All Ireland
Forest Reproductive Material
Demand Forecast
for the period 2025-2035

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COFORO

Forest Genetic Resources
Working Group

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Acknowledgements

Disclaimer

While every effort has been made to ensure the information provided is accurate, the Department of Agriculture, Food and the Marine does not accept any responsibility or liability for errors of fact, omission, interpretation or opinion that may be present, nor for the consequences of any decisions based on this information.

Interpretation advice

Readers who intend using the forecast for planning or investment purposes are urged to thoroughly review the information provided. It may be advisable in certain cases to engage professional advice.

Foreword

Quality seed and other reproductive material suited to their environment are the building blocks of our forestry sector and are essential to drive the economic, environmental, and societal benefits that our forests provide. The forestry and wood sector is worth more than €2 billion annually to the economy with total employment exceeding 10,000 people and is a significant economic driver in rural areas. Ready access to young trees and seed is essential to the sustainable growth of the forestry sector. In addition, farm-based tree planting as part of agri-environment schemes and tree planting aligned with national habitat conservation and restoration commitments are increasingly driving the demand for seed and young trees.

I am therefore pleased to introduce the *All-Ireland Forest Reproductive Material Forecast for the period 2025-2035*. This report analyses potential demand for seeds and plants for a range of tree species and purposes, including, afforestation, reforestation, agri-environmental schemes and other types of non-grant aid tree planting. Its aim is to reduce uncertainty and support decision-making in the nursery sector by providing the best estimate of future demand. Forest nurseries, due to the lead-in time to produce planting material are exposed to changes in forestation levels and other external factors. A forecast of potential Forest Reproductive Material (FRM) demand will therefore assist planning in this important sector.

I would like to thank the report's authors and members of the COFORD Forest Genetic Resources Working Group for their work in producing this forecast. This report provides a comprehensive analysis incorporating industry views and policy scenarios. The information provided is vitally important to plan for securing supply of seed and plants to meet the needs of the forestry sector.

Michael Healy-Rae T. D .
Minister of State at the Department of Agriculture, Food and the Marine

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Executive Summary

Demand for forest reproductive material is a significant whole-of-island endeavour. Northern Ireland (NI) and the Republic of Ireland (ROI) have ambitious and interconnected forestry and agri-environment policies aimed at increasing forest and tree cover to address climate change and enhance biodiversity. Both implement the European Council Directive 1999/105/EC, on the marketing of forest reproductive material, commonly referred to as the 'FRM Directive'. This Directive establishes the requirements for the approval of basic material, the categorisation of Forest Reproductive Material (FRM), and the procedures for its production, certification, and marketing. Therefore, in many senses the island operates as a single, integrated market for FRM. The forestry and wood sector is worth more than €2 billion annually to the economy of the Republic of Ireland[1] with an estimated £60 million per annum generated from timber production activity alone in Northern Ireland[2]. With total employment exceeding 10,000, forestry is a significant economic driver in rural areas and ready access to young trees and seed is essential to its sustainable growth. In 2023, approximately 44 million plants were grown in Irish nurseries to support the sector.[3]

Forecasts of demand are crucial to guide sustainable forestry and expansion of tree cover. To meet this demand, forest nurseries require accurate demand forecasts due to the lead-in time to produce planting stock, which can range from 2 to 4 years depending on species. The difficulty of advance planning is compounded by Ireland's oceanic climate, which affects seed production, especially for broadleaf species like oak, which may only produce major crops every 5-10 years. Additionally, some large-seeded species cannot be stored for long periods, making forecasting even more critical. Information sharing on demand is essential to efficiently meet ambitious forestry and environmental targets. To ensure adequate forest sector investment and readiness to supply high-quality planting material for the country's afforestation and reforestation goals, the Department of Agriculture, Food and the Marine (DAFM) commissioned the development of this FRM Demand Forecast for the period 2025-2035. More details on the approach adopted during this work may be found in the report entitled "Methodology for the Forest Reproductive Material (FRM) Demand Forecast for the period 2025-2035". Supply-side analysis (examining the means by which demand will be met) was outside the scope of this report.

A comprehensive analysis has been undertaken of available data, industry views and policy scenarios. The five key drivers of plant demand are forest regeneration, grant aided afforestation of agricultural land, tree planting outside of any grant scheme, farm based tree planting as part of agri-environment schemes and tree planting to align with national habitat conservation and restoration commitments. A literature review informed the approach (see Methodology report for details) and a combination of data on past and planned activity levels, industry surveys and government targets were used in the analysis. Three scenarios were developed, a Baseline which reflected the consensus view of the sector on future planting levels and Scenarios 2 and 3, where 50% and 100%, respectively, of policy afforestation targets in ROI and NI are achieved.

Full policy implementation would see demand increase by 25%. Under the Baseline Scenario (33% of ROI afforestation policy achievement and 28% in NI), total plant demand is projected to increase from 34.31 million in 2025 to 52.72 million in 2035, totalling 492.67 million plants over the forecast period. Applying the more optimistic Scenario 2 (50% Afforestation Policy Achievement) plant demand increase by 4.3% over the Baseline, from 34.05 million to 55.36 annually by 2035, and Scenario 3 (100% Afforestation Policy Achievement), the most optimistic, sees a substantial 25.5% increase over the Baseline, reaching a total annual demand of 66 million plants by 2035, equivalent to annual compound growth of 6%.

Reforestation is the most significant and stable contributor to activity. Reforestation is the most significant planting category, accounting for 76% of total forecast planting in ROI and 56% in NI under the Baseline scenario (Table 25). The drivers of reforestation activity and the species mix are well understood and based on robust estimate, which lends added confidence to the forecast. Under the 100% afforestation policy achievement scenario, reforestation's share of total demand decreases to 59%, while afforestation's impact almost doubles to 26%.

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[1]   Forestry Services Ltd., Phillips, H. 2022. Economic activity and employment levels in the Irish forest sector. COFORD, Dublin, Ireland.

[2]   DAERA, 2022. https://www.daera-ni.gov.uk/news/minister-reopens-forestry-grant-schemes-2022

[3]   DAFM, 2024, Forest Statistics Ireland 2024

Sitka spruce remains dominant but with a weakening share. Sitka spruce remains the main species in demand across all scenarios, with annual demand increasing from 19.86 million in 2025 to 25.81 million in 2035 under the Baseline. Its growth is primarily driven by increased reforestation as a consequence of the age profile of existing private forests. While dominant, its proportional share of total demand is forecast to decline from 57.9% in 2025 to 49.0% by 2035 in the Baseline scenario, further decreasing to 40.4% in the 100% afforestation policy achievement scenario, as full policy implementation sees significant habitat restoration as well as conventional broadleaf afforestation.

Oak is key to future afforestation and habitat improvement. Demand for oak is projected to rise significantly in all scenarios, almost doubling from 3.1 million plants annually to 5.8 million by 2035 under the Baseline. Under Scenario 3, annual demand for oak plants could reach 10.1 million by 2035, equivalent to over 128 tonnes of acorns. This increase is driven by forest policy emphasising broadleaves, a decrease in the reliance on ash, the critical role of oak in native woodland establishment and the anticipated Nature Restoration Law targets for oak woodland.

Introduction

The Forestry Programme 2023-2027, approved by the Irish Government, represents a significant investment to support Ireland's forestry sector, which will deepen and broaden the ecosystem services offered by Irish forests, with an emphasis on increasing the diversity of tree species, particularly broadleaf and native trees. Forest nurseries in Ireland require accurate demand forecasts due to the lead-in time to produce planting stock, which can range from 2 to 4 years depending on species. The difficulty of advance planning is compounded by Ireland's oceanic climate, which affects seed production, especially for broadleaf trees like oak, which may only produce major crops every 5-10 years. Additionally, some large-seeded species cannot be stored for long periods, making forecasting even more critical.

Northern Ireland (NI) and the Republic of Ireland (ROI) have ambitious and interconnected forestry and agri-environment policies aimed at increasing forest and tree cover to address climate change and enhance biodiversity. The island has a common climate, similar soil types, and a history of shared forest management challenges, such as implementing agri-environment schemes and dealing with pests and diseases. ROI and NI implement the European Council Directive 1999/105/EC, on the marketing of forest reproductive material, commonly referred to as the 'FRM Directive'. This Directive establishes the requirements for the approval of basic material, the categorisation of Forest Reproductive Material, and the procedures for its production, certification, and marketing. Therefore, in many senses the island operates as a single, integrated market for forest reproductive materials. As such, information sharing on demand is essential to efficiently meet ambitious environmental targets. To ensure adequate forest sector investment and readiness to supply high-quality planting material for the country's afforestation and reforestation goals, the Department of Agriculture, Food and the Marine (DAFM) commissioned the development of this Forest Reproductive Material (FRM) Demand Forecast for the period 2025-2035. More details on the approach adopted during this work may be found in the report entitled "Methodology for the Forest Reproductive Material (FRM) Demand Forecast for the period 2025-2035".

Forest Reproductive Material

The term forest reproductive material, or FRM, encompasses seeds, plant parts (e.g. cuttings and scions), and plants raised by means of seeds or parts of plants, including plants propagated in vitro, for forestry purposes. Knowledge of FRM – such as genetic and morphologic variation, reproductive biology, seed biology and storage, and plant propagation (by seed or vegetative means) – is essential for sustainable forest management in both natural and planted forests. In planted forests, for example, an adequate knowledge of these aspects will help ensure the use of appropriate techniques in seed source selection; seed collection, testing and storage; plant production; and matching FRM with the environmental conditions of a planting site[1].

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[1] FAO Forest Reproductive Material downloadable from ://www.fao.org/sustainable-forest-management/toolbox/modules/forest-reproductive-material/basic-knowledge/en/?type=111

Approach and Data Collection

FRM Demand Overview

The dynamics of FRM demand on the island of Ireland is set out in Figure 1. The drivers of the scale and nature of tree planting flow from policy, practice, scientific advice and landowner preferences. This is then expressed in the reforestation of lands recently cleared of forest and in efforts to establish new forest cover in agricultural land and of hedges and small-scale planting, which may or may not be grant-aided. The five key mechanisms of demand shaded in the figure form the basis of the FRM forecast described in this document. The following data sources provided information to form a consensus view on the nature and scale of these drivers:

A. Literature review (see Methodology document for details).

B. Activity levels, past and planned.

C. Surveys; and

D. Afforestation policy and targets.
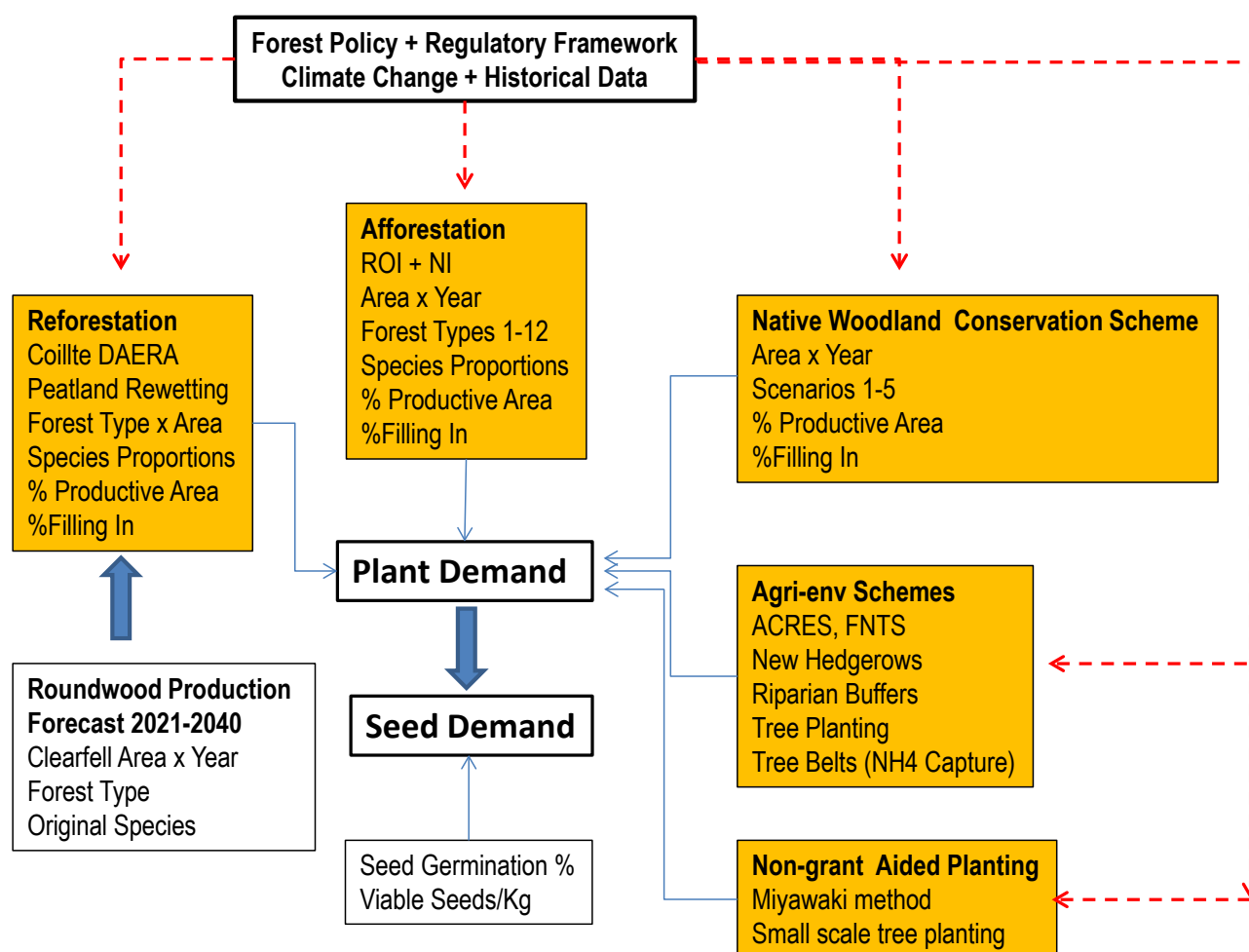
Figure 1: Factors Impacting on FRM Demand

Activity levels, past and planned

In preparation for this analysis, data were assembled from a variety of authoritative sources covering:

Past

    A. Afforestation in NI in both state and private sectors, by species.

    B. Afforestation by area by species per Forest Statistics Ireland 2024 (ROI, private).

    C. Afforestation by area by species and planting grant scheme; per Form 2 grant aid returns following afforestation (ROI, private).

    D. National Forest Inventory (ROI) of forests less than 10 years old.

    E. DAFM Private Forest Estate 2023 shapefile data (ROI, private).

    F. Reforestation in ROI based on felling licence replanting plans, by species.

    G. Reforestation in Coillte based on company records, by species.

    H. Reforestation in NI based on DAERA records:

    I. Reconstitution planting scheme for Ash dieback and other causes, by species – ROI.

    J. Agri-environmental scheme data (ROI).

    K. Agri-environmental scheme data (NI); and

    L. Imports and exports of FRM (ROI).

Future

    A. Reforestation plans, by species, for Coillte and DAERA lands.

    B. Reforestation plans, by species, submitted as part of the ROI private sector felling licence process.

    C. Draft Nature Restoration Law targets 2030-2050.

    D. COFORD All Ireland Roundwood Production Forecast 2021-2040; and

    E. Reforestation plans, by species, for private sector NI from DAERA.

These data were used to place the forecast in the context of actual activity and trends in recent years and avoid over-reliance on any single source of information. Analysis and cross referencing of these data confirmed that the areas and species percentage breakdown for afforestation for ROI based on grant schemes is consistent with other sources and covers the majority of forest being planted (Figure 2) In the National Forest Inventory records[2] for reforestation there is a higher use of more diverse conifers and broadleaves (Figure 3). For NI, the species used in previous afforestation is shown in Figure 4. Species names and abbreviations used throughout this report are shown in Table 1.

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[2] NFI data is sourced from 2022 NFI report compiled in 2020-2022 based on stands of age 1-10.
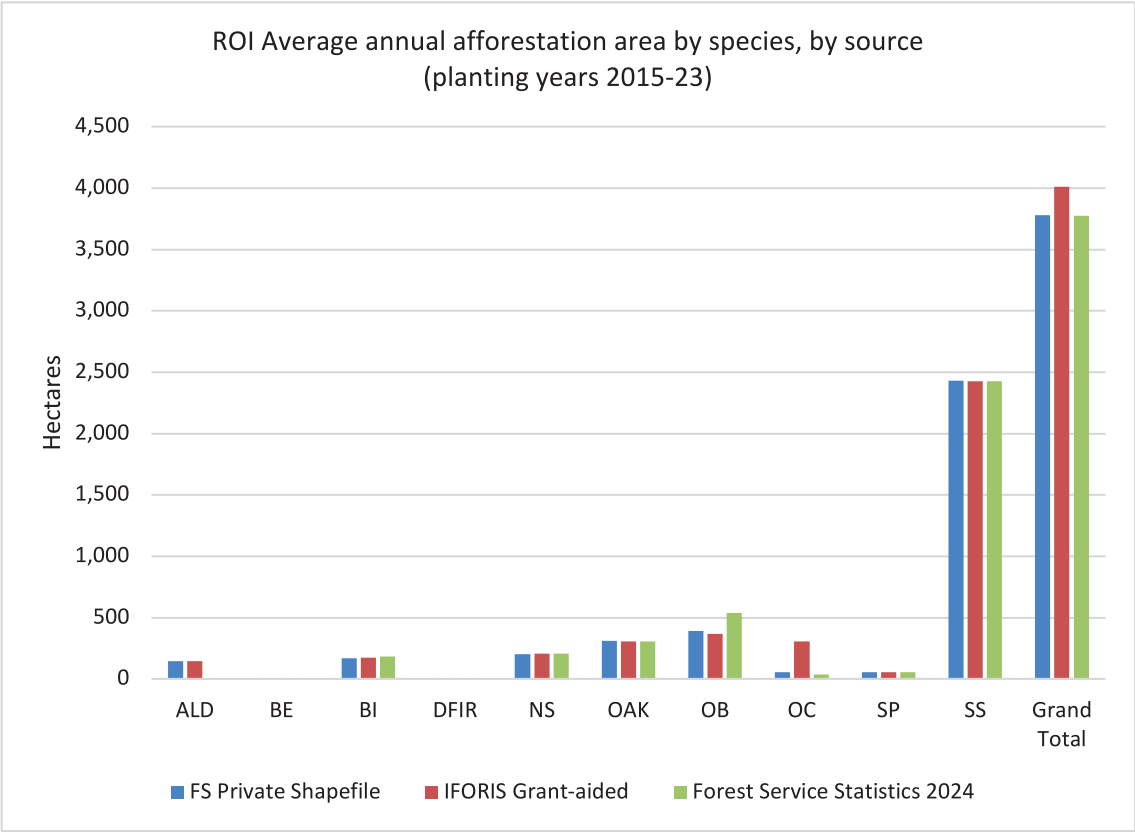
Figure 2: Average annual area of past afforestation ROI, by data source, in hectares (for the period 2015-2023) – Species codes are listed in Table 1.
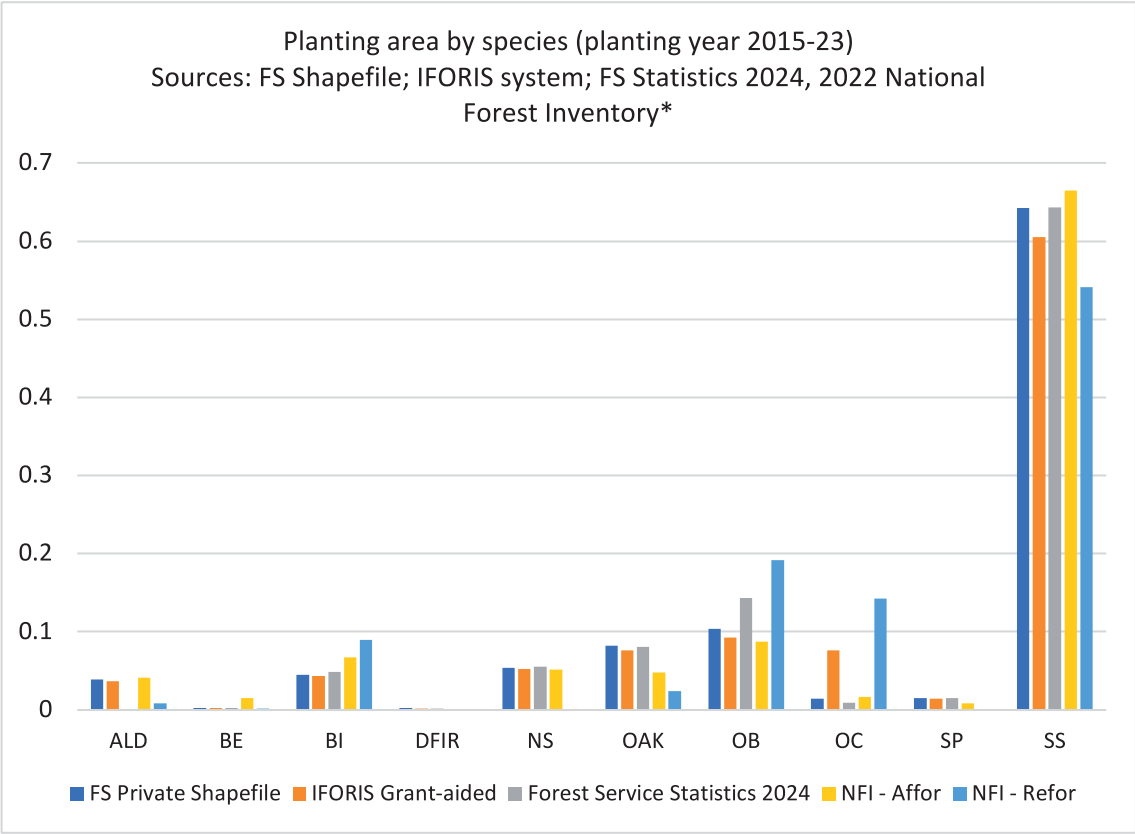
Figure 3: Past afforestation ROI by species, by data source, for the period 2015-2023, as percentage of total hectares. ***NFI data is sourced from 2022 NFI report compiled in 2020-2022 based on stands of age 1-10.**
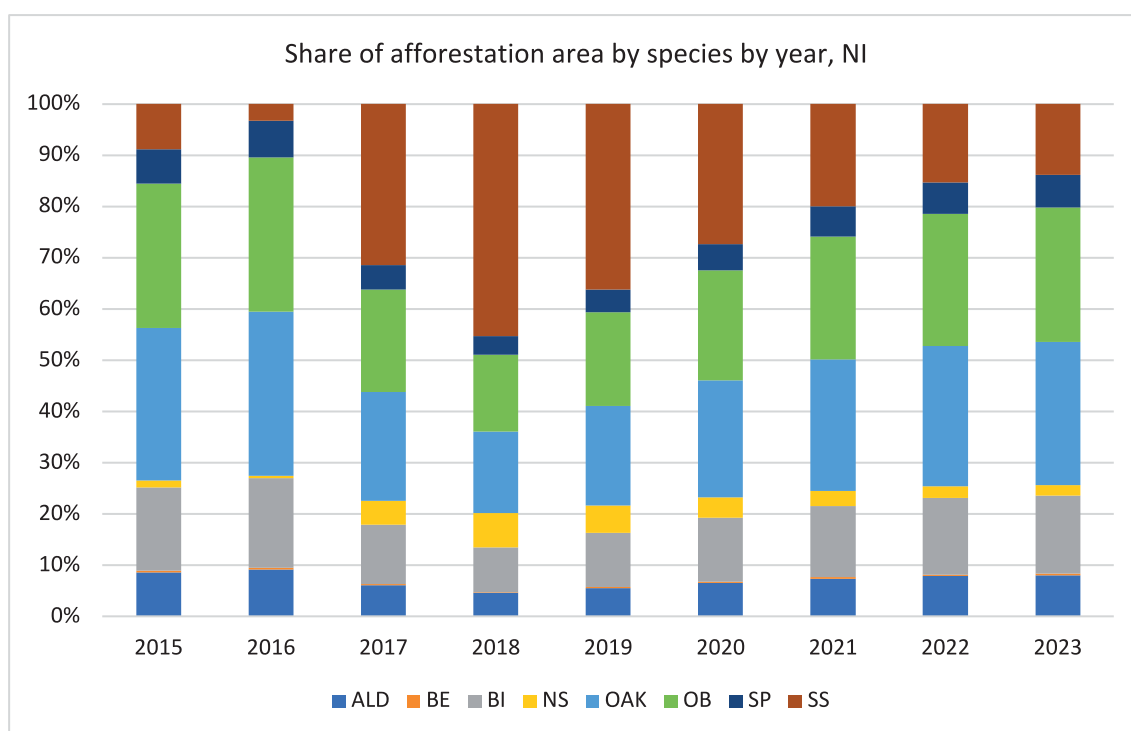
Figure 4: Past afforestation NI by species by percentage area

Table 1: Species List

Common Name	Proper Name	Classification	Common Name	Proper Name	Classification
Beech	*Fagus sylvatica*	BE	Austrian pine	*Pinus nigra (var. maritima)*	OC
Common alder	*Alnus glutinosa*	ALD	Coast redwood	*Sequoia sempervirens*	OC
Common dogwood	*Cornus sanguinea*	OB	Corsican pine	*Pinus nigra (var. laricio)*	OC
Common hornbeam	*Carpinus betulus*	OB	Douglas fir	*Pseudotsuga menziesii*	DFIR
Common whitebeam	*Sorbus aria*	OB	European larch	*Larix decidua*	OC
Crab apple	*Malus sylvestris*	OB	Grand fir	*Abies grandis*	OC
Downy birch	*Betula pubescens*	BI	Lawson cypress	*Chamaecyparis lawsoniana*	OC
Field maple	*Acer campestre*	OB	Lodgepole pine	*Pinus contorta*	OC
Grey alder	*Alnus incana*	ALD	Monterey cypress	*Cupressus macrocarpa*	OC
Grey Willow	*Salix cinerea*	OB	Monterey pine	*Pinus radiata*	OC
Hazel	*Corylus avellana*	OB	Norway spruce	*Picea abies*	NS
Holly	*Ilex aquifolium*	OB	Scots pine	*Pinus sylvestris*	SP
Italian alder	*Alnus cordata*	OB	Serbian spruce	*Picea ormorika*	OC
Lime	*Tilia cordata*	OB	Sitka spruce	*Picea sitchensis*	SS
Norway maple	*Acer platanoides*	OB	Western hemlock	*Tsuga heterophylla*	OC
Pedunculate oak	*Quercus robur*	OAK	Western red cedar	*Thuja plicata*	OC
Red alder	*Alnus rubra*	ALD			
Red oak	*Quercus rubra*	OAK			
Rowan	*Sorbus aucuparia*	OB		**ACRES Hedging Plant Species**	
Sessile oak	*Quercus petraea*	OAK	**Common Name**	**Proper Name**	**Classification**
Silver birch	*Betula pendula*	BI	Blackthorn	*Prunus spinosa*	Blackthorn
Southern beech	*Nothofagus procera/Nothofagus obliqua*	OB	Dog rose	*Rosa canina*	Dog rose
Spanish chestnut	*Castanea sativa*	OB	Guelder rose	*Viburnum opulus*	Guelder rose
Sycamore	*Acer pseudoplatanus*	OB	Hawthorn/Whitethorn	*Crataegus monogyna*	Hawthorn/Whitethorn
Wild cherry	*Prunus avium*	OB	Hazel	*Corylus avellana*	Hazel
Wild service tree	*Sorbus torminalis*	OB	Holly	*Ilex aquifolium*	Holly
Yew	*Taxus baccata*	OB	Spindle	*Euonymous europaeus*	Spindle
			Alder buckthorn	*Frangula alnus*	Alder buckthorn

FRM Demand Surveys

The aim of these surveys was to determine a range of parameters that could serve as a basis for developing a number of scenarios focusing on future demand. The noteworthy results from the survey of forest companies and organisations active in planting (Company survey[3]) are briefly described below.

Afforestation

The results of the Company survey show that there are contrasting views on the future levels of afforestation in both the ROI and NI. The overall trend in the ROI was for annual afforestation to increase from 2,300 ha in 2025 to 2,700 ha by 2030 and thereafter to an average of 2,850 ha per annum. In NI, the view was that annual afforestation would increase from 325 ha in 2025 to 450 ha by 2030 and thereafter averages 500 ha per annum. The open space left unplanted varied from 12% to 30% across respondents and averaged 21%.

Regarding species and forest types in the ROI, there was a significant decrease, when compared to the 2024 outturn, in mixed high forest (FT12 mainly Sitka spruce) and a small decrease in native forests (FT1), offset by increases in small native forests (NTA1 and NTA2) (Table 2).

Table 2: Company Survey Results – Afforestation Areas by forest type ROI

Forest Type	Description	Mean 2025-2030	Variance v 2024	Mean 2031-2035	Variance v 2024
FT1	Native forests	35%	-3%	34%	-4%
FT2	Forests for water	1%	0%	1%	0%
FT3	Forests on public lands	2%	1%	3%	2%
FT4	Neighbourwod scheme	1%	1%	1%	1%
FT5	Emergent forests	1%	1%	1%	1%
FT6	Broadleaves - oak and beech	2%	1%	2%	0%
FT7	Diverse broadleaves	2%	1%	2%	1%
FT8	Agroforestry	7%	5%	9%	7%
F10	Continuous cover forestry	4%	2%	6%	4%
FT11	Mixed high forest minor conifers	3%	1%	5%	3%
FT12	Mixed high forest mainly Sitka	39%	-8%	34%	-12%
NTA1	Small native forests	4%	-1%	5%	-1%
NTA2	Small native forests - water protect	1%	0%	3%	1%

Reforestation

Company survey respondents indicated a gradual decrease in the planting of Sitka spruce on reforestation sites, going from 59% to 52.5% for the 2025-2035 period (Table 3). This was matched with a gradual increase in the planting of broadleaves, mainly oak and birch. For reforestation on Coillte land, data was provided directly from Coillte to the project team, both for area and species to be used. For NI, DAERA provided projected reforestation data for the state and private sectors.

Table 3: Survey Results - Species Composition Reforestation (Excluding Coillte)

Year	SS%	NS%	SP%	DFIR%	OC%	OAK%	BI%	ALD%	BE%	OB%	Totals
2025	59.0%	10.1%	2.9%	2.6%	0.9%	6.1%	8.4%	5.8%	0.9%	3.4%	100.0%
2026	59.0%	9.0%	3.1%	2.5%	1.0%	6.8%	9.0%	5.8%	0.6%	3.3%	100.0%
2027	57.3%	8.9%	3.3%	2.5%	1.1%	7.5%	9.6%	6.4%	0.5%	3.0%	100.0%
2028	55.6%	7.5%	3.4%	2.8%	2.0%	8.8%	10.0%	6.4%	0.5%	3.1%	100.0%
2029	56.6%	8.1%	3.4%	2.8%	2.0%	8.1%	9.5%	5.8%	0.5%	3.3%	100.0%
2030	55.1%	8.8%	3.4%	2.8%	2.3%	8.3%	9.6%	5.8%	0.6%	3.4%	99.9%
2031	52.5%	8.3%	3.4%	2.9%	2.3%	9.4%	10.3%	6.6%	0.6%	3.9%	100.0%
2032	52.5%	8.3%	3.4%	2.9%	2.3%	9.4%	10.3%	6.6%	0.6%	3.9%	100.0%
2033	52.5%	8.3%	3.4%	2.9%	2.3%	9.4%	10.3%	6.6%	0.6%	3.9%	100.0%
2034	52.5%	8.3%	3.4%	2.9%	2.3%	9.4%	10.3%	6.6%	0.6%	3.9%	100.0%
2035	52.5%	8.3%	3.4%	2.9%	2.3%	9.4%	10.3%	6.6%	0.6%	3.9%	100.0%

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[3] Comprehensive surveys of sectoral expectations of activity level were conducted as part of the FRM Forecast with 12 out of the top 15 companies and large organisations responding (and 27 individuals). These surveys are further described in the methodology document delivered as part of this forecast.

Afforestation policy and targets

Ireland (Republic of)

The ROI has an ambitious afforestation policy aimed at significantly increasing its forest cover and leveraging forestry for climate action, biodiversity, and rural development underpinned by the following key policy and strategy elements:

Shared National Vision for Trees, Woods and Forests until 2050: This vision, developed through extensive consultation, emphasises "the right trees in the right places for the right reasons with the right management" to support a sustainable economy, society, and healthy environment. It anticipates forests as a key solution to climate, biodiversity, housing, and health challenges.

Forest Strategy (2023-2030): This strategy provides the overarching framework for forestry development in Ireland. It aligns with broader government and EU policies like the Climate Action Plan and the new Biodiversity Strategy.

Forestry Programme (2023-2027): This is the primary mechanism for implementing the ROI Forest Strategy in the short to medium term. It represents an unprecedented €1.3 billion funding level for Irish forestry. The programme aims to increase the national forest estate on both public and private land, delivering benefits for climate change mitigation, biodiversity, wood production, economic development, employment, and quality of life and offers significant financial support to encourage afforestation.

The **Native Tree Area Scheme** also allows for the planting of up to 2 hectares of native woodland without requiring an afforestation license, encouraging small-scale native tree planting.

Overall Forest Cover: The ambition outlined in ROI's Forest Strategy is to increase forest cover from its current 11% to 18% of the total land area. This is a significant increase from the roughly 1% cover at the end of the 19th century.

Annual Planting Rates: The ROI Climate Action Plan sets a target of afforesting 8,000 hectares annually to 2030.

Species Diversity: ROI's Forest Strategy places an emphasis on increasing species diversity. The forestry programme 2023-2027 includes an annual target of 50% broadleaf species, with a minimum of 20% broadleaved species per application.

Carbon Sequestration: Afforestation is identified as the single largest land-based climate change mitigation measure available to the ROI. The goal is for forests to act as a carbon sink to offset residual emissions, especially from agriculture, and contribute significantly to carbon emissions targets. Coillte aims to grow 100,000 hectares of new forests by 2050, contributing to a carbon sink of 18 million tonnes of CO_2. The Environmental Protection Agency (EPA) has indicated that an afforestation rate of 13,000 to 40,000 hectares per annum may be needed from 2025 to 2050 to offset projected emissions from the agriculture sector.

Northern Ireland

NI's forest policy, primarily managed by the Forest Service within the Department of Agriculture, Environment and Rural Affairs (DAERA), aims to promote forest expansion and sustainable forestry practices.

The NI Forestry Strategy, "Northern Ireland Forestry - A strategy for sustainability and growth", was published in 2006 and aims to achieve a steady expansion of tree cover to 12% of land area by 2050. The current area of woodland in Northern Ireland is 118,482 hectares, which is 8.6% of the land area.

The Forests for Our Future afforestation programme was launched in 2020, aiming to plant 18 million trees and create 9,000 hectares of new woodland in Northern Ireland between 2020 and 2030. The Forests for Our Future programme is an important part of the Northern Ireland Executive's multi-decade draft Green Growth Strategy and will be a key driver of the target to achieve 12% woodland cover by 2050. The programme supports woodland creation by providing grant aid to cover associated costs, with funding available through the Small Woodland Grant Scheme and the Forest Expansion Scheme.

New schemes are currently in development to continue the delivery of the Forests for Our Future Programme and promote the further expansion of forestry in NI. DAERA intends to increase the NI annual **afforestation rates** from the current average rate of 460 hectares per year planted since 2021/22 to an

annual rate of 600 hectares per year for the remaining three years of the first Climate Action Plan period in 2027. This would create 3,560 hectares of new woodland under the Forests for Our Future programme by 2027, with the intention of increasing afforestation rates from 2027, ensuring Northern Ireland is on the pathway to delivering 9,000 hectares by 2030.

The **Climate Change Act** (Northern Ireland) 2022 sets an ambitious target to reduce Northern Ireland's greenhouse gas (GHG) emissions to Net Zero by 2050. The draft Climate Action Plan to 2027 incorporates delivery of the Forest for Our Future programme objectives and targets. However, the Climate Change Committee recommendations advise that annual afforestation rates of 3,100 hectares by 2035 and 4,100 hectares are required to contribute to achieving net zero by 2050.

Other tree planting initiatives

Additional sources of demand lie outside of mainsteam forestry activity. These include the following;

Non-grant Aided Planting

Non-grant aided (NGA) planting is defined as any planting of forest tree species undertaken in non-forest areas outside of the DAFM or DAERA afforestation schemes. In the past such planting was undertaken by individuals, local authorities and tidy towns groups but there are now over twenty voluntary groups involved in organised non-grant aided planting in Ireland. With demand in ROI from this source now estimated to exceed 500,000 plants it is important to include this sector in the FRM forecast.

Implementation of Nature Restoration Law

The EU Nature Restoration Law (NRL) is a landmark regulation that establishes binding targets for restoring degraded ecosystems across the European Union. The Republic of Ireland must contribute to the overarching EU targets, which include restoring at least 20% of the country's land and sea areas by 2030 and all ecosystems in need of restoration by 2050. An Advisory Committee on Nature Restoration was established to support the development of ROI's Nature Restoration Plan (NRP) in April 2024[4] and Ireland is required to have measures in place to improve Annex I habitats to good condition according to the following phases: 30% by 2030, 60% by 2040, 90% by 2050 and to have measures in place to re-establish Annex I habitats to Favourable Reference Area: 30% by 2030, 60% by 2040 and 100% by 2050. The Government has announced a €3.15 billion Climate and Nature Fund to support implementation of all measures under the NRL.

Agri-Climate Environmental Schemes

Republic Of Ireland

Past agri-environmental schemes like REPS and GLAS have included provisions for hedge planting, providing financial incentives to farmers for establishing new hedges or managing existing ones. The current Agri-Climate Environmental Scheme (ACRES) provides incentives to farmer to not only plant hedges but also for a range of tree planting including (a) planting tree belts for ammonia capture, (b) tree planting in riparian buffer zones and (c) native tree planting. In addition, tree planting is supported under Non-Productive Investments (NPIs) which are small-scale environmental actions available to farmers in the ACRES Co-operation (CP) stream which support nature-friendly management of farms.

Northern Ireland

In NI, the Environmental Farming Scheme (EFS) supported farmers to adopt a series of actions on farms to enhance biodiversity and increase carbon sequestration such as planting new hedges, agroforestry and establishing riparian buffers. Under the scheme farmers planted circa 1,000km of hedgerow and planted approximately 500,000 trees[5]. This equated to the annual creation/enhancement of 160 km of hedgerow and the planting of 85,000 trees. The EFS was replaced by the Farming with Nature Transition Scheme (FNTS) in 2025 and this includes a similar series of actions including planting of new hedges, agroforestry and establishing riparian buffers.

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4   https://www.gov.ie/en/department-of-housing-local-government-and-heritage/press-releases/ministers-welcome-approval-of-the-nature-restoration-law-in-the-eu-environment-council/

5   https://www.daera-ni.gov.uk/news/application-window-efs-higher-opens-daera

Demand for Seed

An estimate of the volume of seed necessary to meet the FRM Forecast is useful for planning purposes, as seed collection is a vital process in plant production. The source used to convert raised plants back to the quantum of seed needed for the main tree species was a COFORD publication, "Sustainable Development and Conservation of Forest Genetic Resources 2020-2030"[6] and for some of the lesser used and hedge species, a 2024 report commissioned by Coillte, None-So-Hardy and Fermoy Woodland nurseries.[7] The information was also validated against additional international sources[8,9]. See Table 4 and Table 5 from these two species groupings and sources, respectively.

Table 4: Saleable Plants per Kg Seed - Main Forest Species

	SS	NS	SP	DFIR	OC	OAK	BI	ALD	BE	OB
Saleable plants per Kg	100,000	40,000	40,000	25,000	N/A	80	45,000	30,000	800	N/A
Kg per '000 plants	0.01	0.03	0.03	0.04	N/A	12.5	0.02	0.03	1.25	N/A
Kg per 100k plants	1.0	2.5	2.5	4.0	N/A	1250.0	22.0	3.3	125.0	N/A

Source: Sustainable Development and Conservation of Forest Genetic Resources 2020-2030

Table 5: Saleable Plants per Kg Seed - Main Hedge Species

	Blackthorn	Dog Rose	Gulder Rose	Hawthorn	Haze	Holly	Rowan	Spindle	Wild Cherry
Saleable plants per Kg	700	53000	11976	1700	198	12000	15000	3788	1333
Kg per '000 plants	1.43	0.02	0.08	0.59	5.04	0.08	0.07	0.26	0.75
Kg per 100k plants	143.00	1.89	8.35	58.82	504.00	8.33	6.67	26.4	75.00

Source: Tree Seed 2024: Projected requirements and availability

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6   COFORD, 2020. Sustainable Development and Conservation of Forest Genetic Resources 2020-2030. COFORD, Kildare St., Dublin 2. https://www.coford.ie/media/coford/content/35769COFORDbodyreportweb211220.pdf

7   Tree Seed 2024: Projected requirements and availability. Derek Fenton July 2024.

8   Gordon A 1992. Seed manual of forest trees, Bulletin 63. For. Comm. Uk HMSO. Forest Nursery Practice. Bulletin 111, For. Comm. UK HMSO. Forestart Price List 2024-2025 – https://www.forestart.co.uk/wp-content/uploads/2024/08/Price-List-2024-2025.pdf.

9   Table of Standard Adjustment Coefficients, OECD Forest Seed and Plant Scheme

Scenarios

Using the developed model two scenarios are evaluated, in addition to the baseline.

Baseline Scenario 1

This scenario reflects the views of the sector on likely demand and is based on the Company survey, past performance and on the authors' discussions with forest companies and others within the forest sector. The Baseline scenario represents an afforestation policy achievement level of approximately 33% in ROI and 28% in NI (Table 6).

Afforestation:

- Use the area estimates in the Company survey for the ROI and the area estimates provided by DAERA for NI; and

- Use the species estimates from the company survey to estimate the species mix for each forest type in ROI and analysis of previous planting provided by DAERA for NI species mix.

Table 6: Baseline Planting Area (gross hectares) data (excluding agri-environmental schemes)

| Year | Private Sector | | | | | Public sector | | NRL | | | | Grand Total |
| | | | | | | | | 91A0 Old sessile oak woods | | 91E0 Alluvial forests | | |
	Afor ROI	NGA	Afor NI	Refor ROI	Refor NI	Refor ROI	Refor NI	Improve	Restore	Improve	Restore	
2025	2,310	150	460	5,105	276	5,650	976	-	-	-	-	14,927
2026	2,044	158	460	5,476	276	5,649	686	63	621	20	314	15,765
2027	2,244	165	460	6,081	276	5,647	647	63	621	20	314	16,537
2028	2,600	174	460	6,308	276	5,621	737	63	621	20	314	17,192
2029	2,711	182	460	7,006	276	5,636	760	63	621	20	314	18,048
2030	2,733	191	460	7,787	276	5,636	693	63	621	20	314	18,793
2031	2,857	211	460	8,995	276	5,636	1,015	31	311	10	157	19,958
2032	2,857	232	460	10,494	276	5,644	1,312	31	311	10	157	21,783
2033	2,857	255	460	9,620	276	5,651	1,232	31	311	10	157	20,859
2034	2,857	280	460	10,328	276	5,660	967	31	311	10	157	21,337
2035	2,857	308	460	10,986	276	5,668	967	31	311	10	157	22,031
Totals	28,931	2,306	5,060	88,186	3,036	62,098	9,991	469	4,659	146	2,352	207,233

Reforestation:

- Use the clearfell areas from the All-Ireland forecast (2021-2040) to estimate the reforestation areas for the private sector ROI and the species mix from the Company survey.

- Use the areas provided by DAERA for the state and private sectors in NI and also for the species mix.

- Use the data provided directly by Coillte to estimate future reforestation areas as this is more recent than the data included in the All-Ireland forecast.

- Use the reforestation species mix provided by Coillte as this is considered more reliable than the survey data; and

- Include an allowance in the Coillte and state NI reforestation for the rewetting of peatlands.

Nature Restoration Law (NRL) Planting:

The draft targets below have been calculated based on the 2025 Article 17 report which was recently submitted to the European Commission.

- Assume 30% achievement of the Condition Improvement and Re-Establishment targets for Old sessile oak woodland (Habitat code 91A0) and Alluvial forests (91E0) provided by NPWS (Table 7). As targets for 91D0 Bog woodland and 91J0 Yew woodland reach less than 100 hectares, respectively, by 2050, these have not been taken into consideration.

Table 7: Draft NRL Targets

Habitat type	Units	2030	2040	2050
91A0 Old sessile oak woods				
Condition improvement targets		**30%**	**60%**	**90%**
Area with measures in place (cumulative)	ha	1,042	2,083	3,125
Re-establishment targets		**30%**	**60%**	**100%**
Area with measures in place (cumulative)	ha	10,353	20,705	34,509
91D0 Bog woodland				
Condition improvement targets		**30%**	**60%**	**90%**
Area with measures in place (cumulative)	ha	21	43	64
Re-establishment targets		**30%**	**60%**	**100%**
Area with measures in place (cumulative)	ha	0	0	0
91E0 Alluvial forests				
Condition improvement targets		**30%**	**60%**	**90%**
Area with measures in place (cumulative)	ha	325	650	975
Re-establishment targets		**30%**	**60%**	**100%**
Area with measures in place (cumulative)	ha	5,226	10,453	17,421
91J0 Yew woodland				
Condition improvement targets		**30%**	**60%**	**90%**
Area with measures in place (cumulative)	ha	23	46	69
Re-establishment targets		**30%**	**60%**	**100%**
Area with measures in place (cumulative)	ha	15	29	49

Non-grant Aided (NGA) Planting:

- Use the estimates for the number of plants and for the species mix based on discussions with a sample number of organisations. Hectare area equivalents are obtained by dividing the number of plants by a nominal average plant density of 3,333 per hectare. The plant density reflects the higher stocking as for example when using the Miyawaki method[10].

Planting Parameters:

- Use the results of the Company survey for the average percentage of each site left unplanted in afforestation and reforestation and the numbers of additional plants required for replacement of failures in conifer and broadleaf planting in afforestation and reforestation.

Agri-environmental Schemes

- Use the estimated areas in Table 8 for ROI which are based on continuation of similar levels over the current CAP.
- Use the areas provided by DAERA for NI in Table 8; and
- Use species mix based on guidelines issued by DAFM for ROI and DAERA for NI.

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[10] The Miyawaki method involves densely planting a wide variety of native tree and shrub species into specially prepared, enriched soil. This accelerated approach aims to quickly establish biodiverse, multi-layered forests that are self-sustaining within a few years, mimicking natural forest regeneration.

Table 8: Baseline Data Agri-environmental Schemes

Year	ROI Hedge Planting (km)	Riparian Planting (No Trees)	Ammonia Capture (ha)	Tree Planting (No Trees)	NPI Hedge (km)	NPI Riparian (No Trees)	NPI Woodland 160 sph	NPI Woodland 300 sph	NI Hedge Planting (km)	Tree Planting (No Trees)
2025	0	0	7	0	100	1,000	26	34	84	41,667
2026	0	0	7	0	100	2,500	42	70	167	83,333
2027	0	0	7	0	100	2,500	42	70	167	83,333
2028	150	25,000	7	0	50	2,500	40	70	167	83,333
2029	350	25,000	7	150,000	100	2,500	40	70	167	83,333
2030	350	25,000	7	150,000	100	2,500	40	70	167	83,333
2031	350	25,000	7	150,000	100	2,500	40	70	167	83,333
2032	350	25,000	7	150,000	100	2,500	40	70	167	83,333
2033	200	15,000	7	150,000	100	2,500	40	70	167	83,333
2034	350	25,000	7	150,000	100	2,500	40	70	167	83,333
2035	350	25,000	7	150,000	100	2,500	40	70	167	83,333
Totals	**2,450**	**190,000**	**77**	**1,050,000**	**1,050**	**26,000**	**430**	**734**	**1,754**	**875,000**

Scenario 2 –50% of Afforestation Policy Achievement

Under this scenario which represents a more optimistic view than the sector view outlined in the Baseline above, afforestation will increase to 50% of the policy targets in both ROI and NI. NRL planting will increase to 50% of policy targets in ROI. All other categories of planting i.e. reforestation, non-grant aided and agri-environmental remain at the levels given in the Baseline scenario. Overall new planting increases from 41,616 ha under the Baseline to 51,427 hectares, a difference of 9,811 hectares (see Table 9). The main increase comes from NRL planting 5,084 hectares. NRL planting areas are counted toward achieving the annual planting targets.

Table 9: Afforestation and NRL Planting (gross ha) under different Scenarios

Year	50% Policy Afor ROI	NRL ROI	Afor NI	Total	100% Policy Afor ROI	NRL ROI	Afor NI	Total	Baseline Afor ROI	NRL ROI	Afor NI	Total
2025	2,311	0	347	2,658	2,311	0	693	3,004	2,311	0	460	2,771
2026	2,305	1,695	450	4,450	4,611	3,389	900	8,900	2,044	1,017	460	3,521
2027	2,305	1,695	450	4,450	4,611	3,389	900	8,900	2,244	1,017	460	3,721
2028	2,305	1,695	657	4,657	4,611	3,389	1,313	9,313	2,600	1,017	460	4,077
2029	2,305	1,695	913	4,913	4,611	3,389	1,825	9,825	2,711	1,017	460	4,188
2030	2,305	1,695	1,050	5,050	4,611	3,389	2,100	10,100	2,733	1,017	460	4,210
2031	3,153	847	1,050	5,050	6,305	1,695	2,100	10,100	2,857	508	460	3,826
2032	3,153	847	1,050	5,050	6,305	1,695	2,100	10,100	2,857	508	460	3,826
2033	3,153	847	1,050	5,050	6,305	1,695	2,100	10,100	2,857	508	460	3,826
2034	3,153	847	1,050	5,050	6,305	1,695	2,100	10,100	2,857	508	460	3,826
2035	3,153	847	1,050	5,050	6,305	1,695	2,100	10,100	2,857	508	460	3,826
Totals	**29,602**	**12,709**	**9,116**	**51,427**	**56,893**	**25,419**	**18,231**	**100,542**	**28,930**	**7,626**	**5,060**	**41,616**

Scenario 3 –100% of Afforestation Policy Achievement

This is the most optimistic scenario wherein both afforestation and NRL planting will reach 100% of the stated policy goals. This represents an overall increase in new planting of 57,551 hectares (from 41,616 hectares to 100,542 hectares) over the forecast period (see Table 9). It is considered highly unlikely under current operating conditions within the sector but indicates to policy makers and others the scale of increase necessary to achieve current policy goals.

See Figure 5 for a comparison for ROI of the categories with hectare estimates (afforestation, reforestation, NRL) for each scenario. The category "Fixed" shows the hectares outside of the scenario simulation (reforestation) and illustrates how dominant reforestation is in the forecast. See Figure 6 for a comparison

for NI of the categories with hectare estimates (reforestation and afforestation). Reforestation is kept fixed in the NI scenario simulations and so afforestation is the only varying parameter.
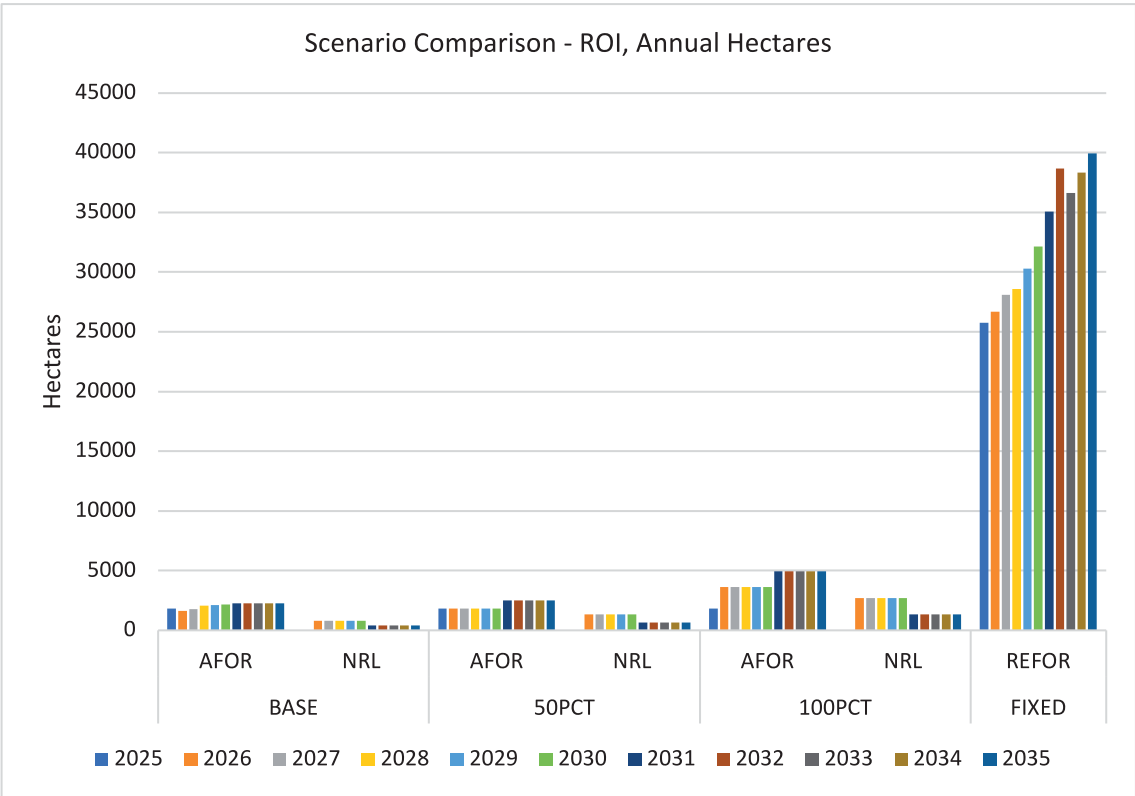
Figure 5: Scenario comparison ROI (Hectares)
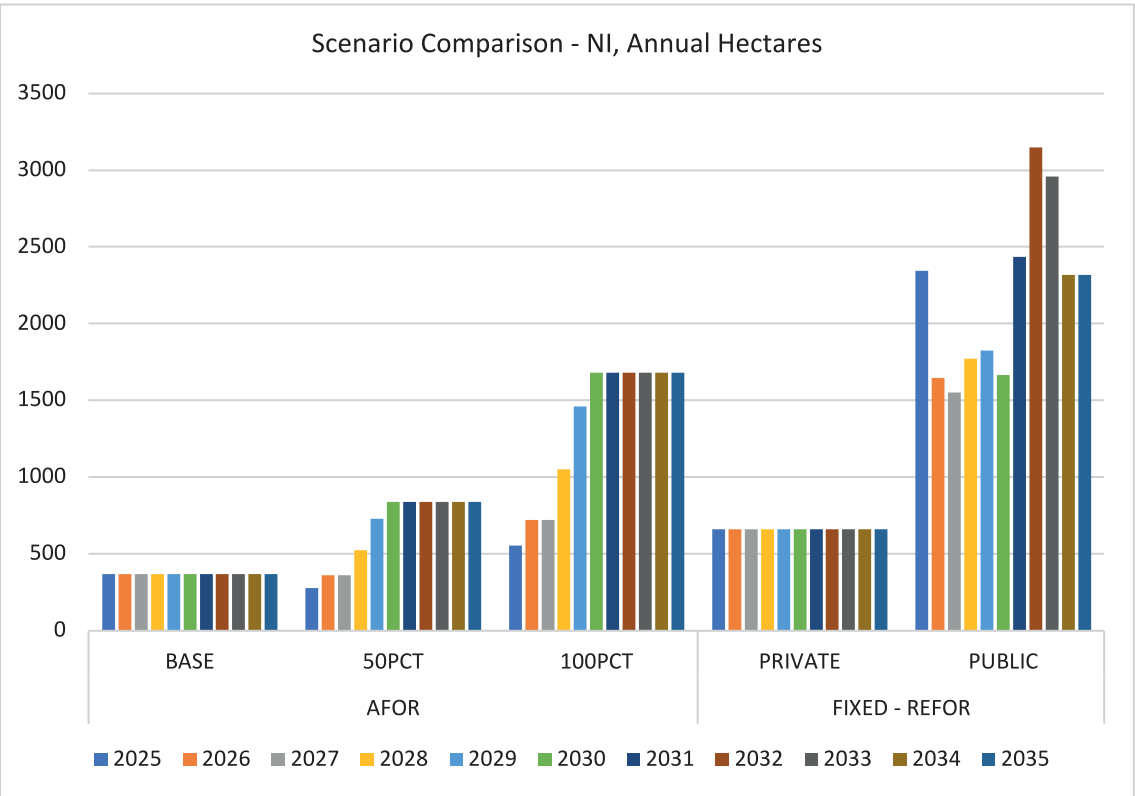
Figure 6: Scenario comparison NI (Hectares)

Results

Baseline

Under the Baseline scenario, overall plant demand increases from 34.31 million plants in 2025 to 52.72 million in 2035. Total plant demand over the period is estimated as 492.67 million. In ROI plant demand increases from 30.03 million plants in 2025 to 47.93 million in 2035 (Table 10) and totals 441.85 million while in NI the plant demand shows an initial decrease followed by an increase to a maximum of 5.56 million plants in 2032 and then a decease to 4.79 million plants for the remaining two years with the overall 2025-2035 total demand being 50.82 million plants.

Table 10: Baseline Scenario - Estimated Plant Demand ('000)

	SS	NS	SP	DFIR	OC	OAK	BI	ALD	BE	OB	All
ROI											
2025	18,188	1,594	638	677	1,384	2,515	1,643	1,528	164	1,700	30,031
2026	18,425	1,626	863	592	1,340	3,521	2,074	2,067	137	2,016	32,661
2027	19,023	1,713	943	758	1,328	3,856	2,326	2,282	133	2,088	34,450
2028	19,241	1,630	1,009	786	1,424	4,313	2,503	2,401	144	2,732	36,183
2029	20,282	1,836	1,078	938	1,413	4,468	2,647	2,475	155	4,145	39,438
2030	20,979	2,130	1,147	988	1,449	4,663	2,854	2,604	187	4,237	41,237
2031	21,821	2,291	1,222	1,135	1,511	4,738	3,130	2,739	205	4,314	43,106
2032	23,537	2,585	1,346	1,267	1,549	5,082	3,497	2,990	228	4,458	46,541
2033	22,450	2,439	1,291	1,247	1,469	4,933	3,334	2,889	220	3,646	43,917
2034	23,229	2,586	1,356	1,328	1,471	5,120	3,526	3,031	233	4,477	46,356
2035	23,941	2,723	1,418	1,407	1,473	5,298	3,707	3,163	246	4,553	47,928
NI											
2025	1,673	167	191	144	292	579	427	230	27	546	4,275
2026	1,333	137	154	8	272	446	267	138	6	1,424	4,185
2027	1,360	44	129	16	258	448	273	138	5	1,427	4,097
2028	1,397	83	209	-	245	477	296	147	5	1,434	4,293
2029	1,484	109	122	12	319	446	280	138	5	1,430	4,345
2030	1,343	155	142	9	247	446	277	138	5	1,437	4,198
2031	1,840	152	210	74	304	479	269	138	13	1,423	4,902
2032	2,459	165	222	26	361	474	279	138	5	1,430	5,558
2033	2,136	206	285	43	366	482	295	138	5	1,424	5,381
2034	1,870	145	160	9	279	490	273	138	5	1,427	4,794
2035	1,870	145	160	9	279	490	273	138	5	1,427	4,794
Grand total											
2025	19,860	1,761	829	821	1,676	3,094	2,070	1,757	191	2,246	34,306
2026	19,759	1,764	1,016	599	1,612	3,967	2,341	2,205	143	3,440	36,846
2027	20,383	1,756	1,073	773	1,586	4,304	2,599	2,420	138	3,515	38,547
2028	20,639	1,713	1,219	786	1,669	4,789	2,799	2,548	148	4,166	40,475
2029	21,766	1,946	1,200	950	1,733	4,915	2,927	2,612	160	5,575	43,783
2030	22,322	2,285	1,288	997	1,696	5,108	3,132	2,742	192	5,674	45,435
2031	23,661	2,444	1,432	1,208	1,815	5,217	3,400	2,877	218	5,737	48,009
2032	25,996	2,750	1,568	1,293	1,910	5,556	3,776	3,128	233	5,887	52,098
2033	24,586	2,645	1,576	1,290	1,835	5,416	3,629	3,027	225	5,069	49,298
2034	25,099	2,731	1,516	1,337	1,750	5,609	3,798	3,168	238	5,904	51,150
2035	25,811	2,868	1,578	1,415	1,751	5,787	3,979	3,301	251	5,979	52,722

In terms of tree species, at an all-Ireland level Sitka spruce continues to be the main species with annual demand increasing from 19.86 million in 2025 to 25.81 million in 2035. Although Sitka spruce is the main component of demand, as a proportion of all species it declines gradually over the period from 57.9% in 2025 to 49.0% in 2035, averaging 50.7% overall with an average of 52.3% in ROI and 36.9% in NI.

Annual demand for oak in ROI almost doubles from 3.09 million plants in 2025 to 5.79 million in 2035. Overall, oak accounts for 10.9% of plant demand comprising 11.0% in ROI and 10.3% in NI. Alder and the other broadleaves (OB) category show similar increases to oak and represent 6.0% and 10.8% of demand respectively.

The Baseline demand is shown in Table 11 for ROI and in Table 12 for NI. The total reforestation plant demand in ROI is 336.8 million representing 76.2% of total forecast planting and in NI total reforestation plant demand is 28.3 million, equivalent to 55.8%.

Table 11: Baseline Plant Demand ('000) by Planting Category - ROI

		SS	NS	SP	DFIR	OC	OAK	BI	ALD	BE	OB	All
AFOR												
	2025	1,419	244	156	26	99	1,474	371	352	43	640	4,825
	2026	1,256	216	138	23	88	1,304	329	311	38	567	4,268
	2027	1,379	237	152	25	97	1,431	361	342	42	622	4,686
	2028	1,597	274	176	29	112	1,658	418	396	48	720	5,428
	2029	1,665	286	183	31	117	1,729	436	413	50	751	5,660
	2030	1,679	288	185	31	118	1,743	439	416	51	757	5,706
	2031	1,618	297	212	42	160	1,840	456	432	49	797	5,903
	2032	1,618	297	212	42	160	1,840	456	432	49	797	5,903
	2033	1,618	297	212	42	160	1,840	456	432	49	797	5,903
	2034	1,618	297	212	42	160	1,840	456	432	49	797	5,903
	2035	1,618	297	212	42	160	1,840	456	432	49	797	5,903
REFOR												
	2025	16,768	1,350	461	651	1,263	821	1,161	1,115	99	425	24,116
	2026	17,170	1,411	596	569	1,230	954	1,315	1,183	76	440	24,943
	2027	17,644	1,476	662	732	1,208	1,152	1,531	1,367	68	452	26,291
	2028	17,644	1,356	702	756	1,287	1,371	1,642	1,422	70	486	26,738
	2029	18,617	1,551	762	907	1,271	1,416	1,730	1,447	78	556	28,336
	2030	19,300	1,842	828	957	1,304	1,586	1,928	1,572	108	637	30,062
	2031	20,204	1,994	927	1,092	1,322	2,039	2,324	1,927	125	830	32,782
	2032	21,920	2,288	1,048	1,225	1,357	2,359	2,678	2,175	146	961	36,156
	2033	20,833	2,141	989	1,204	1,273	2,185	2,503	2,075	134	889	34,226
	2034	21,611	2,288	1,051	1,286	1,271	2,340	2,679	2,208	144	952	35,831
	2035	22,323	2,426	1,109	1,364	1,269	2,486	2,843	2,336	153	1,012	37,322
NGA												
	2025	-	-	21	-	21	174	87	22	22	87	433
	2026	-	-	22	-	22	182	91	23	23	91	455
	2027	-	-	23	-	23	191	96	24	24	96	477
	2028	-	-	25	-	25	201	100	25	25	100	501
	2029	-	-	26	-	26	211	106	26	26	106	526
	2030	-	-	27	-	27	222	111	28	28	111	553
	2031	-	-	30	-	30	244	122	30	30	122	608
	2032	-	-	33	-	33	268	134	34	34	134	669
	2033	-	-	36	-	36	295	147	37	37	147	736
	2034	-	-	40	-	40	324	162	41	41	162	809
	2035	-	-	44	-	44	357	178	45	45	178	890
NRL												
	2025	-	-	-	-	-	-	-	-	-	-	-
	2026	-	-	107	-	-	996	294	477	-	331	2,206
	2027	-	-	107	-	-	996	294	477	-	331	2,206
	2028	-	-	107	-	-	996	294	477	-	331	2,206
	2029	-	-	107	-	-	996	294	477	-	331	2,206
	2030	-	-	107	-	-	996	294	477	-	331	2,206
	2031	-	-	53	-	-	498	147	239	-	166	1,103
	2032	-	-	53	-	-	498	147	239	-	166	1,103
	2033	-	-	53	-	-	498	147	239	-	166	1,103
	2034	-	-	53	-	-	498	147	239	-	166	1,103
	2035	-	-	53	-	-	498	147	239	-	166	1,103

	SS	NS	SP	DFIR	OC	OAK	BI	ALD	BE	OB	All
ACRES											
2025	-	-	-	-	-	47	24	39	-	548	658
2026	-	-	-	-	-	86	44	72	-	587	790
2027	-	-	-	-	-	86	44	72	-	587	790
2028	-	-	-	-	-	87	49	81	-	1,093	1,310
2029	-	-	-	-	-	117	82	111	-	2,400	2,710
2030	-	-	-	-	-	117	82	111	-	2,400	2,710
2031	-	-	-	-	-	117	82	111	-	2,400	2,710
2032	-	-	-	-	-	117	82	111	-	2,400	2,710
2033	-	-	-	-	-	116	80	107	-	1,647	1,950
2034	-	-	-	-	-	117	82	111	-	2,400	2,710
2035	-	-	-	-	-	117	82	111	-	2,400	2,710
ROI Total											
2025	18,188	1,594	638	677	1,384	2,515	1,643	1,528	164	1,700	30,031
2026	18,425	1,626	863	592	1,340	3,521	2,074	2,067	137	2,016	32,661
2027	19,023	1,713	943	758	1,328	3,856	2,326	2,282	133	2,088	34,450
2028	19,241	1,630	1,009	786	1,424	4,313	2,503	2,401	144	2,732	36,183
2029	20,282	1,836	1,078	938	1,413	4,468	2,647	2,475	155	4,145	39,438
2030	20,979	2,130	1,147	988	1,449	4,663	2,854	2,604	187	4,237	41,237
2031	21,821	2,291	1,222	1,135	1,511	4,738	3,130	2,739	205	4,314	43,106
2032	23,537	2,585	1,346	1,267	1,549	5,082	3,497	2,990	228	4,458	46,541
2033	22,450	2,439	1,291	1,247	1,469	4,933	3,334	2,889	220	3,646	43,917
2034	23,229	2,586	1,356	1,328	1,471	5,120	3,526	3,031	233	4,477	46,356
2035	23,941	2,723	1,418	1,407	1,473	5,298	3,707	3,163	246	4,553	47,928

Reforestation is consistently the main driver for plant demand in ROI over the forecast period (Table 11) representing 76.2% of total plant demand in comparison with afforestation including NRL planting which accounts for 17.3%.

Table 12: Baseline Plant Demand ('000) by Planting Category - NI

	SS	NS	SP	DFIR	OC	OAK	BI	ALD	BE	OB	All
AFOR											
2025	157	23	65	-	-	273	149	79	3	257	1,007
2026	157	23	65	-	-	273	149	79	3	257	1,007
2027	157	23	65	-	-	273	149	79	3	257	1,007
2028	157	23	65	-	-	273	149	79	3	257	1,007
2029	157	23	65	-	-	273	149	79	3	257	1,007
2030	157	23	65	-	-	273	149	79	3	257	1,007
2031	157	23	65	-	-	273	149	79	3	257	1,007
2032	157	23	65	-	-	273	149	79	3	257	1,007
2033	157	23	65	-	-	273	149	79	3	257	1,007
2034	157	23	65	-	-	273	149	79	3	257	1,007
2035	157	23	65	-	-	273	149	79	3	257	1,007
REFOR											-
2025	1,515	144	125	144	292	170	115	42	24	153	2,725
2026	1,176	114	88	8	272	152	93	42	3	145	2,093
2027	1,203	20	64	16	258	154	99	42	2	147	2,005
2028	1,240	60	144	-	245	183	122	52	2	154	2,201
2029	1,327	86	57	12	319	152	106	42	2	150	2,253
2030	1,185	132	76	9	247	152	103	42	2	158	2,106
2031	1,683	129	145	74	304	186	95	42	10	143	2,810
2032	2,302	142	156	26	361	180	105	42	2	150	3,466
2033	1,979	183	220	43	366	189	121	42	2	144	3,289
2034	1,713	122	95	9	279	196	98	42	2	147	2,702
2035	1,713	122	95	9	279	196	98	42	2	147	2,702
FNTS											
2025	-	-	-	-	-	136	163	109	-	136	543
2026	-	-	-	-	-	21	25	17	-	1,023	1,085
2027	-	-	-	-	-	21	25	17	-	1,023	1,085
2028	-	-	-	-	-	21	25	17	-	1,023	1,085
2029	-	-	-	-	-	21	25	17	-	1,023	1,085
2030	-	-	-	-	-	21	25	17	-	1,023	1,085
2031	-	-	-	-	-	21	25	17	-	1,023	1,085
2032	-	-	-	-	-	21	25	17	-	1,023	1,085
2033	-	-	-	-	-	21	25	17	-	1,023	1,085
2034	-	-	-	-	-	21	25	17	-	1,023	1,085
2035	-	-	-	-	-	21	25	17	-	1,023	1,085
NI Total											
2025	1,673	167	191	144	292	579	427	230	27	546	4,275
2026	1,333	137	154	8	272	446	267	138	6	1,424	4,185
2027	1,360	44	129	16	258	448	273	138	5	1,427	4,097
2028	1,397	83	209	-	245	477	296	147	5	1,434	4,293
2029	1,484	109	122	12	319	446	280	138	5	1,430	4,345
2030	1,343	155	142	9	247	446	277	138	5	1,437	4,198
2031	1,840	152	210	74	304	479	269	138	13	1,423	4,902
2032	2,459	165	222	26	361	474	279	138	5	1,430	5,558
2033	2,136	206	285	43	366	482	295	138	5	1,424	5,381
2034	1,870	145	160	9	279	490	273	138	5	1,427	4,794
2035	1,870	145	160	9	279	490	273	138	5	1,427	4,794

Reforestation is consistently the main driver for plant demand in NI over the forecast period (Table 12) representing 55.8% of total plant demand in comparison with afforestation which accounts for 21.8% and FNTS 22.4%.

Table 13 is an estimate of seed demand for the baseline scenario for selected species ("OC" and "OB" are excluded). The demand for seed increases in line with the overall plant demand in both ROI and NI (Table 11 and Table 12).

Table 13: Estimated Baseline Seed Demand for Selected Species (kg)

		SS	NS	SP	DFIR	OAK	BI	ALD	BE	Total
ROI										
	2025	182	48	19	27	31,438	33	46	205	31,997
	2026	184	49	26	24	44,015	41	62	171	44,572
	2027	190	51	28	30	48,200	47	68	167	48,782
	2028	192	49	30	31	53,908	50	72	179	54,512
	2029	203	55	32	38	55,856	53	74	193	56,504
	2030	210	64	34	40	58,284	57	78	233	59,000
	2031	218	69	37	45	59,221	63	82	256	59,990
	2032	235	78	40	51	63,525	70	90	286	64,374
	2033	225	73	39	50	61,667	67	87	275	62,481
	2034	232	78	41	53	63,994	71	91	292	64,850
	2035	239	82	43	56	66,220	74	95	308	67,117
NI										
	2025	17	5	6	6	7,231	9	7	34	7,314
	2026	13	4	5	0	5,570	5	4	8	5,610
	2027	14	1	4	1	5,601	5	4	6	5,636
	2028	14	2	6	-	5,957	6	4	6	5,997
	2029	15	3	4	0	5,576	6	4	6	5,614
	2030	13	5	4	0	5,571	6	4	6	5,609
	2031	18	5	6	3	5,992	5	4	17	6,050
	2032	25	5	7	1	5,926	6	4	6	5,979
	2033	21	6	9	2	6,029	6	4	6	6,083
	2034	19	4	5	0	6,120	5	4	6	6,164
	2035	19	4	5	0	6,120	5	4	6	6,164
Total										
	2025	199	53	25	33	38,669	41	53	239	39,311
	2026	198	53	30	24	49,586	47	66	179	50,182
	2027	204	53	32	31	53,801	52	73	173	54,418
	2028	206	51	37	31	59,865	56	76	186	60,509
	2029	218	58	36	38	61,432	59	78	199	62,118
	2030	223	69	39	40	63,854	63	82	239	64,609
	2031	237	73	43	48	65,212	68	86	272	66,040
	2032	260	82	47	52	69,451	76	94	292	70,353
	2033	246	79	47	52	67,696	73	91	281	68,564
	2034	251	82	45	53	70,114	76	95	298	71,014
	2035	258	86	47	57	72,340	80	99	314	73,281

Table 14: Baseline seed requirements for selected minor species for ACRES – ROI (kg)

Year	Blackthorn	Dog Rose	Guelder Rose	Hawthorn	Hazel	Holly	Rowan	Spindle	Wild cherry	Total
2025	143.0	0.3	1.3	229.4	140.4	2.3	0.1	0.7	3.4	520.8
2026	50.1	0.3	1.3	229.4	173.1	2.8	0.2	0.7	6.3	464.1
2027	50.1	0.3	1.3	229.4	173.1	2.8	0.2	0.7	6.3	464.1
2028	100.1	0.6	2.5	458.8	272.7	4.5	0.2	1.3	6.2	846.9
2029	225.2	1.3	5.6	1,032.4	577.6	9.4	0.7	3.0	11.8	1,867.0
2030	225.2	1.3	5.6	1,032.4	577.6	9.4	0.7	3.0	11.8	1,867.0
2031	225.2	1.3	5.6	1,032.4	577.6	9.4	0.7	3.0	11.8	1,867.0
2032	225.2	1.3	5.6	1,032.4	577.6	9.4	0.7	3.0	11.8	1,867.0
2033	150.2	0.8	3.8	688.2	426.4	6.9	0.7	2.0	11.8	1,290.8
2034	225.2	1.3	5.6	1,032.4	577.6	9.4	0.7	3.0	11.8	1,867.0
2035	225.2	1.3	5.6	1,032.4	577.6	9.4	0.7	3.0	11.8	1,867.0
Totals	**1,844.7**	**9.9**	**43.8**	**8,029.4**	**4,651.2**	**75.7**	**5.7**	**23.1**	**104.9**	**14,788.3**

Table 15: Baseline seed requirements for selected minor species for FNTS – NI (kg)

Year	Blackthorn	Dog Rose	Guelder Rose	Hawthorn	Hazel	Holly	Rowan	Total
2025	89.6	0.6	1.3	176.8	326.1	2.5	0.1	596.9
2026	179.1	1.1	2.5	353.6	652.3	5.0	0.2	1,193.8
2027	179.1	1.1	2.5	353.6	652.3	5.0	0.2	1,193.8
2028	179.1	1.1	2.5	353.6	652.3	5.0	0.2	1,193.8
2029	179.1	1.1	2.5	353.6	652.3	5.0	0.2	1,193.8
2030	179.1	1.1	2.5	353.6	652.3	5.0	0.2	1,193.8
2031	179.1	1.1	2.5	353.6	652.3	5.0	0.2	1,193.8
2032	179.1	1.1	2.5	353.6	652.3	5.0	0.2	1,193.8
2033	179.1	1.1	2.5	353.6	652.3	5.0	0.2	1,193.8
2034	179.1	1.1	2.5	353.6	652.3	5.0	0.2	1,193.8
2035	179.1	1.1	2.5	353.6	652.3	5.0	0.2	1,193.8
Totals	1,880.6	11.9	26.4	3,713.3	6,848.7	52.6	1.8	12,535.3

Table 14 and Table 15 show the estimated seed requirement for agri-environmental scheme planting in ROI and NI respectively. The seed requirements reflect the species mix and planting areas under the ACRES and FNTS schemes.
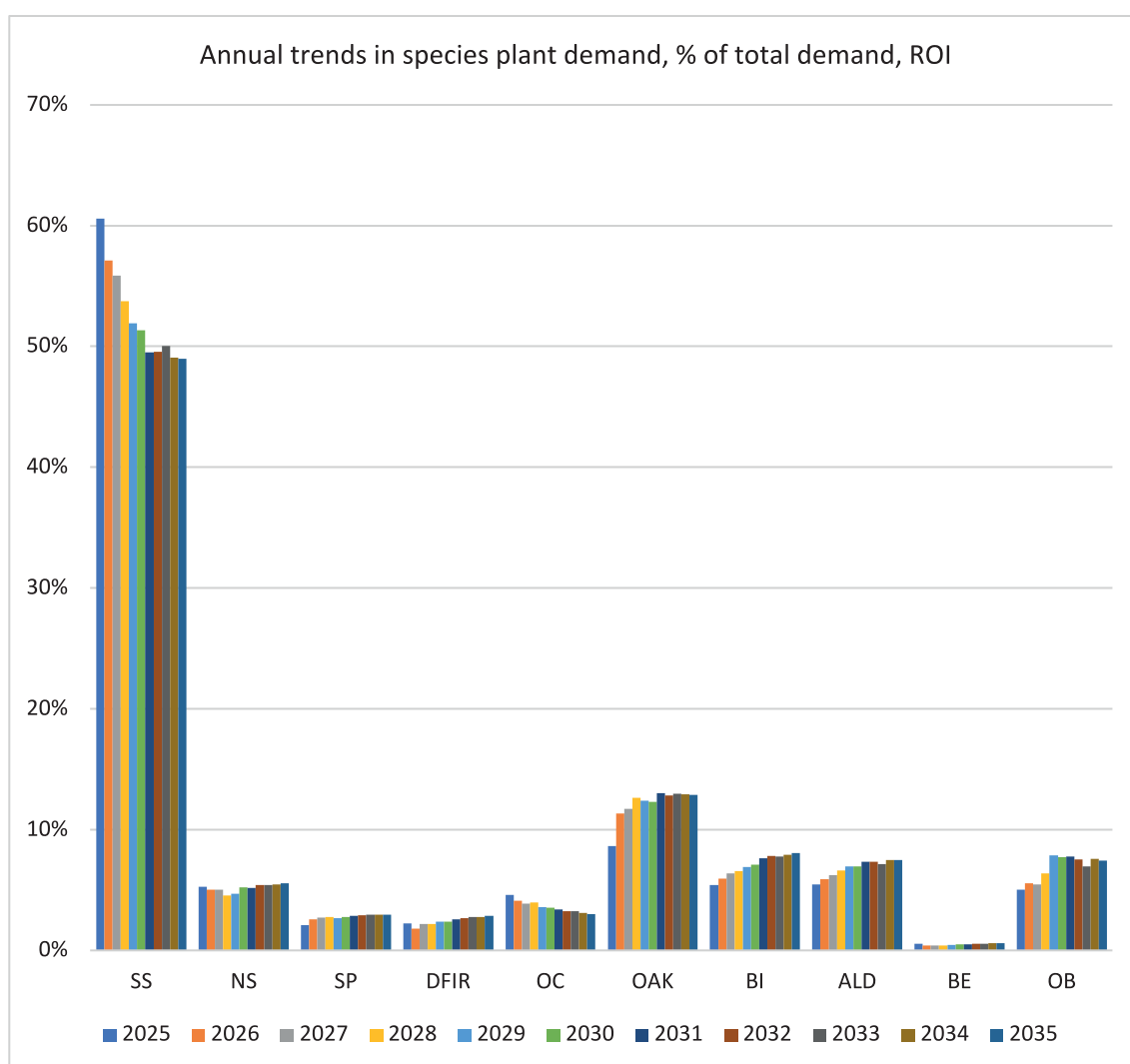
Figure 7: Annual trends in species demand, as a proportion of total plant demand, ROI, all categories.

The declining proportion of Sitka spruce and the increasing proportion of broadleaves in ROI, particularly oak are illustrated in Figure 7. This largely reflects an expansion of broadleaf-intensive non-traditional tree planting under the Non-Grant Aided, Nature Restoration Law and Agri-environment schemes (Figure 8). Sitka spruce is present only in the Afforestation and Reforestation categories (Figure 9), and while the

latter expands over the period by 49%, the growth in oak demand is 87% due to these other sources. In contrast in NI, the proportion of Sitka spruce shows an increase with a decline in the main broadleaf species offset by an increase in the other broadleaves category (Figure 10).
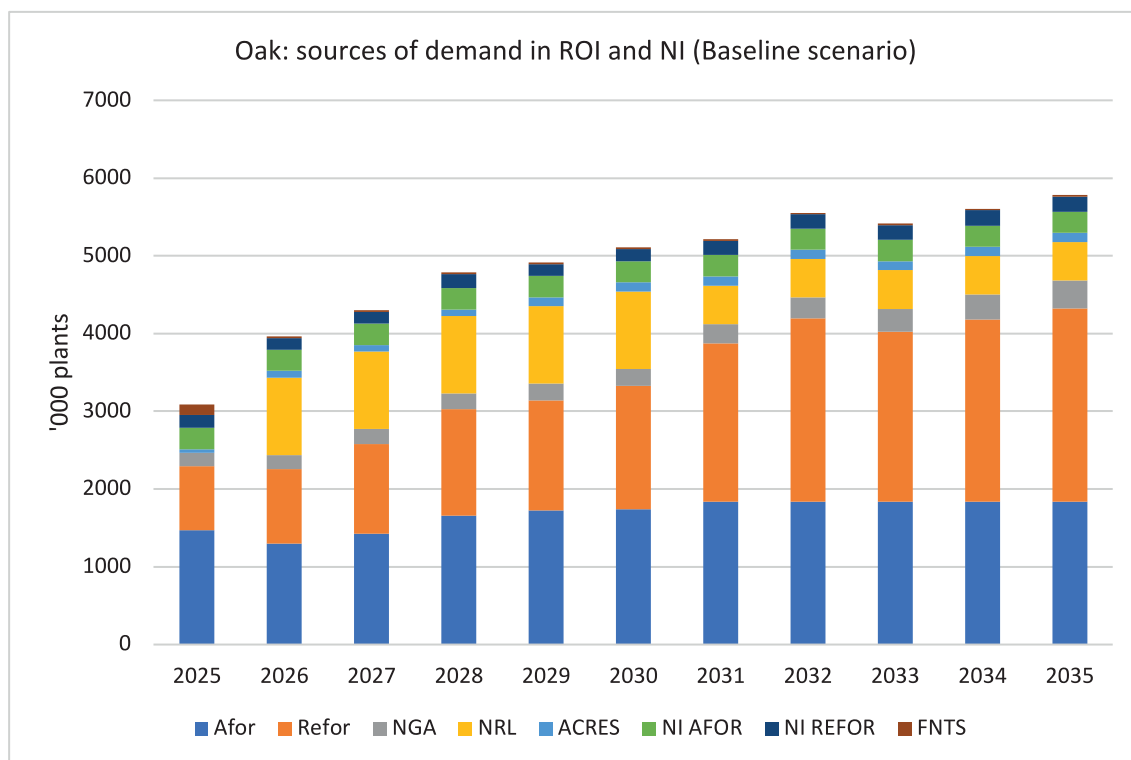
Figure 8: Oak: baseline sources of demand

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
NI REFOR	1,515	1,176	1,203	1,240	1,327	1,185	1,683	2,302	1,979	1,713	1,713
NI AFOR	157	157	157	157	157	157	157	157	157	157	157
ROI REFOR	16,76	17,17	17,64	17,64	18,61	19,30	20,20	21,92	20,83	21,61	22,32
ROI AFOR	1,419	1,256	1,379	1,597	1,665	1,679	1,618	1,618	1,618	1,618	1,618
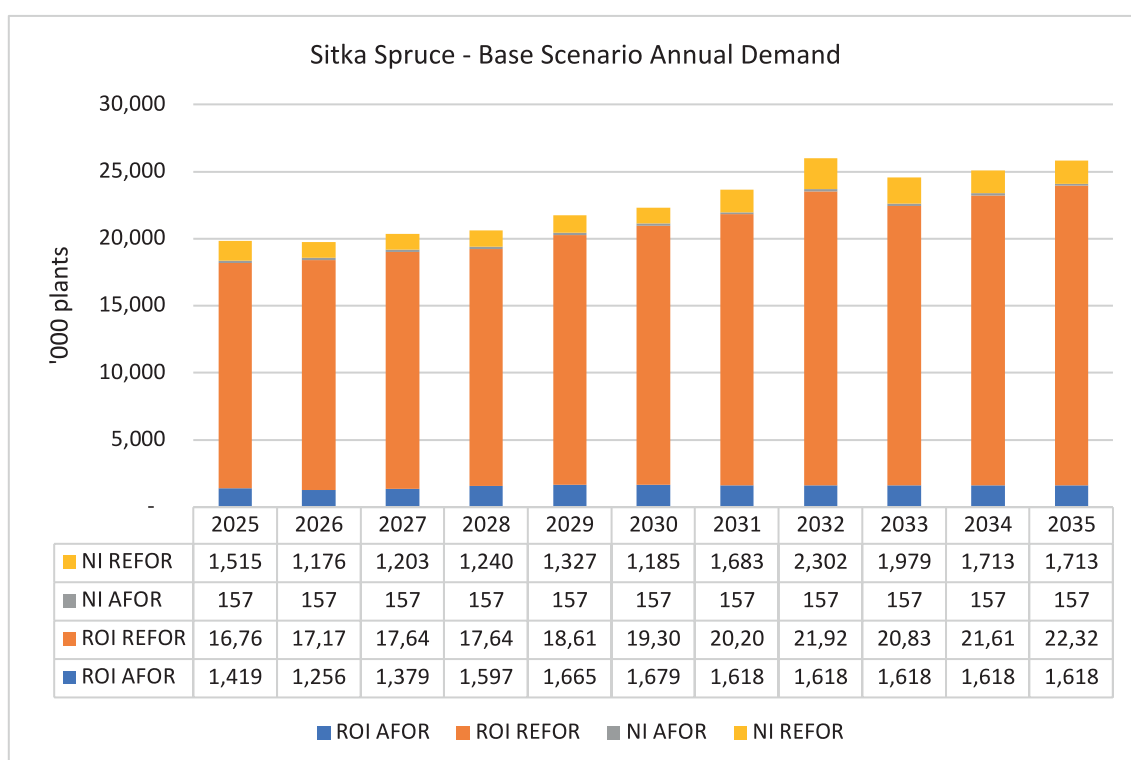
Figure 9: Sitka spruce annual demand - baseline scenario, ROI and NI, by year
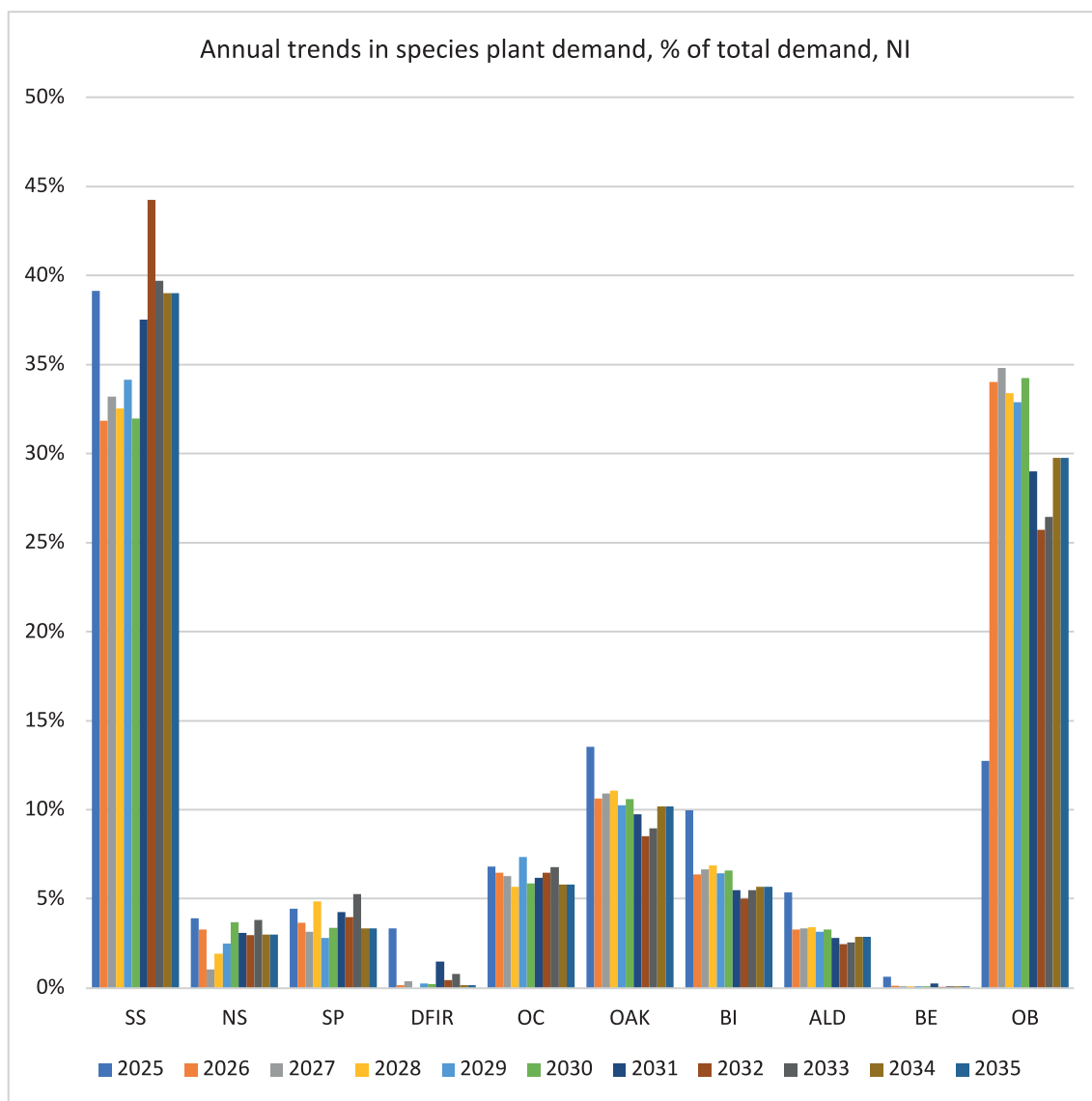
Figure 10: Annual trends in species demand, as a proportion of total plant demand, NI, all categories.

Scenario 2: 50% of Afforestation Policy Achievement

Under this scenario plant demand increases from 34.06 million in 2025 to 55.36 million in 2035 (Table 16). The total plant demand over the period increases by 21.27 million from 492.67 million to 513.94 million or a 4.3% increase over the Baseline. This low degree of increase is not unexpected given that reforestation is the most significant planting category and is unchanged between scenarios. Sitka spruce remains the main species in demand, but its importance is slightly decreased from 50.7% of total demand in the Baseline scenario to 46.01%. The greatest increase is in the demand for oak which increases from a total demand of 53.76 million to 61.59 million plants over the forecast period.

Table 16: Scenario 2 (50% Policy) Plant Demand ('000) Summary

	SS	NS	SP	DFIR	OC	OAK	BI	ALD	BE	OB	All
ROI											
2025	18,188	1,594	638	677	1,384	2,515	1,643	1,528	164	1,700	30,031
2026	18,586	1,654	952	595	1,352	4,352	2,312	2,425	142	2,309	34,677
2027	19,060	1,719	1,019	758	1,331	4,559	2,532	2,610	134	2,326	36,048
2028	19,060	1,599	1,061	782	1,411	4,789	2,652	2,674	138	2,871	37,039
2029	20,033	1,794	1,122	933	1,396	4,874	2,778	2,731	147	4,253	40,061
2030	20,716	2,085	1,189	983	1,431	5,054	2,982	2,857	179	4,339	41,814
2031	21,989	2,322	1,280	1,139	1,528	5,260	3,276	2,943	210	4,507	44,452
2032	23,705	2,616	1,404	1,272	1,566	5,604	3,642	3,194	234	4,651	47,887
2033	22,618	2,469	1,349	1,251	1,486	5,456	3,479	3,093	225	3,839	45,263
2034	23,396	2,616	1,414	1,333	1,488	5,642	3,671	3,235	238	4,670	47,702
2035	24,108	2,754	1,476	1,411	1,489	5,820	3,852	3,367	252	4,746	49,274
NI											
2025	1,634	162	175	144	292	511	390	210	26	482	4,026
2026	1,330	137	152	8	272	440	264	136	6	1,419	4,163
2027	1,357	43	128	16	258	442	270	136	5	1,421	4,075
2028	1,464	93	237	-	245	593	360	181	6	1,544	4,723
2029	1,639	132	187	12	319	715	426	215	8	1,682	5,335
2030	1,544	185	226	9	247	796	469	239	9	1,767	5,489
2031	2,042	182	294	74	304	829	460	239	17	1,752	6,193
2032	2,661	195	306	26	361	824	470	239	9	1,759	6,849
2033	2,338	236	369	43	366	832	487	239	9	1,753	6,672
2034	2,072	175	244	9	279	840	464	239	9	1,756	6,085
2035	2,072	175	244	9	279	840	464	239	9	1,756	6,085
Grand Total											
2025	19,821	1,756	813	821	1,676	3,026	2,033	1,738	190	2,182	34,057
2026	19,916	1,791	1,104	602	1,623	4,791	2,576	2,561	148	3,728	38,840
2027	20,417	1,762	1,147	774	1,588	5,001	2,802	2,746	139	3,747	40,123
2028	20,525	1,692	1,298	782	1,656	5,382	3,012	2,855	144	4,415	41,761
2029	21,672	1,926	1,308	945	1,715	5,588	3,205	2,946	155	5,936	45,397
2030	22,261	2,270	1,415	992	1,677	5,850	3,450	3,096	188	6,106	47,303
2031	24,030	2,504	1,574	1,213	1,832	6,089	3,736	3,181	227	6,259	50,646
2032	26,365	2,810	1,710	1,298	1,927	6,429	4,112	3,433	243	6,410	54,736
2033	24,955	2,705	1,717	1,295	1,852	6,288	3,966	3,332	234	5,592	51,935
2034	25,468	2,791	1,658	1,341	1,766	6,482	4,135	3,473	247	6,426	53,787
2035	26,180	2,929	1,720	1,420	1,768	6,660	4,316	3,605	260	6,502	55,359

The demand by planting category at a country level for Scenario 2 is shown in Table 17 for ROI and in Table 18 for NI.

Table 17: Scenario 2 (50% Policy) Plant Demand ('000) by Planting Category – ROI

		SS	NS	SP	DFIR	OC	OAK	BI	ALD	BE	OB	All
AFOR												
	2025	1,419	244	156	26	99	1,473	371	352	43	640	4,825
	2026	1,416	243	156	26	99	1,470	371	351	43	639	4,813
	2027	1,416	243	156	26	99	1,470	371	351	43	639	4,813
	2028	1,416	243	156	26	99	1,470	371	351	43	639	4,813
	2029	1,416	243	156	26	99	1,470	371	351	43	639	4,813
	2030	1,416	243	156	26	99	1,470	371	351	43	639	4,813
	2031	1,785	328	234	47	177	2,030	504	477	54	879	6,514
	2032	1,785	328	234	47	177	2,030	504	477	54	879	6,514
	2033	1,785	328	234	47	177	2,030	504	477	54	879	6,514
	2034	1,785	328	234	47	177	2,030	504	477	54	879	6,514
	2035	1,785	328	234	47	177	2,030	504	477	54	879	6,514
REFOR												
	2025	16,768	1,350	461	651	1,263	821	1,161	1,115	99	425	24,116
	2026	17,170	1,411	596	569	1,230	954	1,315	1,183	76	440	24,943
	2027	17,644	1,476	662	732	1,208	1,152	1,531	1,367	68	452	26,291
	2028	17,644	1,356	702	756	1,287	1,371	1,642	1,422	70	486	26,738
	2029	18,617	1,551	762	907	1,271	1,416	1,730	1,447	78	556	28,336
	2030	19,300	1,842	828	957	1,304	1,586	1,928	1,572	108	637	30,062
	2031	20,204	1,994	927	1,092	1,322	2,039	2,324	1,927	125	830	32,782
	2032	21,920	2,288	1,048	1,225	1,357	2,359	2,678	2,175	146	961	36,156
	2033	20,833	2,141	989	1,204	1,273	2,185	2,503	2,075	134	889	34,226
	2034	21,611	2,288	1,051	1,286	1,271	2,340	2,679	2,208	144	952	35,831
	2035	22,323	2,426	1,109	1,364	1,269	2,486	2,843	2,336	153	1,012	37,322
NGA												
	2025	-	-	21	-	21	174	87	22	22	87	433
	2026	-	-	22	-	22	182	91	23	23	91	455
	2027	-	-	23	-	23	191	96	24	24	96	477
	2028	-	-	25	-	25	201	100	25	25	100	501
	2029	-	-	26	-	26	211	106	26	26	106	526
	2030	-	-	27	-	27	222	111	28	28	111	553
	2031	-	-	30	-	30	244	122	30	30	122	608
	2032	-	-	33	-	33	268	134	34	34	134	669
	2033	-	-	36	-	36	295	147	37	37	147	736
	2034	-	-	40	-	40	324	162	41	41	162	809
	2035	-	-	44	-	44	357	178	45	45	178	890
NRL												
	2025	-	-	-	-	-	-	-	-	-	-	-
	2026	-	-	178	-	-	1,660	490	796	-	552	3,677
	2027	-	-	178	-	-	1,660	490	796	-	552	3,677
	2028	-	-	178	-	-	1,660	490	796	-	552	3,677
	2029	-	-	178	-	-	1,660	490	796	-	552	3,677
	2030	-	-	178	-	-	1,660	490	796	-	552	3,677
	2031	-	-	89	-	-	830	245	398	-	276	1,838
	2032	-	-	89	-	-	830	245	398	-	276	1,838
	2033	-	-	89	-	-	830	245	398	-	276	1,838
	2034	-	-	89	-	-	830	245	398	-	276	1,838
	2035	-	-	89	-	-	830	245	398	-	276	1,838

	SS	NS	SP	DFIR	OC	OAK	BI	ALD	BE	OB	All
ACRES											
2025	-	-	-	-	-	47	24	39	-	548	658
2026	-	-	-	-	-	86	44	72	-	587	790
2027	-	-	-	-	-	86	44	72	-	587	790
2028	-	-	-	-	-	87	49	81	-	1,093	1,310
2029	-	-	-	-	-	117	82	111	-	2,400	2,710
2030	-	-	-	-	-	117	82	111	-	2,400	2,710
2031	-	-	-	-	-	117	82	111	-	2,400	2,710
2032	-	-	-	-	-	117	82	111	-	2,400	2,710
2033	-	-	-	-	-	116	80	107	-	1,647	1,950
2034	-	-	-	-	-	117	82	111	-	2,400	2,710
2035	-	-	-	-	-	117	82	111	-	2,400	2,710
ROI Total											
2025	18,188	1,594	638	677	1,384	2,515	1,643	1,528	164	1,700	30,031
2026	18,586	1,654	952	595	1,352	4,352	2,312	2,425	142	2,309	34,677
2027	19,060	1,719	1,019	758	1,331	4,559	2,532	2,610	134	2,326	36,048
2028	19,060	1,599	1,061	782	1,411	4,789	2,652	2,674	138	2,871	37,039
2029	20,033	1,794	1,122	933	1,396	4,874	2,778	2,731	147	4,253	40,061
2030	20,716	2,085	1,189	983	1,431	5,054	2,982	2,857	179	4,339	41,814
2031	21,989	2,322	1,280	1,139	1,528	5,260	3,276	2,943	210	4,507	44,452
2032	23,705	2,616	1,404	1,272	1,566	5,604	3,642	3,194	234	4,651	47,887
2033	22,618	2,469	1,349	1,251	1,486	5,456	3,479	3,093	225	3,839	45,263
2034	23,396	2,616	1,414	1,333	1,488	5,642	3,671	3,235	238	4,670	47,702
2035	24,108	2,754	1,476	1,411	1,489	5,820	3,852	3,367	252	4,746	49,274

Table 18: Scenario 2 (50% Policy) Plant Demand ('000) by Planting Category – NI

		SS	NS	SP	DFIR	OC	OAK	BI	ALD	BE	OB	All
AFOR												
	2025	118	17	49	-	-	206	112	59	2	193	758
	2026	154	23	64	-	-	267	146	77	3	251	985
	2027	154	23	64	-	-	267	146	77	3	251	985
	2028	224	33	93	-	-	390	213	112	5	367	1,437
	2029	312	46	130	-	-	541	296	156	6	510	1,997
	2030	359	53	149	-	-	623	340	179	7	586	2,298
	2031	359	53	149	-	-	623	340	179	7	586	2,298
	2032	359	53	149	-	-	623	340	179	7	586	2,298
	2033	359	53	149	-	-	623	340	179	7	586	2,298
	2034	359	53	149	-	-	623	340	179	7	586	2,298
	2035	359	53	149	-	-	623	340	179	7	586	2,298
REFOR												
	2025	1,515	144	125	144	292	170	115	42	24	153	2,725
	2026	1,176	114	88	8	272	152	93	42	3	145	2,093
	2027	1,203	20	64	16	258	154	99	42	2	147	2,005
	2028	1,240	60	144	-	245	183	122	52	2	154	2,201
	2029	1,327	86	57	12	319	152	106	42	2	150	2,253
	2030	1,185	132	76	9	247	152	103	42	2	158	2,106
	2031	1,683	129	145	74	304	186	95	42	10	143	2,810
	2032	2,302	142	156	26	361	180	105	42	2	150	3,466
	2033	1,979	183	220	43	366	189	121	42	2	144	3,289
	2034	1,713	122	95	9	279	196	98	42	2	147	2,702
	2035	1,713	122	95	9	279	196	98	42	2	147	2,702
FNTS												
	2025	-	-	-	-	-	136	163	109	-	136	543
	2026	-	-	-	-	-	21	25	17	-	1,023	1,085
	2027	-	-	-	-	-	21	25	17	-	1,023	1,085
	2028	-	-	-	-	-	21	25	17	-	1,023	1,085
	2029	-	-	-	-	-	21	25	17	-	1,023	1,085
	2030	-	-	-	-	-	21	25	17	-	1,023	1,085
	2031	-	-	-	-	-	21	25	17	-	1,023	1,085
	2032	-	-	-	-	-	21	25	17	-	1,023	1,085
	2033	-	-	-	-	-	21	25	17	-	1,023	1,085
	2034	-	-	-	-	-	21	25	17	-	1,023	1,085
	2035	-	-	-	-	-	21	25	17	-	1,023	1,085
NI Total												
	2025	1,634	162	175	144	292	511	390	210	26	482	4,026
	2026	1,330	137	152	8	272	440	264	136	6	1,419	4,163
	2027	1,357	43	128	16	258	442	270	136	5	1,421	4,075
	2028	1,464	93	237	-	245	593	360	181	6	1,544	4,723
	2029	1,639	132	187	12	319	715	426	215	8	1,682	5,335
	2030	1,544	185	226	9	247	796	469	239	9	1,767	5,489
	2031	2,042	182	294	74	304	829	460	239	17	1,752	6,193
	2032	2,661	195	306	26	361	824	470	239	9	1,759	6,849
	2033	2,338	236	369	43	366	832	487	239	9	1,753	6,672
	2034	2,072	175	244	9	279	840	464	239	9	1,756	6,085
	2035	2,072	175	244	9	279	840	464	239	9	1,756	6,085

Table 19 provides an estimate of seed demand under Scenario 2 for selected species ("OC" and "OB" are excluded). The increases are most notable for oak with other increases in line with overall plant demand.

Table 19: Scenario 2 (50% Policy) Estimated Seed Demand for Selected Species (kg)

	SS	NS	SP	DFIR	OAK	BI	ALD	BE	Total
ROI									
2025	182	48	19	27	31,437	33	46	205	3,271
2026	186	50	29	24	54,396	46	73	177	5,940
2027	191	52	31	30	56,987	51	78	168	6,201
2028	191	48	32	31	59,861	53	80	173	6,593
2029	200	54	34	37	60,923	56	82	184	6,976
2030	207	63	36	39	63,174	60	86	223	7,222
2031	220	70	38	46	65,750	66	88	262	7,378
2032	237	78	42	51	70,055	73	96	292	7,813
2033	226	74	40	50	68,197	70	93	281	7,490
2034	234	78	42	53	70,524	73	97	298	7,860
2035	241	83	44	56	72,750	77	101	314	8,084
NI									
2025	16	5	5	6	6,389	8	6	33	643
2026	13	4	5	0	5,496	5	4	8	552
2027	14	1	4	1	5,527	5	4	6	555
2028	15	3	7	-	7,415	7	5	8	744
2029	16	4	6	0	8,933	9	6	10	897
2030	15	6	7	0	9,947	9	7	11	998
2031	20	5	9	3	10,368	9	7	22	1,041
2032	27	6	9	1	10,302	9	7	11	1,035
2033	23	7	11	2	10,406	10	7	11	1,045
2034	21	5	7	0	10,497	9	7	11	1,054
2035	21	5	7	0	10,497	9	7	11	1,054
Total									
2025	198	53	24	33	37,826	41	52	238	3,914
2026	199	54	33	24	59,892	52	77	185	6,492
2027	204	53	34	31	62,514	56	82	174	6,755
2028	205	51	39	31	67,276	60	86	180	7,337
2029	217	58	39	38	69,856	64	88	194	7,873
2030	223	68	42	40	73,121	69	93	235	8,220
2031	240	75	47	49	76,119	75	95	284	8,419
2032	264	84	51	52	80,357	82	103	303	8,848
2033	250	81	52	52	78,602	79	100	292	8,535
2034	255	84	50	54	81,020	83	104	309	8,913
2035	262	88	52	57	83,246	86	108	326	9,138

Hedging / minor species seed demand is unchanged as these have not been altered from the baseline scenario.

Scenario 3: 100% of Afforestation Policy Achievement

This is the most optimistic scenario and sees annual plant demand increase from 34.81 million in 2025 to 66.01 million in 2035 (Table 20). The total plant demand increases by 125.43 million from 492.67 million to 618.10 million or a 25.5% increase. Sitka spruce remains the main species in demand, but its importance is slightly decreased from 50.7% of total demand in the Baseline scenario to 43.8%. The greatest plant demand increase is for oak which increases by 43.19 million to an overall total of 96.95 million plants over the forecast period.

Table 20: Scenario 3 (100% Policy) Plant Demand ('000) Summary

	SS	NS	SP	DFIR	OC	OAK	BI	ALD	BE	OB	All
ROI Total											
2025	18,188	1,594	638	677	1,384	2,515	1,643	1,528	164	1,700	30,031
2026	20,002	1,897	1,286	621	1,451	7,482	3,173	3,572	185	3,501	43,167
2027	20,476	1,962	1,353	784	1,430	7,689	3,393	3,756	177	3,517	44,538
2028	20,476	1,842	1,394	808	1,510	7,919	3,513	3,821	181	4,062	45,528
2029	21,449	2,037	1,455	959	1,495	8,004	3,639	3,878	190	5,445	48,551
2030	22,132	2,328	1,523	1,009	1,530	8,184	3,843	4,004	222	5,530	50,304
2031	23,774	2,650	1,603	1,186	1,705	8,120	4,024	3,817	264	5,662	52,805
2032	25,490	2,944	1,727	1,319	1,742	8,465	4,391	4,068	288	5,806	56,239
2033	24,403	2,797	1,672	1,298	1,662	8,316	4,228	3,967	279	4,994	53,616
2034	25,181	2,944	1,737	1,380	1,664	8,502	4,420	4,109	293	5,825	56,055
2035	25,893	3,082	1,799	1,458	1,666	8,680	4,601	4,241	306	5,901	57,626
NI											
2025	1,752	179	224	144	292	717	502	269	29	676	4,784
2026	1,484	159	216	8	272	707	410	213	9	1,670	5,147
2027	1,511	66	192	16	258	709	416	213	8	1,672	5,060
2028	1,689	126	331	-	245	983	572	293	11	1,910	6,159
2029	1,951	178	317	12	319	1,256	722	371	14	2,192	7,332
2030	1,903	237	375	9	247	1,419	809	418	16	2,353	7,787
2031	2,401	235	444	74	304	1,453	801	418	25	2,339	8,491
2032	3,020	247	455	26	361	1,447	810	418	16	2,345	9,146
2033	2,697	289	518	43	366	1,456	827	418	16	2,340	8,969
2034	2,431	227	394	9	279	1,463	804	418	16	2,342	8,383
2035	2,431	227	394	9	279	1,463	804	418	16	2,342	8,383
Grand Total											
2025	19,940	1,773	862	821	1,676	3,232	2,146	1,797	193	2,376	34,815
2026	21,485	2,056	1,502	628	1,723	8,189	3,583	3,785	194	5,171	48,314
2027	21,987	2,028	1,544	800	1,688	8,398	3,809	3,969	185	5,189	49,597
2028	22,165	1,968	1,725	808	1,755	8,902	4,085	4,114	192	5,973	51,687
2029	23,400	2,215	1,772	971	1,815	9,260	4,361	4,249	204	7,637	55,883
2030	24,036	2,565	1,898	1,018	1,776	9,603	4,651	4,422	238	7,883	58,090
2031	26,174	2,885	2,047	1,259	2,008	9,573	4,825	4,235	288	8,001	61,296
2032	28,509	3,191	2,183	1,345	2,103	9,912	5,201	4,486	304	8,151	65,386
2033	27,099	3,086	2,190	1,341	2,028	9,772	5,055	4,385	295	7,333	62,585
2034	27,612	3,172	2,131	1,388	1,943	9,965	5,224	4,527	309	8,168	64,437
2035	28,324	3,310	2,192	1,466	1,944	10,143	5,405	4,659	322	8,243	66,009

The demand by planting category at a country level for Scenario 3 is shown in Table 21 for ROI and in Table 22 for NI.

Table 21: Scenario 3 (100% Policy) Plant Demand ('000) by Planting Category – ROI

	SS	NS	SP	DFIR	OC	OAK	BI	ALD	BE	OB	All
AFOR											
2025	1,419	244	156	26	99	1,473	371	352	43	640	4,825
2026	2,832	486	311	52	198	2,940	741	702	86	1,278	9,626
2027	2,832	486	311	52	198	2,940	741	702	86	1,278	9,626
2028	2,832	486	311	52	198	2,940	741	702	86	1,278	9,626
2029	2,832	486	311	52	198	2,940	741	702	86	1,278	9,626
2030	2,832	486	311	52	198	2,940	741	702	86	1,278	9,626
2031	3,570	656	468	94	353	4,061	1,007	953	108	1,758	13,028
2032	3,570	656	468	94	353	4,061	1,007	953	108	1,758	13,028
2033	3,570	656	468	94	353	4,061	1,007	953	108	1,758	13,028
2034	3,570	656	468	94	353	4,061	1,007	953	108	1,758	13,028
2035	3,570	656	468	94	353	4,061	1,007	953	108	1,758	13,028
REFOR											
2025	16,768	1,350	461	651	1,263	821	1,161	1,115	99	425	24,116
2026	17,170	1,411	596	569	1,230	954	1,315	1,183	76	440	24,943
2027	17,644	1,476	662	732	1,208	1,152	1,531	1,367	68	452	26,291
2028	17,644	1,356	702	756	1,287	1,371	1,642	1,422	70	486	26,738
2029	18,617	1,551	762	907	1,271	1,416	1,730	1,447	78	556	28,336
2030	19,300	1,842	828	957	1,304	1,586	1,928	1,572	108	637	30,062
2031	20,204	1,994	927	1,092	1,322	2,039	2,324	1,927	125	830	32,782
2032	21,920	2,288	1,048	1,225	1,357	2,359	2,678	2,175	146	961	36,156
2033	20,833	2,141	989	1,204	1,273	2,185	2,503	2,075	134	889	34,226
2034	21,611	2,288	1,051	1,286	1,271	2,340	2,679	2,208	144	952	35,831
2035	22,323	2,426	1,109	1,364	1,269	2,486	2,843	2,336	153	1,012	37,322
NGA											
2025	-	-	21	-	21	174	87	22	22	87	433
2026	-	-	22	-	22	182	91	23	23	91	455
2027	-	-	23	-	23	191	96	24	24	96	477
2028	-	-	25	-	25	201	100	25	25	100	501
2029	-	-	26	-	26	211	106	26	26	106	526
2030	-	-	27	-	27	222	111	28	28	111	553
2031	-	-	30	-	30	244	122	30	30	122	608
2032	-	-	33	-	33	268	134	34	34	134	669
2033	-	-	36	-	36	295	147	37	37	147	736
2034	-	-	40	-	40	324	162	41	41	162	809
2035	-	-	44	-	44	357	178	45	45	178	890
NRL											
2025	-	-	-	-	-	-	-	-	-	-	-
2026	-	-	356	-	-	3,320	981	1,591	-	1,105	7,354
2027	-	-	356	-	-	3,320	981	1,591	-	1,105	7,354
2028	-	-	356	-	-	3,320	981	1,591	-	1,105	7,354
2029	-	-	356	-	-	3,320	981	1,591	-	1,105	7,354
2030	-	-	356	-	-	3,320	981	1,591	-	1,105	7,354
2031	-	-	178	-	-	1,660	490	796	-	552	3,677
2032	-	-	178	-	-	1,660	490	796	-	552	3,677
2033	-	-	178	-	-	1,660	490	796	-	552	3,677
2034	-	-	178	-	-	1,660	490	796	-	552	3,677
2035	-	-	178	-	-	1,660	490	796	-	552	3,677

	SS	NS	SP	DFIR	OC	OAK	BI	ALD	BE	OB	All
ACRES											
2025	-	-	-	-	-	47	24	39	-	548	658
2026	-	-	-	-	-	86	44	72	-	587	790
2027	-	-	-	-	-	86	44	72	-	587	790
2028	-	-	-	-	-	87	49	81	-	1,093	1,310
2029	-	-	-	-	-	117	82	111	-	2,400	2,710
2030	-	-	-	-	-	117	82	111	-	2,400	2,710
2031	-	-	-	-	-	117	82	111	-	2,400	2,710
2032	-	-	-	-	-	117	82	111	-	2,400	2,710
2033	-	-	-	-	-	116	80	107	-	1,647	1,950
2034	-	-	-	-	-	117	82	111	-	2,400	2,710
2035	-	-	-	-	-	117	82	111	-	2,400	2,710
ROI Total											
2025	18,188	1,594	638	677	1,384	2,515	1,643	1,528	164	1,700	30,031
2026	20,002	1,897	1,286	621	1,451	7,482	3,173	3,572	185	3,501	43,167
2027	20,476	1,962	1,353	784	1,430	7,689	3,393	3,756	177	3,517	44,538
2028	20,476	1,842	1,394	808	1,510	7,919	3,513	3,821	181	4,062	45,528
2029	21,449	2,037	1,455	959	1,495	8,004	3,639	3,878	190	5,445	48,551
2030	22,132	2,328	1,523	1,009	1,530	8,184	3,843	4,004	222	5,530	50,304
2031	23,774	2,650	1,603	1,186	1,705	8,120	4,024	3,817	264	5,662	52,805
2032	25,490	2,944	1,727	1,319	1,742	8,465	4,391	4,068	288	5,806	56,239
2033	24,403	2,797	1,672	1,298	1,662	8,316	4,228	3,967	279	4,994	53,616
2034	25,181	2,944	1,737	1,380	1,664	8,502	4,420	4,109	293	5,825	56,055
2035	25,893	3,082	1,799	1,458	1,666	8,680	4,601	4,241	306	5,901	57,626

Table 22: Scenario 3 (100% Policy) Plant Demand ('000) by Planting Category – NI

	SS	NS	SP	DFIR	OC	OAK	BI	ALD	BE	OB	All
AFOR											
2025	237	35	99	-	-	411	225	118	5	387	1,516
2026	308	45	128	-	-	534	292	154	6	503	1,969
2027	308	45	128	-	-	534	292	154	6	503	1,969
2028	449	66	187	-	-	779	425	224	9	733	2,873
2029	624	92	260	-	-	1,083	591	312	13	1,019	3,993
2030	718	106	299	-	-	1,246	681	359	14	1,173	4,595
2031	718	106	299	-	-	1,246	681	359	14	1,173	4,595
2032	718	106	299	-	-	1,246	681	359	14	1,173	4,595
2033	718	106	299	-	-	1,246	681	359	14	1,173	4,595
2034	718	106	299	-	-	1,246	681	359	14	1,173	4,595
2035	718	106	299	-	-	1,246	681	359	14	1,173	4,595
REFOR											
2025	1,515	144	125	144	292	170	115	42	24	153	2,725
2026	1,176	114	88	8	272	152	93	42	3	145	2,093
2027	1,203	20	64	16	258	154	99	42	2	147	2,005
2028	1,240	60	144	-	245	183	122	52	2	154	2,201
2029	1,327	86	57	12	319	152	106	42	2	150	2,253
2030	1,185	132	76	9	247	152	103	42	2	158	2,106
2031	1,683	129	145	74	304	186	95	42	10	143	2,810
2032	2,302	142	156	26	361	180	105	42	2	150	3,466
2033	1,979	183	220	43	366	189	121	42	2	144	3,289
2034	1,713	122	95	9	279	196	98	42	2	147	2,702
2035	1,713	122	95	9	279	196	98	42	2	147	2,702
FNTS											
2025	-	-	-	-	-	136	163	109	-	136	543
2026	-	-	-	-	-	21	25	17	-	1,023	1,085
2027	-	-	-	-	-	21	25	17	-	1,023	1,085
2028	-	-	-	-	-	21	25	17	-	1,023	1,085
2029	-	-	-	-	-	21	25	17	-	1,023	1,085
2030	-	-	-	-	-	21	25	17	-	1,023	1,085
2031	-	-	-	-	-	21	25	17	-	1,023	1,085
2032	-	-	-	-	-	21	25	17	-	1,023	1,085
2033	-	-	-	-	-	21	25	17	-	1,023	1,085
2034	-	-	-	-	-	21	25	17	-	1,023	1,085
2035	-	-	-	-	-	21	25	17	-	1,023	1,085
NI Total											
2025	1,752	179	224	144	292	717	502	269	29	676	4,784
2026	1,484	159	216	8	272	707	410	213	9	1,670	5,147
2027	1,511	66	192	16	258	709	416	213	8	1,672	5,060
2028	1,689	126	331	-	245	983	572	293	11	1,910	6,159
2029	1,951	178	317	12	319	1,256	722	371	14	2,192	7,332
2030	1,903	237	375	9	247	1,419	809	418	16	2,353	7,787
2031	2,401	235	444	74	304	1,453	801	418	25	2,339	8,491
2032	3,020	247	455	26	361	1,447	810	418	16	2,345	9,146
2033	2,697	289	518	43	366	1,456	827	418	16	2,340	8,969
2034	2,431	227	394	9	279	1,463	804	418	16	2,342	8,383
2035	2,431	227	394	9	279	1,463	804	418	16	2,342	8,383

Table 23 provides an estimate of seed demand under Scenario 3 for selected species ("OC" and "OB" are excluded). The increases are most notable for oak with other increases in line with overall plant demand.

Table 23: Scenario 3 (100% Policy) Estimated Seed Demand for Selected Species (kg)

		SS	NS	SP	DFIR	OAK	BI	ALD	BE	Total
ROI										
	2025	182	48	19	27	31,437	33	46	205	31,997
	2026	200	57	39	25	93,522	63	107	231	94,244
	2027	205	59	41	31	96,113	68	113	222	96,851
	2028	205	55	42	32	98,987	70	115	226	99,732
	2029	214	61	44	38	100,049	73	116	237	100,834
	2030	221	70	46	40	102,300	77	120	277	103,151
	2031	238	80	48	47	101,506	80	115	330	102,444
	2032	255	88	52	53	105,810	88	122	360	106,828
	2033	244	84	50	52	103,952	85	119	349	104,934
	2034	252	88	52	55	106,279	88	123	366	107,304
	2035	259	92	54	58	108,505	92	127	382	109,570
NI										
	2025	18	5	7	6	8,960	10	8	36	9,049
	2026	15	5	6	0	8,834	8	6	12	8,887
	2027	15	2	6	1	8,865	8	6	10	8,913
	2028	17	4	10	-	12,285	11	9	13	12,349
	2029	20	5	10	0	15,701	14	11	18	15,779
	2030	19	7	11	0	17,736	16	13	20	17,822
	2031	24	7	13	3	18,157	16	13	31	18,263
	2032	30	7	14	1	18,091	16	13	20	18,192
	2033	27	9	16	2	18,194	17	13	20	18,296
	2034	24	7	12	0	18,285	16	13	20	18,377
	2035	24	7	12	0	18,285	16	13	20	18,377
Total										
	2025	199	53	26	33	40,397	43	54	241	41,046
	2026	215	62	45	25	102,356	72	114	242	103,131
	2027	220	61	46	32	104,978	76	119	231	105,763
	2028	222	59	52	32	111,272	82	123	240	112,081
	2029	234	66	53	39	115,750	87	127	255	116,613
	2030	240	77	57	41	120,036	93	133	297	120,974
	2031	262	87	61	50	119,663	97	127	361	120,707
	2032	285	96	65	54	123,901	104	135	380	125,020
	2033	271	93	66	54	122,146	101	132	369	123,231
	2034	276	95	64	56	124,564	104	136	386	125,681
	2035	283	99	66	59	126,790	108	140	402	127,947

Hedging / minor species seed demand is unchanged as these have not been altered from the baseline scenario.

Scenario synopsis

A summary of the comparison between the three Scenarios is provided in Table 24 at a species and territory level. Variances may be interpreted with the aid of colour coding from red (limited quantum difference) to deep green (greatest difference).

Table 24: Scenarios Summary Comparison ('000 plants) 2025-2035 totals

Scenario	Territory	SS	NS	SP	DFIR	OC	OAK	BI	ALD	BE	OB	Total
Baseline	ROI	231,117	23,153	12,311	11,122	15,812	48,506	31,241	28,168	2,051	38,365	441,847
	NI	18,766	1,509	1,985	348	3,220	5,256	3,209	1,617	86	14,827	50,821
	Total	249,883	24,662	14,296	11,470	19,032	53,762	34,451	29,785	2,137	53,192	492,668
50% Policy	ROI	231,458	23,222	12,901	11,134	15,860	53,924	32,819	30,656	2,062	40,211	454,248
	NI	20,152	1,713	2,562	348	3,220	7,662	4,523	2,310	114	17,092	59,695
	Total	251,611	24,935	15,463	11,482	19,080	61,586	37,342	32,966	2,176	57,302	513,943
100% Policy	ROI	247,463	26,078	16,187	11,499	17,239	83,877	40,867	40,761	2,547	51,943	538,460
	NI	23,269	2,171	3,859	348	3,220	13,071	7,477	3,868	176	22,182	79,641
	Total	270,732	28,249	20,046	11,847	20,459	96,948	48,344	44,629	2,723	74,125	618,101
Variance Baseline vs 50% Policy	ROI	342	69	590	13	48	5,418	1,578	2,488	10	1,846	12,401
	NI	1,386	204	577	-	-	2,407	1,314	693	28	2,265	8,874
	Total	1,728	273	1,167	13	48	7,825	2,892	3,181	38	4,110	21,275
Variance Baseline vs 100% Policy	ROI	16,346	2,924	3,875	377	1,427	35,371	9,626	12,593	496	13,578	96,613
	NI	4,503	662	1,875	-	-	7,816	4,268	2,251	90	7,355	28,820
	Total	20,849	3,587	5,750	377	1,427	43,187	13,894	14,844	586	20,933	125,433

Table 25 and Table 26 show the relative importance for the five planting categories under the Baseline and 100% policy achievement scenarios respectively. With increasing levels of policy achievement, the relative importance of reforestation as a driver of demand decreases,

Table 25: Baseline Scenario - Impact by Planting Type

	RO1		NI		Overall	
Planting Type	Plants ('000)		Plants ('000)		Plants ('000)	
Afforestation	60,090	13.6%	11,072	22%	71,162	14%
Reforestation	336,802	76.2%	28,353	56%	365,155	74%
Agri-environmental	21,753	4.9%	11,396	22%	33,149	7%
NRL	16,546	3.7%		0%	16,546	3%
NGA	6,656	1.5%		0%	6,656	1%
Totals	441,847	100.0%	50,821	100%	492,668	100%

Table 26: 100% Afforestation Policy Achievement - Impact by Planting Type

	RO1		NI		Overall	
Planting Type	Plants ('000)		Plants ('000)		Plants ('000)	
Afforestation	118,096	22%	39,892	50%	157,988	26%
Reforestation	336,802	63%	28,353	36%	365,155	59%
Agri-environmental	21,753	4%	11,396	14%	33,149	5%
NRL	55,153	10%			55,153	9%
NGA	6,656	1%			6,656	1%
Totals	538,460	100.0%	79,641	157%	618,101	100%
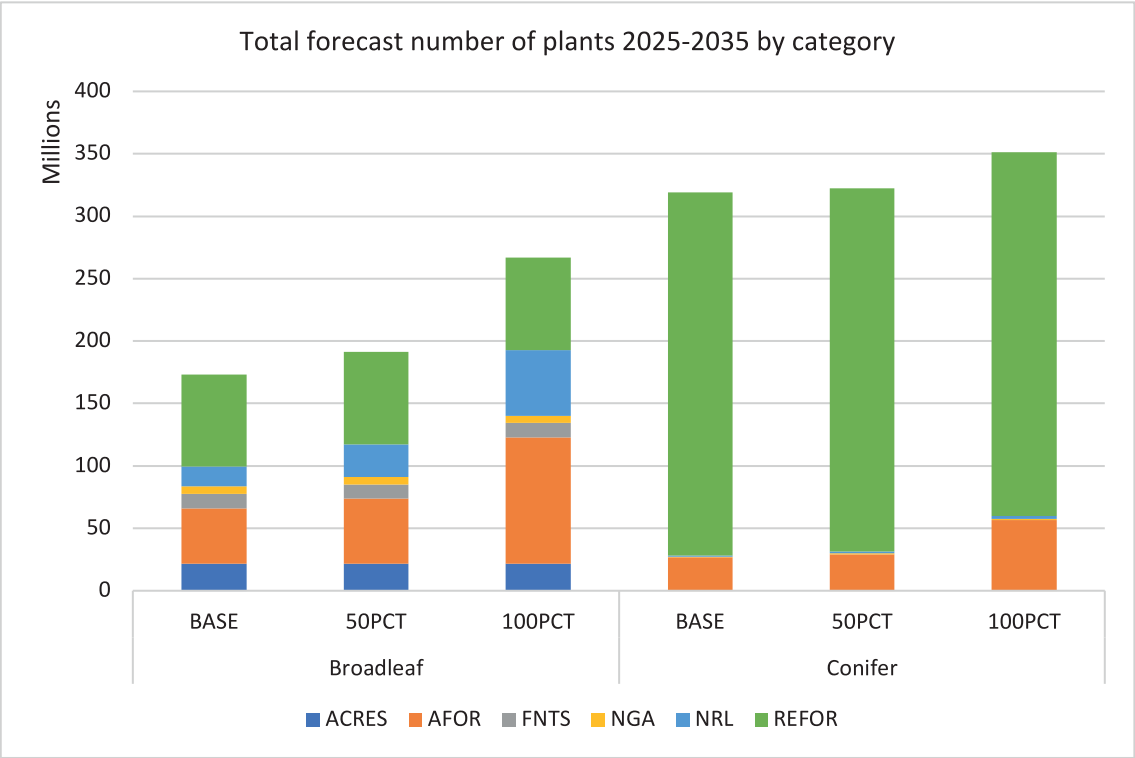
Figure 11: Total number of plants, by scenario, between broadleaf and conifer (2025-2035)

Discussion

The forecast methodology and results raise a number of issues which are worth highlighting and expanding upon for the benefit of all stakeholders in the forestry sector including nurseries, forest companies, forest owners and policy makers.

The FRM forecast is intended to improve industry decision making and is based on a model of demand with a number of inputs and assumptions. A forecast is a systematic estimate of future quantities, events or conditions based on the analysis of historical data, current trends and other relevant information. The FRM forecast provides an estimate of the demand for a range of tree species across the varying planting types – afforestation, reforestation, non-grant aided planting and agri-environmental schemes. The aim of the forecast is to reduce uncertainty and support decision-making by providing the best estimate of future demand, thus minimising operational, financial, investment and other risks.

The model inputs and assumptions are subject to considerable uncertainty. While past forecasts relating to forestry in Ireland, such as the All-Ireland Roundwood Production Forecast have proven to be accurate, evidence collected while compiling this forecast indicates that FRM demand is considerably less predictable. This is caused by uncertainty around several of the main input parameters including future levels of afforestation; the impact of the Nature Restoration Law on planting; and the extent and scope of future agri-environmental schemes. The profile of grant-assisted afforestation land is changing too, with more fertile sites allowing the use of a wider range of species and a higher proportion broadleaf trees. There is the further complication of predicting the species mix for the varying planting types and how demand and the availability of seed may interact over time. To dispel some of this uncertainty the industry surveys conducted in support of the FRM forecast provided some key sectoral insights on expected future afforestation levels, species mix, and other parameters used by the model. However, historical records and variability in Company and Individual survey responses demonstrate a high degree of uncertainty around future afforestation levels and a significant gap between the views of the sector expressed through the survey and government policy targets for both ROI and NI.

A baseline scenario and two further scenarios were developed to reflect different levels of afforestation policy achievement with the final interpretation of the forecast left to the user of this document. Under circumstances of considerable uncertainty around demand it was considered prudent to develop two scenarios based on varying degrees of policy target achievement, in addition to a Baseline or "Business as Usual" scenario. The additional scenarios reflect a 50% and 100% achievement of government policy in ROI and NI. Achieving a level of demand equivalent to 50% of policy targets is likely to require at least moderate interventions on behalf of policy makers in the form of a restructuring and refocusing of the range of policy implementation tools - financial, regulatory, institutional/capacity, and market-based and would require a lead-in time and a co-ordinated approach. The scenario of 100% policy achievement would require something approaching transformational change around the overall policy approach to afforestation and species mix across all planting types. The users of this forecast are advised to use their own judgement as to the likelihood of any one of the three scenarios arising. The planned analysis of supply may also shed light on the practical feasibility of these demand scenarios.

Components of the forecast vary according to their uncertainty and between territories. Notwithstanding the high degree of uncertainty around afforestation, the Nature Restoration Law and the agri-environmental schemes, the more stable source of demand in the form of reforestation dominates the forecast of demand in ROI (76%) and NI (56%) (Table 25). This provides some degree of comfort in the forecast estimates as there is a high degree of confidence in the reforestation areas and the species mix in reforestation in both ROI and NI. Afforestation accounts for 14.4% of estimated demand in the All-Ireland context, ranging from 22% in NI to 13.6% in ROI. There is a significant difference in the effect of the agri-environmental schemes on overall demand between ROI (5%) and NI (22%) which reflects historically higher proportions of demand form this source in NI. The NRL planting represents 3.75% of plant demand in ROI. However, due to its species composition being predominantly oak it has a disproportionate impact on the demand for this species. Under the 100% policy achievement scenario, the impact of reforestation on total demand decreases to 59% (Table 26) being 63% in ROI and 36% in NI. The impact of afforestation almost doubles to 26% with knock-on implications for species demand especially broadleaf species.

At increasing level of policy achievement, clarity on species mix is even more critical. With increasing levels of policy achievement there is an accompanying requirement to have more certainty around the species mix used in afforestation and NRL planting due to their increasing influence on demand. The

FRM forecast relies on the analysis of previous afforestation mixtures to provide estimates for future afforestation but there is limited information on implementing the latest range of forest types under the ROI afforestation programme and no information as yet on the detailed species requirements for NRL planting. This places an increasing degree of uncertainty around species requirements under increasing policy achievement. If, however, the range of eligible species or number of planting types was reduced, then this would in theory provide a greater degree of confidence in the species estimates. Conversely, allowing a greater range of species and sources for any given forest type would also introduce more substitution and reduce the impact of poor predictability at the individual species level. Given the focus of forest policy on increasing the proportion of broadleaves and to greater species diversity (to increase resilience to future climate change), diversity, rather than species-based targets may be appropriate.

Demand for oak is projected to rise significantly. One of the main features of the FRM forecast, irrespective of the scenario, is the increasing demand for broadleaf species over the period of the forecast, and in particular sessile and pedunculate oak. While the devastating effects of ash dieback continue, oak is now seen as Ireland's key native broadleaf for afforestation. Under the baseline scenario overall demand for oak almost doubles from 3.1 million annually to 5.79 million at 2035. Under Scenario 3 (100% of afforestation policy) annual demand rises to 10.1 million oak plants by 2035 (equivalent to over 128 tonnes of acorns).

Any analysis of supply will need to focus on sourcing of oak FRM. Producing oak seed in Ireland faces several significant challenges, leading to consistent shortfalls in supply and a reliance on imports to supplement indigenous sources. These challenges are multifaceted and include environmental, biological, and logistical issues (COFORD, 2020[11] Felton, 2024[12]). The importance of understanding the true levels of oak seed supply and demand will rise in importance as NRL planting begins, given the anticipated target for restoration of sessile oak woodlands. If the NRL has a requirement for indigenous seed sources, then it is likely that the baseline figure identified in scenario 1 will not be achieved, let alone scenarios 2 and 3. The COFORD report[9] recommends that the level of seed production from indigenous seed stands should be increased, the selection and breeding of oak should continue, and seed orchards established. The results of the FRM forecast further informs and underlines the importance of these recommendations.

Sitka spruce demand continues to grow, driven largely by reforestation. The baseline demand for Sitka spruce is forecast to grow from a level of 19.9 million in 2025 to 25.8 million in 2035, with 96.7% of that growth attributable to increased reforestation due to increased clearcutting and the age structure of the forest estate. However, if policy targets are achieved there will be competition for nursery capacity to reach these targets using broadleaves and depending on the degree to which the nursery capacity expands and the relative financial and other incentives on offer, may in some cases lead to forest owners altering their felling decisions or approach to silviculture by, for example, switching to continuous cover methods.

Given the forecast uncertainty, continuous annual reporting on trends in demand will be crucial. With reforestation as the prime driver of demand and afforestation a key source of uncertainty in the forecast, regular reporting by the nursery sector on planning and production levels will aid adaptation to emerging trends in demand. On the upstream side, key information sources will be felling licence and grant approvals, where trends in species choice are revealed. The early years of this forecast will mark a transition in ROI to new Forest Categories and the adoption of NRL and in NI, the adoption of ambitious new agri-environmental scheme targets; sharing of information on species mix and scale of demand will be even more important during this phase.

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[11] COFORD, 2020. Sustainable Development and Conservation of Forest Genetic Resources 2020-2030. COFORD, Kildare St. Dublin 2.

[12] Felton, D. 2024. COFORD, 2020. Sustainable Development and Conservation of Forest Genetic Resources 2020-2030. COFORD, Kildare St. Dublin 2.

Appendix 1 – Excel Model and Results Workbook

Development of a demand model

This end-user tool was developed in MS Excel to incorporate the different categories of planting, range of species, planting parameters and levels of planting. A prototype demand model was developed which comprised four components:

Data worksheet which collates all of model inputs into a format suitable for subsequent analysis. It holds data relating to planting areas, species mix, planting category.

1. **Look up tables** which provide the default areas for planting, the species mix for each forest type, the species mix for non-grant aided planting, and the species mix for reforestation for both ROI and NI.

2. **Pivot table**[13] **worksheet** which contains all of the data in a summary format by scenario and planting category.

3. **Output tables –** a series of fifteen worksheets which provide the estimated plant demand by species, planting category, location and year and the planting area by year.

Table 27: Model Result/Output Tables

Geographic area	Description	UNITS	FORMATTED	Link to Sheet
ALL	Areas, as per survey & scenarios. ACRES and NGA area is indicative only and based on total seedlings and a set conversion ratio of 3,333 trees per hectare.	Hectares	YES	p1a - GROSS AREA'!A1
ALL	As above, with area adjusted for affor and refor % unplanted areas as per survey. ACRES and NGA area is indicative only and based on total seedlings and a set conversion ratio of 3,333 trees per hectare.	Hectares	YES	p1b - NET AREA'!A1
ALL	Seedling demand, '000 by all sub-categories	000 Seedlings	YES	p2a - ALL SEEDLING'!A1
ALL	Seedling demand, '000 by type (AFOR,REFOR,NRL,ACRES,NGA)	000 Seedlings	YES	p2b - ALL x TYPE'!A1
ALL	Seedling demand, '000 by SCENARIO	000 Seedlings		p2c - ALL x SCENARIO'!A1
ALL	Seedling demand, '000 by SCENARIO full detail	000 Seedlings		p2d - DETAIL x SCENARIO'!A1
ROI	Seedling demand, '000 for ROI full detail	000 Seedlings		p3a - ROI SEED'!A1
ROI	Seedling demand, '000 for ROI by forest / non-forest	000 Seedlings		p3b - ROI SEED X FOREST'!A1
ROI	Seedling demand, '000 for ROI by forest type	000 Seedlings		p3c - ROI SEED x TYPE'!A1
ROI	Seedling demand, '000 for ROI - forest only	000 Seedlings		p3d - ROI FOREST SEEDLINGS'!A1
ROI	Seedling demand, '000 for ROI - AFOR only, by forest type	000 Seedlings	YES	p3e - ROI SEED x FTYPE'!A1
ROI	Seedling demand, '000 for ROI - non forest	000 Seedlings		p5b - ROI NON FOREST SEEDLINGS'!A1
NI	Seedling demand, '000 for NI full detail	000 Seedlings		p4a - NI SEED'!A1
NI	Seedling demand, '000 for NI by forest type	000 Seedlings		p4b - NI SEED x TYPE'!A1
ROI	Detailed ACRES results	000 Seedlings	YES	Calculated Acres'!A1
ALL	Customiseable Pivot			Pivot - ALL'!A1

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[13] A pivot table is an MS Excel tool that allows one to summarize, analyse, and explore large datasets interactively. It enables the user to quickly rearrange, group, and aggregate data to reveal trends, patterns, and insights that might otherwise be hidden.

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