScot 10 January 2023	Much of the site of the proposed wind farm is currently a commercial conifer forest. Changes to its structure required to accommodate the wind farm will be set out in a Technical Appendix to the EIA Report and will include any compensatory planting measures required. Opportunities to enhance habitats within the forest to benefit biodiversity should be incorporated into the re-design of the forest.	This chapter includes all information on forestry in relation to the Proposed Development. Opportunities for habitat enhancement to benefit biodiversity has been considered during the design of the Proposed Development. Habitat enhancement measures have been proposed within habitats outwith the commercial forestry plantation (see NEMP, Technical Appendix 8.6).
River Tweed Commission 21 December 2022	The developer should assess the potential impacts of tree felling on the aquatic environment including nutrient release, increased acidification risk, loss of habitat, impacts on hydrology, increased fine sediment transport and deposition, all of which can have a detrimental impact on fish populations and should therefore be addressed in the ES. In addition, the mulching of fallen trees in situ should be avoided. The Forest and Water Guidelines should be consulted for further information.	This has been considered in Chapter 8 and Chapter 10.
Scottish Environment Protection Agency (SEPA) 21 December 2022	Request a map and table detailing forest removal.	Noted. This is included in Table 15.4 and shown on Figure 15.3.
	Key holing must be used wherever possible.	The Proposed Development infrastructure will be keyholed into young crops or, where entire coupes have to be felled for forestry management purposes, into the restocking design.
	Forest removal and forest waste.	Where relevant the comments regarding forest waste; forest removal and the use of timber residues for ecological benefit will be addressed by the relevant disciplines within the EIA team.

15.5 Baseline Conditions

Forestry Study Area

15.5.1 The FSA, as shown on Figure 15.1, extends to approximately 368.7 ha and comprises of privately owned and managed woodland. The FSA is slightly larger than the application site boundary. The woodland is currently not covered by a Long-Term Forest Plan, however, there have been stand-alone felling licences granted in 2020 and 2022 for the clearing of infected larch (*larix*) trees and thinning of the Sitka (*picea sitschensis*) crop.

15.5.2 The forest contains a limited range of woodland types, due to the elevation and exposure of the site, together with areas of unplantable land and open ground. The crops are comprised largely of commercial conifers with areas of both mixed conifers and mixed broadleaves and open ground. Further information on the composition of the woodlands in the FSA is provided in the baseline description section.

Native Woodland

15.5.3 An initial desk-based assessment identified one very small area (0.69 ha) of woodland within the FSA and the site adjacent to the Hallow Burn, recorded as native woodland in the Native Woodland Survey of Scotland (Forestry Commission Scotland, 2013). This area was avoided through design and no site infrastructure is located within it (and would be located over 250 m from it). There are no areas identified in the Ancient Woodland Inventory Scotland (Scottish Natural Heritage, 2010).

Baseline Planting Year/Age Class Structure

15.5.4 Many woodlands established in the mid to late 1900's were planted in large contiguous blocks, often over a limited number of years and with a limited range of species. Such woodlands develop poor structural diversity, especially on upland sites. Restructuring the age class and species of such forests is desirable and would yield both forest management and environmental benefits.

15.5.5 The woodlands within the FSA are yet to undergo restructuring by felling and restocking and as a result the structural diversity of the woodlands is very limited. Their age class is detailed in Table 15.2 and shown on Figure 15.2.

15.5.6 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 15.2 – Baseline Age Class Composition

Age	Area (ha)	Area (%)
n/a	160.8	43.6
1-10 years	7.3	2.0
11-20 years	2.9	0.8
12-30 years	197.7	53.6
Total	**368.7**	**100.0**

Species Composition

15.5.7 The current baseline species composition of the woodlands within the FSA is shown on Figure 15.3 and illustrated in Table 15.3.

Table 15.3 – Baseline Species Composition

Species	Area (ha)	Area (%)
Sitka spruce	132.6	35.9
Sitka spruce/Other conifer	15.3	4.2
Other conifer	15.4	4.2
Mixed woodland	1.6	0.4
Mixed broadleaves	10.2	2.8
Open ground	193.6	52.5
Total	**368.7**	**100.0**

15.5.8 The main species are commercial conifers, principally Sitka spruce, which in pure or mixed stands, accounts for approximately 40.1 % of the total FSA. Other conifers account for 4.2 % of the FSA and broadleaf woodland 2.8 %. Open ground including felled areas awaiting restock accounts for the largest area at approximately 52.5 %.

15.5.9 The species composition reflects the practice and guidance which prevailed at the time the woodlands were established. Restructuring as part of a long-term forest plan would aim to introduce an increased proportion of broadleaves and other conifers into the woodland composition, however there is currently no Long-Term Forest Plan in place for these woodlands. As such there is no Baseline Felling or Restocking Plan available for inclusion into this assessment. Therefore, the changes to the woodlands will be assessed against the Baseline Species Plan.

15.6 Forest Plan

Development of a Forest Plan

15.6.1 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. 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.

15.6.2 A Forest Plan 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. Forest Plans describe how the long-term strategy would meet the management objectives of the owner, the criteria of the UK ‘Forestry Standard’ (UKFS) and the UK ‘Woodland Assurance Standard 4th Edition’ (UKWAS), under which the woodlands would be managed if certificated.

15.6.3 The development of a Forest Plan 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. A Forest Plan covers social and environment aspects, such as conservation, archaeology, landscape and the local community, in addition to forestry and silvicultural considerations.

15.6.4 Restructuring of age class and species are important factors in this process to ensure proposals meet the current standards. A Wind Farm Forest Plan is prepared along the same principles with the relevant information being provided by other members of the project team.

15.6.5 A baseline Forest Plan (without a wind farm) will typically contain felling and restocking proposals covering a 10-year period in detail, with outline proposals for the remainder of the forest.

15.6.6 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 account of such external factors. The inclusion of a wind farm within the forest is an example of one such external factor.

15.6.7 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 as detailed below.

Development of a Wind Farm Forest Plan

Introduction

15.6.8 This section describes the process by which a typical Wind Farm Forest Plan 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, in this case undertaken in 2023, and further desk-based assessment as necessary.

15.6.9 Details of wind turbine locations, new tracks, storage compounds, borrow pits, substation compound and other infrastructure is amalgamated with the forestry data to construct the forestry proposals for the Proposed Development.

15.6.10 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.

15.6.11 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.

15.6.12 In this case, taking into account the ecological constraints as mentioned in Chapter 8, a 3.1 ha (100 metre (m) radius) 'keyhole' was adopted around wind turbines. These keyholes are areas that require to be felled for construction, operation and environmental mitigation.

15.6.13 A 10 m buffer has been applied around each other item of temporary and permanent infrastructure, in addition to the area required for the infrastructure. An indicative 30 m 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.

Wind Farm Felling Plan

15.6.14 Felling required for a Proposed Development can be divided into two categories:

- firstly, that required during the construction phase of the Proposed Development, which for the purposes of this assessment, has been anticipated as commencing in 2029; and
- secondly, felling required during the operational period of the Proposed Development. In this case there is no felling required outwith that required for the construction phase.

15.6.15 The crops were assessed to identify those areas which would require to be felled. Due to the crop growth rates and current crop height, it has been assessed that the infrastructure within woodland areas would largely require keyholing into younger crops and in a few small areas of 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 Wind Farm Species Restocking Plan as described below.

15.6.16 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.

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

Wind Farm Species Restocking Plan

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

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

15.6.19 It has been assumed that, where possible, some temporary infrastructure such as edges of re-profiled borrow pits 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 1 m.

15.6.20 In preparing the Wind Farm Species Restocking Plan, a number of points would be considered as follows:

- 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.

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

15.6.22 The wind farm 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.

The Proposed Development Forest Plan

Introduction

15.6.23 The effect of the Proposed Development on the structure of the woodlands within the FSA has been compared against the Baseline Species Plan. This has concentrated on changes to the composition of the woodlands required to accommodate the Proposed Development. Proposed Development Felling Plan

15.6.24 The Proposed Development Felling Plan is shown on Figure 15.4 and summarised in Table 15.4 categorised into two types of felling:

- Construction felling is felling which is required to accommodate the wind farm infrastructure footprint.
- Advanced felling is further felling required as a result of the construction felling to either consolidate coupe shapes or fell back to a wind firm edge to prevent future wind blow within the crop. It would be carried out in advance of its expected felling timeline without the wind farm

Table 15.4 – Felling Required for Construction

Fell Phase	Area (ha)	Area (%)
No Felling – Open ground	193.6	52.5
Construction Felling	23.8	6.5
Advanced Felling	26.6	7.2
No Felling – Woodland	124.7	33.8
Total	**368.7**	**100.0**

15.6.25 The total felling required to accommodate construction of the Proposed Development, including construction and advanced felling, totals 50.4 ha.

Proposed Development Restocking Plan

15.6.26 The Baseline Species Plan has been amended to integrate the Proposed Development infrastructure requirements into the forest design and to take account of the site conditions. The Proposed Development Restocking Plan is shown on Figure 15.5 and summarised in Table 15.5. Changes to the

composition of the woodland are summarised in Table 15.6. Wind farm open ground refers to the permanent loss of crop to permanent infrastructure only of the Proposed Development.

Table 15.5 – Proposed Development Restocking Plan Species Composition

Species	Area (ha)	Area (%)
Sitka spruce	110.2	29.9
Sitka spruce/Other conifer	13.9	3.8
Other conifer	14.0	3.8
Mixed woodland	1.6	0.4
Mixed broadleaves	11.1	3.0
Open ground	193.6	52.5
Wind Farm Open ground	24.3	6.6
Total	**368.7**	**100.0**

Table 15.6 – Restock Species Comparison Table

Species	Baseline Species Area (ha)	Proposed Development Restock Species Area (ha)	Variance Area (ha)	Variance Area (%)
Sitka spruce	132.6	110.2	-22.4	-6.08
Sitka spruce/Other conifer	15.3	13.9	-1.4	-0.38
Other conifer	15.4	14.0	-1.4	-0.38
Mixed woodland	1.6	1.6	0.0	0.00
Mixed broadleaves	10.2	11.1	0.9	0.24
Open ground	193.6	193.6	0.0	0.00
Wind Farm Open ground	0.0	24.3	24.3	6.60
Total	**368.7**	**368.7**	**0.0**	**0.00**

15.6.27 The change in area of stocked woodland in the forests due to the Proposed Development is shown in Table 15.7. An overview of changes to the woodland with regard to woodland loss and change of species is depicted on Figure 15.6.

Table 15.7 – Stocked Woodland Area Comparison

Woodland Type	Baseline Species Area (ha)	Proposed Development Restock Species Area (ha)	Variance Area (ha)	Variance Area (%)
Stocked Area	175.1	150.8	-24.3	-6.6
Unstocked Area	193.6	218.0	24.3	6.6

15.6.28 The changes in the structure of the woodlands due to the Proposed Development can be summarised as follows:

- of the 50.4 ha of woodland felled to accommodate the Proposed Development, 26.1 ha of woodland will be restocked on-site;
- there would be a net reduction in the area of Sitka spruce (whether pure or in a mix) of 23.8 ha;
- there would be an increase in the area of broadleaf woodland of 0.9 ha;
- there would be a decrease in the area of mixed conifer woodland of 1.4 ha;
- wind farm permanent open ground would total 24.3 ha; and
- the net reduction in stocked woodland area within the FSA would be 24.3 ha equivalent to 6.6% of the FSA.

15.7 Potential Effects

15.7.1 As a result of the construction of the Proposed Development, there would be a net loss of woodland area. The area of stocked woodland in the FSA would decrease by 24.3 ha (6.6 %).

15.8 Mitigation

Compensatory Planting

15.8.1 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.

Forestry Waste

15.8.2 The SEPA guidance document WST-G-027, 'Management of Forestry Waste' (SEPA, 2017) 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), which amended Section 34 of the Environmental Protection Act (EPA) 1990 (duty of care) (UK Government, 1990). 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), 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.

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

15.8.4 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.

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

15.8.6 As discussed above, the crops will be replanted except where the land is required for infrastructure associated with the Proposed 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.

15.8.7 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.

15.8.8 In areas of lower yielding crops, into which the Proposed Development infrastructure 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 will be minimal.

15.8.9 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.

Forestry Management Practices

<u>Crop Clearance</u>

15.8.10 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.

15.8.11 Stemwood down to seven 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.

15.8.12 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.

15.8.13 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.

15.8.14 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), 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.

Restocking/Planting Methodology

15.8.15 Wind Farm 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 depending on the guidance at the time.

15.8.16 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.

15.8.17 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

15.8.18 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 five for conifers and by year 10 for broadleaf woodlands ;
- the woodlands would be weeded as necessary to ensure satisfactory establishment by year five for conifers and by 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.

Standards and Guidelines

15.8.19 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);
- 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).

15.9 Residual Effects

15.9.1 The residual effect of the felling for the Proposed Development would be **neutral** and not significant due to the balance of the restocking on-site and compensatory planting off-site resulting in no overall net loss of forestry. All forestry operations would be carried out in accordance with the guidance outlined in Section 15.8 to ensure that no significant effects would result during the felling and restocking on-site.

15.10 Conclusion and Summary

15.10.1 The total FSA extends to 368.7 ha and is comprised of privately owned and managed woodland, largely comprised of commercial conifers with small areas of mixed broadleaves and open ground planted in the late 1990s.

15.10.2 The assessment has identified that 50.4 ha of forestry would require to be felled for the construction and operation of the Proposed Development. Where possible, areas to be felled for the Proposed Development would be restocked (26.1 ha) except for land required for the safe operation of the Proposed Development's permanent infrastructure and land to be left unplanted for forest management; or forest design purposes.

15.10.3 The species composition of the forest would change as a result of the Proposed Development forestry proposals. In particular, the area of Sitka spruce (whether pure or in a mix) would reduce by 23.8 ha.

15.10.4 The area of unplanted ground would increase and, as a result, there would be a net loss of woodland area of 24.3 ha.

15.10.5 In order to comply with the Scottish Government's Control of Woodland Removal Policy, 24.3 ha of compensation planting would be required to mitigate for the loss of woodland area. The Applicant is committed to providing appropriate compensatory planting off-site. The extent, location and composition of such planting is to be agreed with SF, taking into account any revision to the felling and restocking plans prior to the commencement of construction.

15.11 References

EU Waste Legislation Waste Framework Directive (2008) Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0098. Accessed on: 18 June 2024.

Forestry Commission (2017). The UK Forestry Standard: The Government's Approach to Sustainable Forestry, Forestry Commission, Edinburgh. Available at: https://www.gov.uk/government/publications/the-uk-forestry-standard. Accessed on: 18 June 2024.

Forestry Commission (2011). Forestry Commission Research Note: Environmental effects of stump and root harvesting Available at: https://www.forestresearch.gov.uk/publications/environmental-effects-of-stump-and-root-harvesting/ Accessed on: 18 June 2024.

Forestry Commission Scotland (2009). The Scottish Government's Policy on Control of Woodland Removal. Edinburgh. Available at: https://www.forestry.gov.scot/publications/support-and-regulations/control-of-woodland-removal/285-the-scottish-government-s-policy-on-control-of-woodland-removal. Accessed on: 18 June 2024.

Forestry Commission Scotland (2010): Right Tree in the Right Place - Planning for Forestry & Woodlands. Forestry Commission, Edinburgh. Available at: https://www.forestry.gov.scot/publications/96-the-right-tree-in-the-right-place-planning-for-forestry-and-woodlands. Accessed on: 18 June 2024.

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 on: 18 June 2024.

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

Scottish Borders Council (2005): Scottish Borders Woodland Strategy. Newton St Boswells. Available at: https://www.scotborders.gov.uk/directory_record/7447/scottish_borders_woodland_strategy. Accessed on: 18 June 2024.

SEPA (2017): SEPA Guidance Notes WST-G-027 "Management of Forestry Waste". Available at: https://www.sepa.org.uk/media/28957/forestry_waste_guidance_note.pdf. Accessed on: 18 June 2024.

SEPA (2014): LUPS-GU27 "Use of Trees Cleared to Facilitate Development of Afforested Land. Available at: 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 on: 18 June 2024.

Scottish Government (2012): The Waste (Scotland) Regulations 2012 No. 148 Available at https://www.legislation.gov.uk/ssi/2012/148. Accessed on: 18 June 2024.

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 on: 18 June 2024.

Scottish Government (2019). Scotland's Forestry Strategy 2019 -2029, Edinburgh. Available at: https://www.gov.scot/publications/scotlands-forestry-strategy-20192029/. Accessed on: 18 June 2024.

Scottish Government (2021): Scotland's Third Land Use Strategy 2021 to 2026: Getting the Best from our Land Available at: https://www.gov.scot/publications/scotlands-third-land-use-strategy-2021-2026-getting-best-land/ Accessed on: 18 June 2024.

Scottish Government (2022). National Planning Framework 4 Revised Draft. Available at: https://www.gov.scot/publications/national-planning-framework-4/. Accessed on: 18 June 2024.

Scottish Natural Heritage. (2010) Ancient Woodland Inventory Scotland [Online] Available at: https://map.environment.gov.scot/sewebmap/. Accessed on: 18 June 2024.

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 on: 18 June 2024.

UK Government (1967). Forestry Act 1967 (as amended). HMSO, London. Available at: https://www.legislation.gov.uk/ukpga/1967/10/contents. Accessed on: 18 June 2024.

UK Government (1974): Health and Safety at Work etc. Act 1974. Available at: http://www.legislation.gov.uk/ukpga/1974/37/contents. Accessed on: 18 June 2024.

UKWAS (2018). The UK Woodland Assurance Standard Fourth Edition, UKWAS, Edinburgh. Available at: https://ukwas.org.uk/wp-content/uploads/2018/05/UKWAS_Standard_FourthEdition_digital.pdf. Accessed on: 18 June 2024.

Forestry Commission Scotland. (2013) The Native Woodland survey of Scotland [Online] Available at: https://scottishforestry.maps.arcgis.com/apps/webappviewer/index.html?id=0d6125cfe892439ab0e5d0b74d9acc18. Accessed on: 18 June 2024.