IFFPA Irish Forestry and Forest Products Association

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An overview of the Irish forestry and forest products sector 2016

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An overview of the Irish forestry and forest products sector 2016

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1. Minister's introduction

This annual overview, compiled by the Irish Forest and Forestry Products Association (IFFPA) provides a comprehensive report of the various forestry businesses, including forestry development, sawmilling and panelboard production. It gives us a focussed insight into the developments and challenges and identifies particular areas of interest to their members.

As Minister of State with responsibility for forestry, I would like to take this opportunity to update you on actions being taking by my Department, to assist and facilitate the development of a competitive and sustainable forest sector in Ireland and to help ensure a steady supply of quality timber, sustainably produced, for our timber industry.

State aid approval was received in early 2015 for a new Forestry Programme to run to 2020. I am conscious that two ongoing challenges facing our sector are new planting levels and timber mobilisation, both of which the new Programme seeks to address with the commitment of some €482 million over its lifetime - a level of investment that will facilitate an increase in forest cover of almost 44,000 hectares and the construction of 700 kilometres of new forest roads. Payments issued in 2015 for the afforestation of 6,293 hectares, compared to payments in 2014 for 6,156 hectares, and I understand that, on the basis of payments made to date, the level so far in 2016 is similar to that for the comparable period in 2015. However, notwithstanding the availability of grant aid towards the construction of forest roads, I am concerned that the extent of forest roads being built is falling behind the targets set under the Programme.

My Department is working on this issue and in order to encourage the building of forest roads, has introduced a new payment of up to €800 per application to cover the costs of building entrances onto public roads. Other initiatives currently being progressed by my Department include:

- A pilot project on knowledge transfer groups focusing on group certification; this is being done in partnership with the North East Forestry Group[1] and the Forest Owners Co-operative Society[2]. The aim of this pilot project is to develop a template for FSC Certification which can be rolled out to other forestry groups, forestry companies and individual forest owners who are interested in having their forests certified;

[1] http://northeastforestrygroup.ie/North_East_Forestry_Group___Home.html
[2] http://focs.ie/56/

- the approval of funding to Teagasc to develop a suitable training course at Ballyhaise College for operating forest machinery; funding has also been approved for the purchase of a harvester/forwarder to support this training initiative and
- the preparation of a scheme to support the rollout of Central Tyre Inflation (CTI) systems to haulage companies involved in transporting timber.

In relation to the regulatory framework within which forestry operates, my Department is finalising regulations and the necessary processes to facilitate the commencement of the Forestry Act 2014 in the near future. My Department is also continuing to undertake large scale systematic and targeted surveys for the Ash Dieback disease throughout the country. A notable aspect of all this has been the co-operation and assistance of the various organisations representing the industry, including IFFPA, in dealing with this issue. This is an issue affecting the whole island and we are taking a whole-island approach. My Department continues to work closely with its counterpart, the Department of Agriculture, Environment and Rural Affairs (DAERA) in Northern Ireland as part of our agreed All-Ireland Chalara Control Strategy. Officials from both Departments are in the process of completing a review and revision of that strategy.

A challenge which has recently emerged for the forestry sector and the Irish economy generally, is the outcome of the recent Referendum in the United Kingdom and their consequential proposed exit from the EU. Minister Creed has recently established a Consultative Committee to ensure an effective exchange of information as the UK's exit negotiations unfold. I reiterate Minister Creed's view that we need a calm and measured approach to the issue while we assess how any future EU-UK relationship might develop.

I look forward to working with the Irish forestry industry to address all challenges, and indeed avail of opportunities, as and when they arise and to continue to work with all stakeholders in our sector to ensure that Irish forestry continues to develop into the future as a profitable and sustainable, home grown industry.

Andrew Doyle T.D.

Minister of State at the Department of Agriculture, Food and the Marine with special responsibility for Forestry

2. Director's review and introduction

The Irish Forestry and Forest Products Association (IFFPA) is a sector association within Ibec created to provide a strong and united voice for the entire forestry supply chain.

The forestry sector continues to evolve and make a valuable contribution.

The most important metrics for the Irish forestry and forest products sector are moving in the right direction. Long term trends in the strength of the market, the level of new afforestation, exports and demand for products are all positive. The sector faces a number of challenges and IFFPA is working hard with all of our members to address these. From detailed issues around environmental requirements and timber mobilization, to long-term strategic issues such as the role of forestry in Ireland's climate change targets, IFFPA is working closely with companies across the sector to ensure that forestry grows to its potential and makes a valuable contribution to Ireland both economically and environmentally.

Overall, the market for timber and wood products remains healthy. The economic sustainability of the sector is assured as strong, long-term global demand for wood products is set to continue. The chief export market for Irish timber is the UK and the advent of Brexit raises a level of concern across the sector. Already there has been an impact caused by the drop in value of Sterling. Of long-term concern is the health of the UK economy as our primary export market and any potential impacts should single market trading norms be changed by Brexit.

Another major factor in the economics of forestry and timber products will be the development of rules surrounding the climate change targets of EU member states. Ireland has negotiated a potentially important role for LULUCF (Land Use, Land Use Change and Forestry) in the structure of our efforts to meet our national climate change obligations. What this means in effect is that Ireland will be able to use afforestation as an offset measure for greenhouse gas emissions. Increasing our planting programme could potentially make a major contribution. Ireland is currently drafting its national climate change strategy. It is essential that a specific mechanism is developed to increase

the level of afforestation and this is included in the national strategy. There remain some calculations to be made around the sequestration value that applies to forestry, but it is important to move ahead now and create a concrete plan for how forestry will help Ireland meet its obligations.

Timber mobilisation remains an important theme for IFFPA. A range of issues are impacting mobilization. The Forestry Act envisages a change to the approvals mechanism for forest entrances. This is vital and needs careful design to ensure that it works as intended and improves the currently difficult situation. The construction of forest roads and the use of local roads are further difficulties facing mobilisation and IFFPA is working closely with the Forest Service to address these. We are hopeful that in the primary difficulties impacting mobilization with be resolved in the not too distant future. IFFPA welcomes the introduction of a grant scheme for the installation of Central Tyre Inflation on timber haulage vehicles. This will help address the concerns of local residents and Local Authorities. The future of mobilisation will also be improved by the role out of a new harvester training programme. IFFPA was central to the procurement of a new harvesting simulator and the development of a new harvester training course for Ballyhaise College. We would like to thank Teagasc for their support for this initiative.

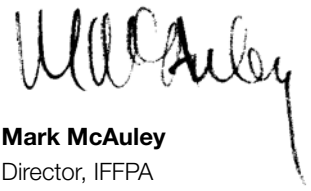
The Irish forestry and forest products sector is evolving all the time. The greatest change in the past two decades is the development of a sizeable private forest estate. This private sector forestry will make a growing contribution to the national harvest over the next number of years. It has proven a wise and valuable investment by subsequent Irish governments in the rural economy. The industry would like to see acceleration in afforestation.

The current Forestry Programme is performing reasonably well but is not delivering significant growth in the level of afforestation. A critical issue for the success of the Programme is striking the right balance between environmental requirements, the economics of forestry and land availability. Private sector afforestation rests on three pillars: financial return to the landowner, land availability and environmental regulation. If there is a distinct failure in any of these pillars, then the Forestry Programme cannot succeed. IFFPA is involved in a huge amount of detailed work aimed at ensuring the Programme continues to function and that Ireland meets its targets for the growth of this industry.

While forestry makes a hugely valuable contribution to the national economy, its role and value are sometimes under appreciated. With this in mind, IFFPA is working with the Forest Service to develop a new promotional campaign for the sector. This campaign is aimed at improving the general public's understanding of forestry and encouraging them to support it as an important economic and environmental activity. A critical element of this campaign will be mobilising senior figures in the industry; getting them to go out and talk about their industry and the benefits that accrue from it.

IFFPA has an active membership base from around the forestry and forest products sector. Right now, the members and executive of IFFPA are working on a wide range of issues including timber mobilisation, the carbon agenda, environmental requirements and promotion of the industry. IFFPA encourages all participants in the forestry sector to work together to put in place the best conditions for continued expansion.

I would like to thank the Chairman and members of IFFPA for their continued support and the important work they have done for the forestry sector during the past twelve months.



Mark McAuley
Director, IFFPA

3. The success of forestry in Ireland

At the end of 2015, forests covered 10.7% of Ireland's land area. This supports a sustainable, export-orientated forest products sector. The Irish forestry and forestry products sector contributes €2.3 billion to the Irish economy supporting 12,000 jobs. The value of the sector to the Irish economy is shown in Table 1.

Table 1: Contribution of the forestry and forest products sector to the Irish economy (2015)

Item	Value (2015)
Percentage land area under forest	10.7%
Area under forest	750,351 hectares
Area of forest which is state owned	53%
Area of forest which is in private ownership	47%
Output of the forestry and forest products sector (2012)	€2.30 billion
Forestry as a % of GDP	1.0%
Employment	12,000
Government forestry budget	€114 million
Number of forest tree seedlings produced	45 million
Area afforested	6,293 hectares
New forest roads built	65 kilometres
Area of forest damaged by forest fire	300 hectares
Harvest of commercial roundwood	3.02 million cubic metres
Forest product exports	€355 million
Sawn softwood exports	€121 million
Wood-based panel exports	€190 million
Carbon sequestered by Irish forests	2.2 million tonnes
Recreational visits to Irish forests	18 million

The strengths of the sector include[3]:

- A competitive, export oriented sawmilling and wood products sector.
- A young, highly productive forest estate
- A comparative advantage in growing trees
- Strong technical competence
- Highly mechanised contractor resource

Over the period 1996-2015, the national forest estate has increased from 576,000 hectares to 750,351 hectares. Since 1990, afforestation has been dominated by the private sector (Figure 1).

Ireland has a strong and well-developed wood processing sector, and is a net exporter of timber and timber related products. This arises from a combination of relatively high timber growth rates and investment in processing technology[4].

There is strong on-going demand in the Republic of Ireland for wood fibre for use in sawmills, panel mills and for the provision of wood biomass energy. This is largely driven by the success of Irish forest products in export markets. Over the period 2016-2035, roundwood production from Irish forests is forecast to double to 7.90 million cubic metres[5]. Almost all of this increase is expected to come from the private sector.

[3] https://www.agriculture.gov.ie/media/migration/foodindustrydevelopmenttrademarkets/foodwise2025/report/FoodWise2025.pdf
[4] http://www.coford.ie/media/coford/content/publications/2016/CofordRoundwoodProd1635020916.pdf
[5] http://www.coford.ie/media/coford/content/publications/2016/CofordRoundwoodProd1635020916.pdf

In 2015, 78% of the forest products which were manufactured in Ireland were exported

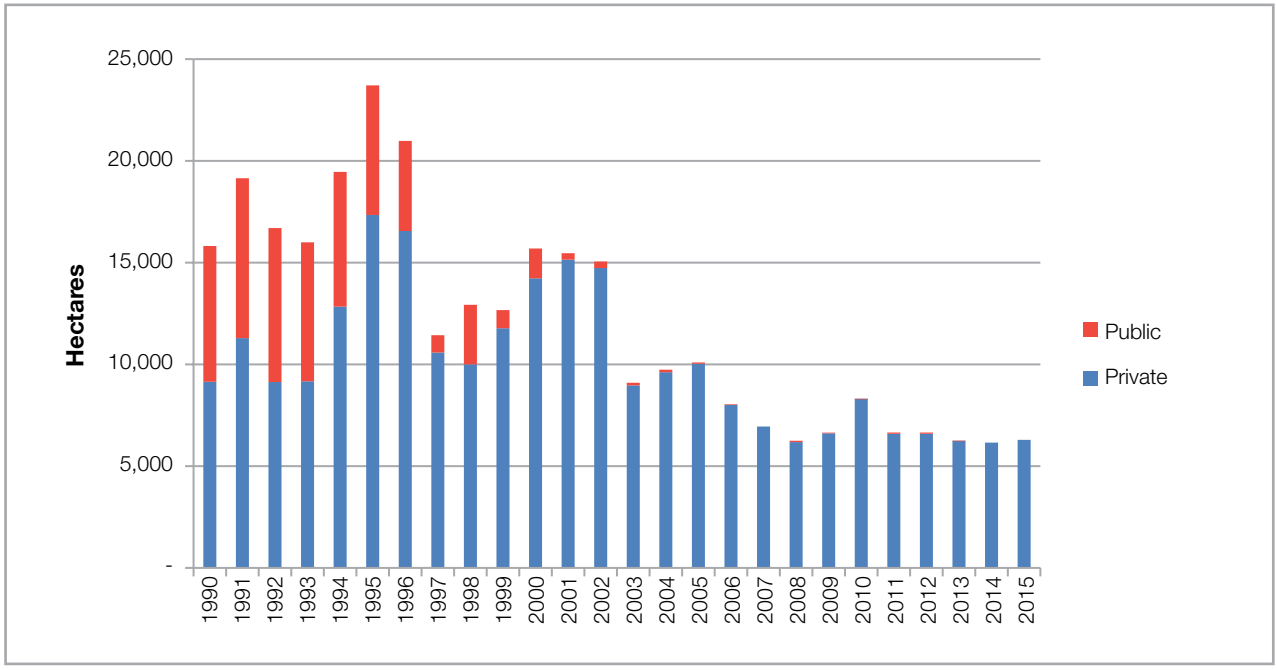
In 2015, 78% of the forest products which were produced in Ireland were exported. Forest product exports were valued at €355 million (Figure 2). Key markets for Irish forest exports were the UK, Germany and the Benelux countries. Over the period 2007-2015, Ireland's share of the UK sawn softwood timber market grew by more than 50% from 3.34% in 2007 to 5.77% in 2015.

In 2015, Ireland was the largest exporter of MDF to the UK. Masonite Ireland exported 100% of its output while SMARTPLY, a subsidiary of MEDITE SMARTPLY (formerly Coillte Panel Products) launched SMARTPLY PROPASSIV, an OSB product for use in the construction of passive houses[6].

Irish forests continue to meet the highest environmental standards. In 2016, Coillte celebrated 15 years of FSC[7] certification for its forest estate. Moreover, the Irish forest sector has a key role to play in addressing climate change, through carbon sequestration and through the use of harvested wood products (HWP).

In 2015, 18 million recreational visits were made to Irish forests largely within the estates of Coillte[8] and the National Parks and Wildlife Service (NPWS)[9]. It is estimated "that this activity is valued at €97 million, which in turn generates €270 million in downstream economic activities for rural communities".

Figure 1: Public vs private afforestation in Ireland by area planted in hectares (1990-2015)



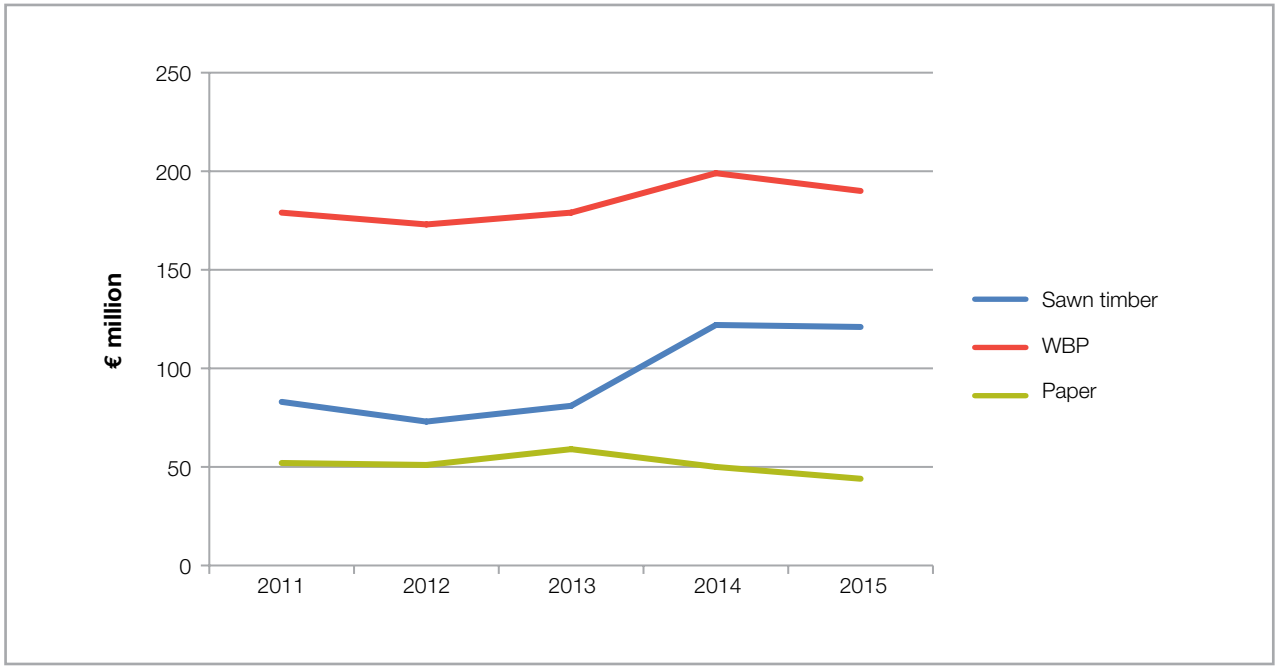
[6] http://www.smartply.com/news/smartply-vapairtight-sets-industry-first

[7] https://ic.fsc.org/

[8] http://www.coillteoutdoors.ie/home/

[9] https://www.npws.ie/national-parks

Figure 2: Ireland's forest product exports by value in € million (2011-2015)



In 2015, 53% of the output from Irish sawmills was used in the construction sector

3.1 The potential for forestry in Ireland

When compared to the rest of Europe, Ireland has a low level of forest cover. By comparison, just over 40% of the land within the European Union (EU) is classified as wooded land[10]. However, at the end of 2015, forests covered 10.7% of Ireland's land area. This presents Ireland with much room to grow its forestry estate.

A recent report from COFORD estimates "that over the period to 2035, the roundwood supply from Ireland's forests will double to 7.9 million cubic metres. Almost all of this increased supply will be harvested from privately-owned forests. Moreover, considerable scope exists to expand the use of forest based biomass for energy production. This is in addition to providing wood fibre for sawmilling and board manufacture[11]".

However, realising the projected increases in roundwood harvest will entail significant capital investment in forest roading, harvesting equipment and in information technology (IT) systems by forest owners, contractors and by the State.

The opportunities that arise within the forestry and forest products sector include[12]:

- Innovation and research deployment along the forest chain.
- Employment growth.
- Increased contribution of forest-based biomass, carbon sequestration and wood products use to reduce climate change mitigation.
- Expansion of the forest estate to sustain wood production and environmental benefits.

SWS forest owners examining the timber harvesting options for their forests

[10] http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-31-11-137/EN/KS-31-11-137-EN.PDF

[11] http://www.coford.ie/media/coford/content/publications/projectreports/forecast_31Jan11.pdf

[12] https://www.agriculture.gov.ie/media/migration/foodindustrydevelopmenttrademarkets/foodwise2025/report/FoodWise2025.pdf

4. Key issues, messages and focus areas

Promotion of forestry

IFFPA is working with the Department of Agriculture to develop a new campaign to promote the benefits of forestry to the general public, land owners and policy makers. This is a vital project for the continued development of the sector. It is essential that the economic and environmental contributions of forestry are fully understood. Forestry makes an enormous contribution to Ireland's economic activity, to jobs and to exports. Forestry also provides a valuable public good and delivers a range of environmental and recreational services. There is a very positive story to be told about forestry in Ireland and it is essential that the industry takes every opportunity to tell it.

Timber mobilisation

Timber mobilisation is a vitally important issue for all elements of the forestry supply chain from forest owners to processors. The industry has experienced difficulties with timber mobilisation over the years and a number of issues are current. Planning for forest entrances is coming under a new regime that should ease problems surrounding the construction of entrances. This involves permissions being granted by the Forest Service. The specification of forest roads is also under discussion. The current specification is making forest roads expensive to build. The construction of forest roads needs to increase to meet the operational needs of the sector and to facilitate thinning as appropriate.

The use of local roads can also prove problematic at times and it is hoped that the new entrances planning mechanism will improve the situation.

IFFPA has worked with Teagasc to procure and deliver a new harvester simulator to Ballyhaise Agricultural College. We fully support this development. The simulator is a valuable piece of equipment for the new harvester training course that is currently under development. The industry is very grateful to Teagasc for supporting this initiative. It is important that harvesting capacity, including the relevant skills, keeps pace with the forthcoming increases in private forestry harvests. Harvesting is undertaken largely by private contractors. These contractors must have a viable and sustainable business model if they are to make the required capital investments in costly equipment.

A new grant has been announced that will part fund the installation of variable tyre pressure systems on forestry trucks. This will further improve the ability of the industry to operate with minimal impacts on local roads. This is a very welcome development and one which will make an important contribution to the ability of the forest industry to operate harmoniously with local communities. The industry is grateful to the department for their support in this matter.

IFFPA's '*Good Practice Guide to Timber Transport*'[13] continues to offer a benchmark for best practices. It demonstrates the commitment of the industry to responsible operations.

Land availability

Land availability will always be a fundamental issue for the development of forestry. Without the requisite land, the planting programme cannot succeed. There is always a balance to be struck between environmental considerations and afforestation but it is essential that appropriate land be made available without excessive impediments. Analysis consistently shows that Ireland is fortunate in that it has a large amount of appropriate land still available for new afforestation. This land must be made available in practice as well as in theory. IFFPA has been working extensively with the Forest Service on the environmental guidelines for afforestation and other issues that fundamentally affect land availability.

Mid-Term Review of the Forestry Programme 2014-2020

As the mid-point of the current Forestry Programme approaches, IFFPA is working with the Department of Agriculture on a number of specific aspects of the Programme. At time of writing, a range of amendments to the Programme are being discussed with the aim of improving the performance and efficiency of the scheme.

Forestry and Ireland's climate change targets

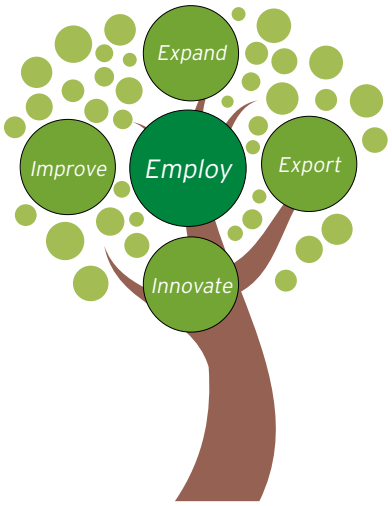
At the time of writing, discussions continue in Brussels on calculating the carbon sequestration properties of forestry. When this process is complete, greater clarity will emerge about the role that forestry will play in Ireland's climate change mitigation strategy. Ireland has been given the green light to make use of LULUCF (Land Use, Land Use Change and Forestry) provisions in its drive to meet its climate change targets; this should mean there is an important role for forestry. It is now necessary to design the specific mechanisms by which increased levels of afforestation can be incentivised and achieved.

Brexit

At this time, the nature and implications of the UK exit from the European Union remain unclear. There has already been an impact on the value of Sterling and this is being felt by Ireland's sawmills. The Irish Government is taking the necessary first steps in analysing scenarios and making our European partners aware of Ireland's reliance on the UK as a trading partner. The land border with Northern Ireland provides another important variable in this complex puzzle. IFFPA has already met with the Department of Agriculture to discuss our concerns. For the majority of Irish timber exports, the UK is the only viable market.

4.1 Key focus areas

Key focus areas for IFFPA members are as follows;



Expand

Expansion of the forest estate provides a number of downstream benefits. Expansion and investment in this sector would be assisted by the promotion, development and fostering of a farm forestry culture. Innovative schemes should be developed to fund an expansive afforestation programme beyond that committed by exchequer funding. There is an urgent need to have a one stop shop approach to meet planting targets and to minimise 'red tape' and to reduce the waiting times for planting approval. In addition, it is important that a long term supply platform be put in place to support the timber processing sector.

[13] http://www.iffpa.ie/Sectors/IFFPA/IFFPA.nsf/vPages/Press_and_Publications~timber-transport-good-practice-guide-14-04-2014/$file/Managing%20Timber%20Transport%20-%20Good%20Practice%20Guide%20Volume%201%202014-1.pdf

Improve

Ensuring that the volume of roundwood which is brought to market in an efficient and cost effective manner is maximised is vital to the growth of the Irish forest products and wood energy sectors. To achieve this IFFPA seeks that transport, roading and harvesting infrastructure be improved in rural areas. This will ensure that roundwood is harvested from the forests which have been planted over the past 20 years with both EU and State support.

Innovate

IFFPA supports the development of applied industry led research which can lead to improved mobilisation, greater material yields, new product lines and access to new markets. IFFPA also supports increased research in silviculture[14] and species selection.

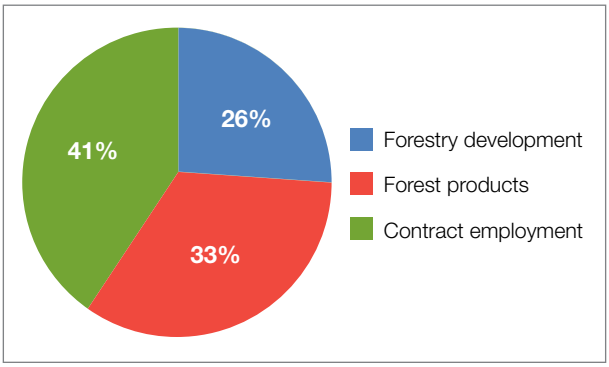
Export

To ensure that the Irish forestry and forest products remain a key export led industry sector, IFFPA calls for support for manufacturers to identify and develop new market opportunities in export markets together with ongoing support for market development. Irish sawmills and wood-based panel manufacturers have successfully entered export markets. Currently, these markets are primarily in the UK. Greater levels of support would enable the Irish forest products sector to capture market share in new markets.

Employ

Employment is a key focus area for IFFPA. In 2015, 12,000 people were employed in the Irish forestry and forest products sector (Figure 3).

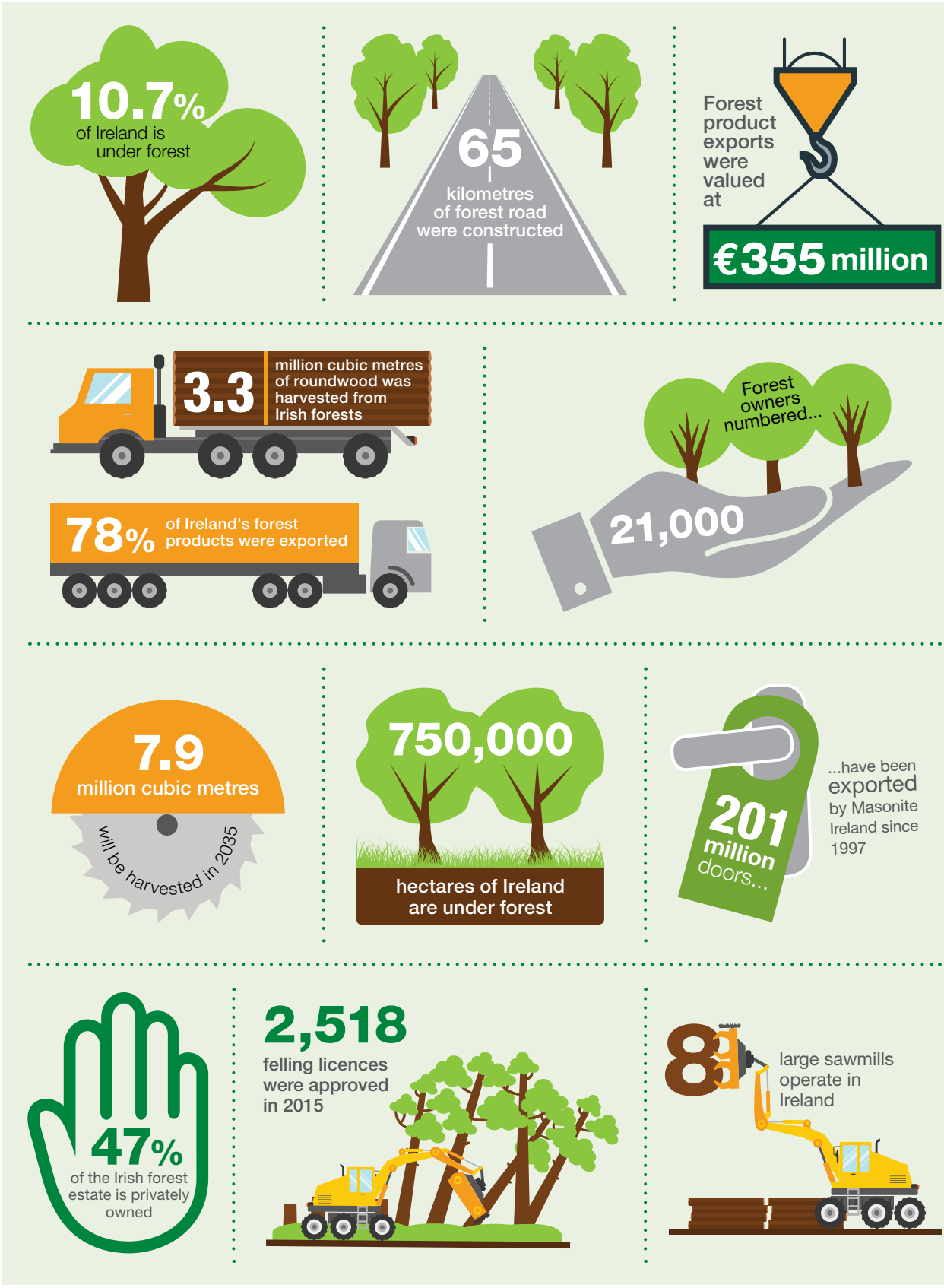
Figure 3: Employment in the Irish forestry and forest products sector by area of employment (2015).



[14] Silviculture is the practice of controlling the establishment, growth, composition, health, and quality of forests to meet diverse needs and values.

5. Forestry by the numbers

Figure 4: Key forestry numbers for 2015

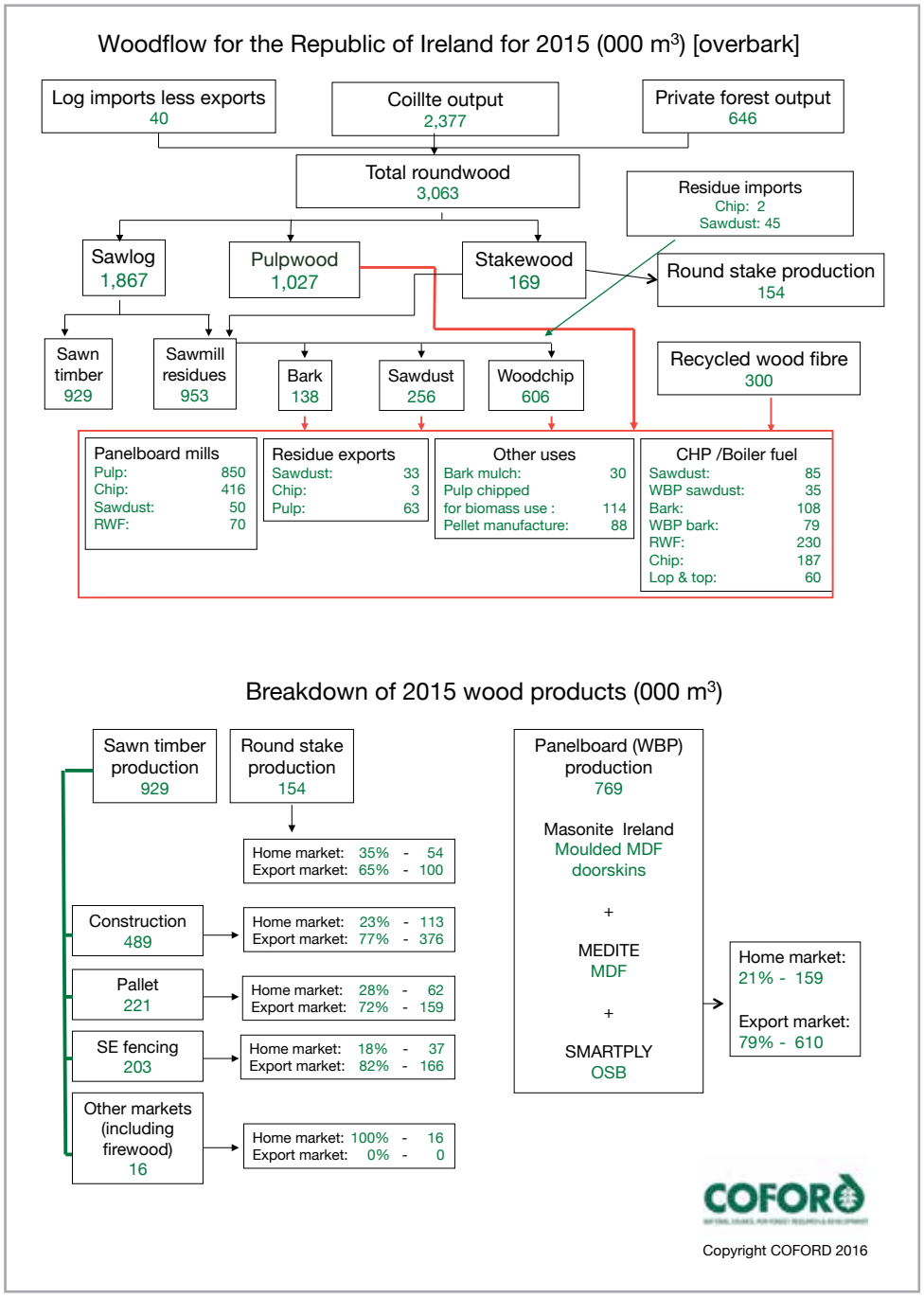


6. Industry overview

6.1 Woodflow (2015)

In 2015, 3.01 million cubic metres of softwood roundwood was processed in the Republic of Ireland (Figure 5)[15].

Figure 5: Woodflow for the Republic of Ireland (2015)



[15] Figure 1 has been provided to IFFPA by COFORD, Department of Agriculture, Food and the Marine. It is taken from the annual Woodflow published by COFORD, which is based on annual data provided to the Joint Forest Sector Questionnaire (JFSQ) and the annual Joint Wood Energy Enquiry (JWEE). The figure and the accompanying data are copyright to the Department of Agriculture, Food and the Marine. Further reproduction of the primary data is welcome, to be accompanied by an acknowledgement as to the primary DAFM source. The Woodflow can be found at: www.coford.ie. The roundwood production and trade data series can be downloaded from: http://faostat.fao.org/beta/en/#data/FO

6.2 Current performance

Demand for afforestation

The demand for afforestation vs the area planted is shown in Table 2.

Table 2: Demand for afforestation vs area of land planted (2011-2015)[16]

Item	2011	2012	2013	2014	2015
	Area in hectares				
Applications for planting schemes	14,043	18,008	19,967	17,594	15,855
Area approved for planting	10,551	12,221	16,230	15,519	13,294
Area planted	6,653	6,652	6,252	6,156	6,293
% of approved area which was subsequently planted	63.1	54.4	38.5	39.7	47.3

IFFPA believes that in order to remain economically sustainable and profitable, that the Irish forestry sector requires a minimum planting programme of 10,000 hectares per annum. Such a programme supports sustainable employment in the forestry development sector including the nursery, establishment and forest maintenance sectors. All these jobs are rural based.

Demand for wood fibre

The Irish sawmilling and board manufacturing sector is competitive internationally and has developed major export markets over recent years, including Britain and France but also much further afield. Demand for all wood products remains strong. Further growth is anticipated in the years to come as overseas markets for Irish sawn wood and panel board products continue to expand[17].

As a result, in 2015, the demand for wood fibre remained high in the sawmilling, wood-based panel and wood biomass energy sectors.

Economic output

Ireland's forestry and forest products sector contributes 1.0% towards Ireland's gross domestic product (GDP) to a value of €2.3 billion[18]. 10.7% of Ireland is under forest, supporting a vibrant and export oriented forest products sector, which employs 12,000 people. Furthermore by 2035, the annual roundwood harvest from the Irish forestry estate is forecast to double to 7.9 million cubic metres[19]. This allows considerable scope for expansion of the sector.

[16] Forest Service Monthly Reports (2011-2016); www.agriculture.gov.ie

[17] https://www.agriculture.gov.ie/media/migration/foodindustrydevelopmenttrademarkets/foodwise2025/report/FoodWise2025.pdf

[18] http://www.coford.ie/publications/forestry2030/irishforestryandtheeconomy/

[19] http://www.coford.ie/media/coford/content/publications/2016/CofordRoundwoodProd1635020916.pdf

Employment

A recent study[20] showed that "the Irish forestry and forest products sector employs 12,000 people, the majority in rural Ireland (Table 3). Furthermore, this study indicated that for every 100 jobs in the forestry sector that an extra 70 full-time equivalent jobs are provided in other sectors of the economy".

Table 3: Employment in the Irish forestry and forest products sector[20]

Sector	No employed
Forestry development	3,125
Forest products	3,907
Indirect /contract employment	4,907
Total	11,939

An annual afforestation programme of 15,000 hectares would on average, create 490 additional jobs. Most of these jobs would be based in rural communities in forest establishment, forest management, timber harvesting, and road haulage and in timber processing.

If planting targets are met to 2025, the potential exists to increase employment in the sector by 7,000. This is an increase of 58% over current employment levels. It would bring employment in 2025 in the Irish forest and forest products sector to 19,000. Moreover, national timber production is forecast to double to eight million cubic metres by 2035, with almost all of the increase coming from the private sector. This allows considerable scope for employment growth within the sector.

The Irish forest products sector

The Irish forest products sector is largely export oriented, exporting 78% of its production volume in 2015. Key markets are Northern Ireland, the UK and the Benelux Countries.

There are seven large sawmills and three wood-based panel mills in operation in the Republic of Ireland. These are modern, efficient plants. All are FSC[21] and/or PEFC[22] certified.

In recent years, the Irish sawmill sector has invested heavily in state of the art production lines. These are now highly efficient, internationally competitive and more importantly to the forest owner, are able to step up capacity as the roundwood harvest from the forest increases[23].

In 2015, Irish sawmills utilised 2.04 million cubic metres of roundwood to produce 931,000 cubic metres of sawn timber and 154,000 cubic metres of stakes. 71% of this roundwood was sold by Coillte, with the balance supplied by imports and by the private forest sector. In 2015, 77% of the sawn timber produced by Irish sawmills was exported. Northern Ireland, France and the UK are the three key export markets for Irish sawn softwood.

In value terms, over the period 2007-2015, Ireland's share of the UK sawn softwood timber market grew by more than 50% from 3.34% in 2007 to 5.77% in 2015. Moreover, in 2015, Irish sawmills were the fifth largest exporter of sawn softwood timber to the UK.

[20] Dr Áine Ní Dhubháin and Dr Richard Moloney, COFORD FORECON Project (2010 overview) http://www.coford.ie/media/coford/content/researchprogramme/projectreports/forecon2008.pdf

[21] www.fsc.org

[22] http://www.pefc.org/

[23] http://www.iforut.ie/ireland.html

In 2015, the Irish wood-based panel sector had an output of 769,000 cubic metres which were produced from 1.37 million cubic metres of wood fibre. 79% of these wood-based panels were exported to a value of €190 million. In 2015, Ireland was the largest exporter of medium density fibreboard (MDF) to the UK[24].

In recent years Irish timber processors have developed innovative new products and new routes to market.

In 2014/2015, Glennon Brothers invested €13 million in its new planing facility at its Fermoy sawmill[25].

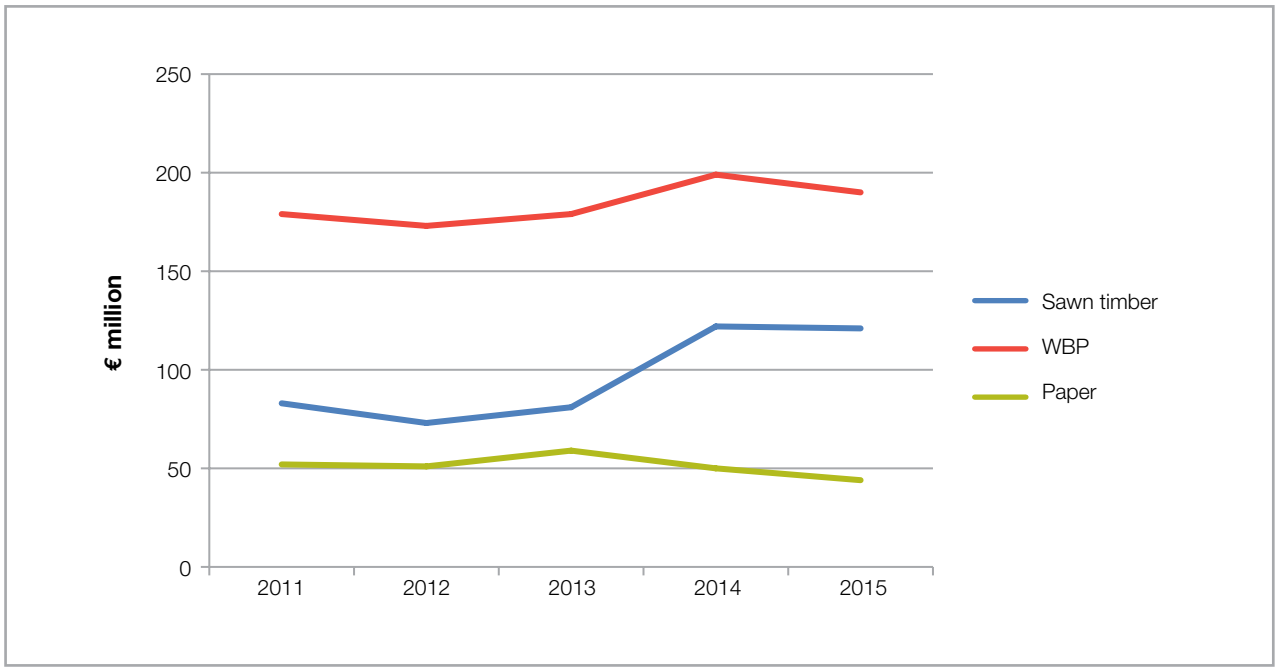
MEDITE SMARTPLY (formerly Coillte Panel Products) and the Galway Mayo Institute of Technology (GMIT) at Letterfrack signed a collaboration agreement to develop research and innovation initiatives regarding the use of sustainable Irish wood-based materials[26]. Over the same period, it extended its range of fire retardant MDF and OSB for use in shop-fitting, furniture and construction.

Trade in forest products

In 2015, forest products to a value of €355 million were exported from Ireland (Figure 6 and Table 4). This was comprised of €190 million of wood-based panels; the balance was made up of paper (€44 million) and sawn timber exports (€121 million).

[24] Source: EUROSTAT; *ec.europa.eu/eurostat*
[25] http://www.glennonbrothers.ie/press/good_neighbours.html
[26] http://www.coillte.ie/aboutcoillte/news/article/view/coillte-and-gmit-letterfrack-collaboration-for-research-and-innovation-in-sustainable-irish-wood-bas/

Figure 6: Ireland's forest product exports by value in **€** million (2011-2015)



Ireland is a net exporter of sawn timber and wood-based panel products. In 2015, the net exports[27] of these products were worth €111 million to the Irish economy (Table 5).

Table 4: Timber and paper products trade, volume and value (2011-2015)[28]

Product(s)	Imports									
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
	000 cubic metres					€ million				
Sawn timber	201	145	134	205	227	64	54	51	74	88
Wood-based panels	195	204	194	235	240	68	75	78	98	112
	000 tonnes									
Pulp products	54	47	50	46	51	45	45	41	42	53
Paper and paper-board products	383	415	428	404	427	333	339	340	340	359
Total						510	513	510	554	612
	Exports									
	000 cubic metres					€ million				
Sawn timber[29]	619	534	601	718	701	83	73	81	122	121
Wood-based panels	616	630	665	662	610	179	173	179	199	190
	000 tonnes									
Pulp products	0	0	0	0	0	0	0	0	0	0
Paper and paper-board products	59	68	81	67	86	52	51	59	50	44
Total						308	303	339	370	355

[27] Net exports = exports less imports.

[28] Includes import/export figures for sawn timber, wood-based panels and pulp/paper products only. Data are taken from Ireland's EUROSTAT Joint Forest Sector Questionnaire (JFSQ) returns (2012-2016). Roundwood, sawmill residues and secondary processed timber products are not included. Trade data for the JFSQ is provided by the Central Statistics Office (CSO); www.cso.ie

[29] In 2013-2014, the value of sawn timber exports grew by 51%, while volume grew 20%. The difference between value and volume may be due to a combination of changes in the euro/Sterling exchange rate and increases in product prices.

Balance of payments

In 2015, Ireland imported €257 million more of forest products than it exported (Table 5). This was driven by imports of pulp and paper products which are not manufactured in Ireland. Net exports of sawn timber and wood-based panels were worth €111 million (Table 5).

However, Ireland has been a net exporter of sawn timber since 2010. In 2015, an increased volume of home produced wood-based panels (WBP) and sawn timber were sold in the domestic marketplace. This was due to the ongoing recovery of the Irish housing and construction market. This is also evident in the increase in the volumes of WBP (+2%) and sawn timber (+11%) imported in 2015 compared with 2014.

Table 5: Overall balance of trade in the value of timber products (2011-2015)[30]

Product	2011	2012	2013	2014	2015
	€ million				
Sawn timber	19	19	30	48	33
Wood-based panels	105	104	121	101	78
Pulp products	-45	-45	-41	-42	-53
Paper and paper-board products	-281	-288	-281	-290	-315
Total	-202	-210	-171	-183	-257

In 2015, 77% of the sawn timber produced in the Republic of Ireland was exported

[30] Negative values show a surplus of imports over exports.

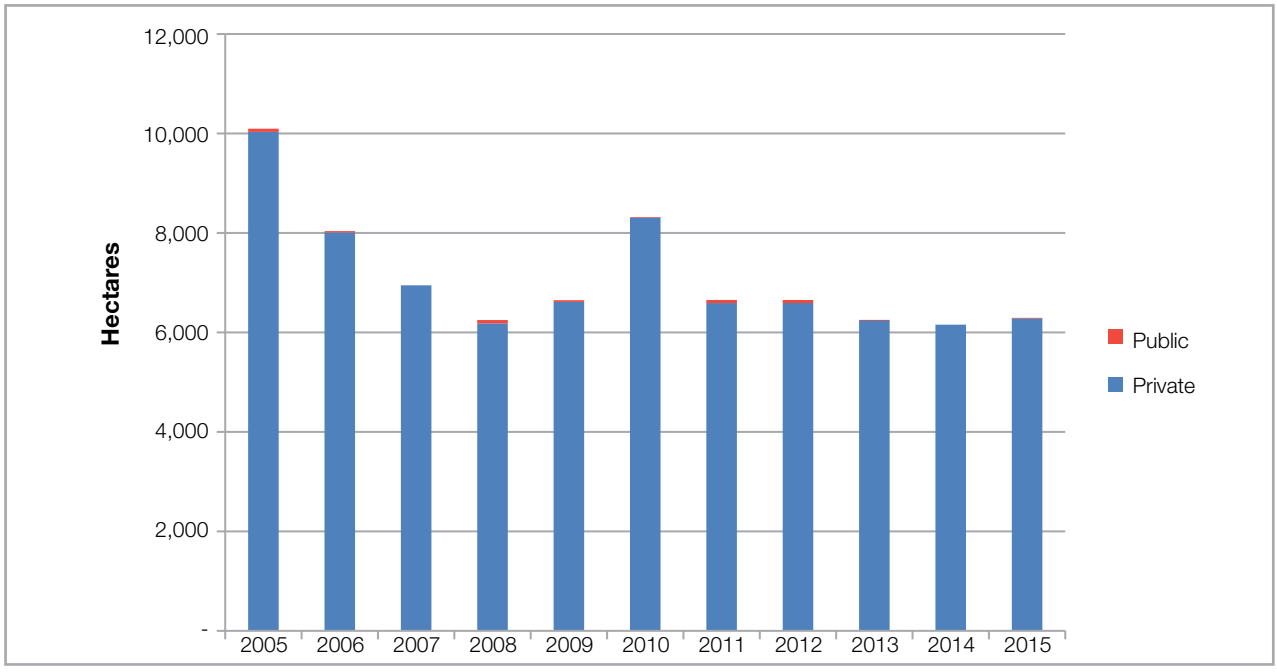
6.3 Afforestation

Meeting Ireland's afforestation programme[31]

Since 1981, 385,000 hectares of forest have been established in Ireland[32]. 312,000 hectares of this have been planted since 1990, with 1990, 83% of this afforestation programme has been undertaken by the private sector[33].

However, since 2006, levels of afforestation are running at an annual rate of 6,820 hectares (Figure 7). This is significantly below the existing Government targets which have been set for the sector. It is estimated that to achieve the Irish Government target of attaining a 17% forest cover by 2030, an afforestation programme of 25,000 hectares per annum will be required. An annual budget of €250 million would be required to achieve this target.

Figure 7: Area of new forests planted in the Republic of Ireland by area and ownership (2005-2015)



31 http://www.agriculture.gov.ie/forestservice/forestservicegeneralinformation/foreststatisticsandmapping/afforestationstatistics/

32 http://www.teagasc.ie/forestry/docs/technical_info/articles/Teagasc_forestry_situation_outlook_2010.pdf

33 https://www.agriculture.gov.ie/forestservice/forestservicegeneralinformation/foreststatisticsandmapping/afforestationstatistics/

IFFPA welcomes the new forestry programme (2014-2020) as launched by the Department of Agriculture, Food and the Marine in December 2014. The objective of the programme is to support the planting of over 43,000 hectares of new forests as well as support for the construction of up to 690 kilometres of new forest roads[34]. The provision of a budget of €199 million by Government to facilitate this afforestation programme is welcomed by IFFPA.

Funding for expansion of the forest estate and infrastructure in 2016

In 2016, the budget allocation for forestry was €113.8 million. This allows for 7,000 hectares of new planting under the Afforestation, Native Woodland and FEPS Schemes, along with limited funding for support schemes (Table 6). This funding welcomed. However, IFFPA seeks an adequate level of multi-annual Government funding to support an ongoing afforestation programme with a planting target in excess of 10,000 hectares/annum. This would facilitate the ongoing sustainable development of the sector.

Table 6: Annual expenditure on forest schemes (2011-2016)[35,36,37]

Year	Expenditure
	€ million
2011	114.5
2012	111.0
2013	116.0
2014	108.0
2015	113.0
2016	113.8

6.4 Roundwood production and the supply and demand for wood fibre

Roundwood processed (2011-2015)

In 2015, 3.07 million cubic metres of roundwood was available for processing in the Republic of Ireland[38], a 3.8% increase on 2014 (Table 7).

Table 7: Roundwood available for processing in the Republic of Ireland (2011-2015)

Item	2011	2012	2013	2014	2015
	000 cubic metres overbark				
Commercial softwood					
Imports less exports	55	-18	49	68	40
Coillte	2,299	2,269	2,474	2,434	2,377
Private sector	386	343	328	447	646
Commercial hardwood					
Imports less exports	0	0	-1	0	0
Coillte	1	1	2	6	3
Private sector	1	1	1	0	0
Total	2,742	2,596	2,853	2,955	3,066

[34] http://www.agriculture.gov.ie/media/migration/forestry/forestryprogramme2014-2020/IRELANDForestryProgramme20142020230215.pdf

[35] http://www.merrionstreet.ie/index.php/2012/12/mcentee-welcomes-the-2013-budget-provision-for-forestry-horticulture-and-greyhound-sectors/

[36] http://www.agriculture.gov.ie/press/pressreleases/2013/october/title,72218,en.html

[37] http://www.agriculture.gov.ie/press/pressreleases/2015/may/title,82585,en.html

[38] Firewood is excluded.

Irish roundwood harvest to 2035

Over the period to 2035, the harvest of roundwood from Ireland's forests will double to 7.9 million cubic metres. Almost all of the increase in supply will come from the privately-owned forests in the Republic of Ireland[39]. If achieved, this increase in wood supply will have significant benefits for rural employment and the rural economy[40]. An overview of the current capacity of the Irish timber harvesting and transport sectors is shown in Table 8[41]. This has the capacity to harvest 3 million cubic metres of roundwood per annum.

Table 8: An overview of the Irish timber harvesting and transport sector (2015)

Item	No
Harvesting contractors	78
Harvesters	134
Thinning harvester	56
Clearfell harvester	78
Haulage contractors	101
Trucks	435

Mobilisation of roundwood is key to developing the Irish forest industry. In his address to a recent conference on wood mobilisation, Andrew Doyle TD, the Minister of State for Forestry updated the attendance on a range of measures currently being progressed by this Department under the Forestry Programme 2014-2020.

In this context, he referred to the development of a forest machine operator training course by Teagasc and the proposed establishment of forest certification groups, both of which would contribute to the mobilisation of timber and meeting the demand for certified timber. He also noted the recent launch of the Irish Timber Growers Association Wood Price Quarterly initiative, adding that *"while the ITGA's roundwood price database has been in operation since 2005, important information on the value of a forest owner's timber crop is now available to all for the first time. This information will be invaluable to forest owners when assessing the market or making decisions on thinning and felling sales*[42]".

Following this announcement, the Forest Service has approved funding to Teagasc to develop a suitable training course at Ballyhaise College for operating forest machinery. Funding has also been approved to purchase a harvester/forwarder simulator to support this training initiative. This training will help to develop an adequate timber harvesting infrastructure in Ireland (Table 9).

Table 9: Estimated timber harvesting infrastructure in Ireland (2011-2028e)[43,44]

Component	No in operation	
	2011	2028e
Harvester	170	370
Forwarder	160	350
Timber trucks	380	820

[39] http://www.coford.ie/media/coford/content/publications/projectreports/forecast_31Jan11.pdf
[40] http://www.itga.ie/docs/ITGA%20submission%20on%202020%20Strategy.pdf
[41] Traolach Layton, GP Wood; http://www.wood.ie/news-events/what-shall-we-do-with-the-timber/
[42] https://www.agriculture.gov.ie/press/pressreleases/2016/june/title,97487,en.html
[43] http://www.ucd.ie/t4cms/tomkent.pdf
[44] E : estimated.

IFFPA welcomes the provision of forwarder training at Ballyhaise. We believe that apart from the forwarder skills content that the students attending the course will gain a basic knowledge of sustainable forest management (SFM), health & safety procedures, timber measurement and silviculture.

Wood biomass energy

In 2015, 34% of the roundwood used in the Republic of Ireland was used for energy generation, mainly within the forest products sector. The use of wood biomass energy in Ireland results in greenhouse gas (GHG) emission savings from the displacement of fossil fuels.

IFFPA supports the introduction of renewable heat incentive (RHI) in Ireland. This has been proposed in the draft Bioenergy Strategy[45]. An RHI operates by offering price support to cover the additional cost of producing a unit of output from a renewable technology as compared to a fossil fuel alternative[46].

This can help create an environment in which renewable energy, particularly biomass, can reach its maximum potential[47].

[45] http://www.dccae.gov.ie/energy/SiteCollectionDocuments/Renewable-Energy/Draft%20Bioenergy%20Plan.compressed.pdf
[46] http://www.seai.ie/Publications/Statistics_Publications/energy_modelling_Group_Publications/achieving-ireland-s-2020-renewable-Heat-Target.pdf
[47] http://www.irbea.org/wp-content/uploads/2016/03/IrBEA-Renewable-Heat-Incentive-Report-final.pdf

Demand for wood fibre to 2020

The estimated supply/demand balance for wood fibre on the island of Ireland to 2020 is shown in Table 10[48]. By 2020, it is estimated that the annual demand for wood fibre on the island of Ireland will exceed the expected supply by 2.10 million cubic metres (Table 10)[49].

Table 10: Estimated supply/demand balance for wood fibre on the island of Ireland (2014-2020)

Item	2014	2020
	000 cubic metres overbark	
Roundwood supply forecast (a)	3,623	3,830
Demand forecast and residue offset		
Roundwood for sawmilling[50]	2,699	3,283
Roundwood for boardmills	730	880
Residues for boardmills	670	720
Forest-based energy[51,52]	1,912	3,259
Sawmill residue offset[53]	-1,295	-1,633
Boardmill residue offset	-89	-103
Net demand[54] (b)	4,597	6,406
Supply position (a-b)	-974	-2,097

48 http://www.coford.ie/media/coford/content/publications/projectreports/roundwooddemand2011/COFORD_demand01Mar11.pdf

49 http://www.coford.ie/media/coford/content/publications/projectreports/Mobilising%20Irelands%20forest%20resources%20-%20Digital%20March2015.pdf

50 Source: A survey of the roundwood demand sawmills and boardmills as undertaken by drima marketing (April, 2014).

51 The estimated demand for wood biomass energy in the Republic of Ireland was provided by the Sustainable Energy Authority of Ireland (SEAI); This is based on the best available data available as of April 2014; www.seai.ie

52 The estimated demand for wood biomass energy in Northern Ireland was provided by Action Renewables; (personal communication); This is based on the best available data available as of April 2014; http://www.actionrenewables.co.uk/

53 The estimation of sawmill and boardmill residues is based on the analysis as used for Woodflow (2012); http://www.coford.ie/media/coford/content/publications/projectreports/cofordconnects/Woodflow%20and%20forest-based%20biomass%20energy%20use%20on%20the%20island%20of%20Ireland%20(2012).pdf

54 Net demand is defined as the demand for wood fibre less (the supply of roundwood from Irish forests + the supply of wood residues from the sawmilling and boardmill sectors).

6.5 Other issues

Forest fires

According to the Forest Service, “fire presents a significant threat to forest resources in Ireland. The highest risk period for forest fires occurs between February and June, when ground vegetation is dead and dry following winter. In 2015, it is estimated by the Forest Service that fire damaged 300 hectares of forest[55,56]. This was an increase on the 100 hectares which were damaged by fire in 2014”.

The DAFM Forest Service Fire Danger Rating system was developed further and was operational by early March 2015.

55 http://forest.jrc.ec.europa.eu/effis/reports/annual-fire-reports/

56 http://forest.jrc.ec.europa.eu/effis/reports/annual-fire-reports/

Forest certification

There are a number of forest certification schemes world-wide. In Europe the two most active schemes are the Forest Stewardship Council (FSC)[57] and the Programme for the Endorsement of Forest Certification Schemes (PEFC)[58] .

The Irish forestry and forest products sector has strong environmental and non timber benefits. All major Irish timber processors and Coillte are certified by the FSC or by the PEFC. Both schemes work throughout the entire forest supply chain to promote good practice in the forest and to ensure that timber and non-timber forest products are produced with respect for the highest ecological, social and ethical standards. Through their eco-labels, customers and consumers are able to identify products which are produced from sustainably managed forests.

In 2016, Coillte celebrated 15 years of FSC certification for its forests. These have been certified to the FSC scheme since May 2001. This third party certification demonstrates that Coillte's forests are well managed in accordance with strict environmental, social and economic criteria. In late 2012, a new FSC standard for Ireland was launched. In February 2016, the Soil Association carried out a FSC assessment of forest management within the Coillte estate[59].

In 2012, PEFC International announced the endorsement of the Ireland Scheme for Sustainable Forest Management[60,61]. In 2014, Coillte became dual PEFC and FSC certified[62].

To date, certification has not been a major issue for private forest owners. However, as the private forests' contribution to the national yearly harvest increases, certification is likely to become an issue[63]. This issue was addressed by a conference which was held in Dublin in July 2016[64].

Andrew Doyle TD, Minister of State for Forestry at the Department of Agriculture, Food and the Marine (centre) with speakers and organisers of the National Conference on Forest Management Certification for the Private Grower in Ireland held on 30 June 2016 (from l to r): Andy Grundy, Soil Association; Kevin Donnellan, Coillte; John McLoughlin, Society of Irish Foresters; Dr Owen Davies, FSC UK; Marie Doyle, UCD; Ronan Haslette, Merenda; Phil Webb, UK Forest Certification Ltd; Ewan McIntosh, Tilhill Forestry; Andrew Doyle TD; Steven Meyen, Teagasc; Mary Mulvey, Ecotourism Ireland; Karl Coggins, Forest Service (DAFM) and William Merivale, PEFC Ireland

57 www.fsc.org
58 www.pefc.ie

59 http://www.coillte.ie/aboutcoillte/news/article/view/assessment-of-coilltes-forest-management/
60 http://www.pefc.org/news-a-media/general-sfm-news/news-detail/item/904-the-future%E2%80%99s-looking-greener-in-ireland
61 http://www.itga.ie/Conference2013/PEFC_Certification_WilliamMerivale.pdf
62 http://www.coillte.ie/coillteforest/responsible_forest_management_and_certification/certification_introduction/
63 http://www.teagasc.ie/forestry/docs/advice/Teagasc_Situation_Outlook_Forestry_2012.pdf
64 https://www.teagasc.ie/crops/forestry/news/2016/national-conference-on-forest-management-certification-in-ireland.php

Forest recreation

There are more than 180 recreation sites and 12 forest parks within the Coillte estate[65]. These and the National Parks[66] managed by the National Parks and Wildlife Service (NPWS) attract 18 million visitors a year, an activity which has been valued at €97 million. It has been estimated that in turn, this generates €270 million in downstream economic activities in rural communities[67].

65 http://www.coillteoutdoors.ie/about-us/our-story/#sthash.OJMCkQef.dpuf
66 https://www.npws.ie/national-parks
67 http://www.coford.ie/publications/forestry2030/irishforestryandtheeconomy/

Forest roads

Demand for roundwood in the Republic of Ireland for use in sawmills, panel mills and for the provision of wood biomass energy remains high. Well-planned and engineered forest roads are essential for efficient and sustainable wood mobilisation and to ensure that plantations are thinned on time and that roundwood production forecasts are achieved[68]. However, over the period 2011-2015, the length of forest roads which were constructed in Ireland has declined by 44% (Table 11).

Table 11: Length of forest roads constructed in the Republic of Ireland (2011-2015)[69]

2011	2012	2013	2014	2015
Length of forest roads constructed in kilometres per annum				
116	81	83	87	65

In addition, planning approval for forest road entrances needs to be streamlined and should reside primarily with the Forest Service as the Department that is responsible for forestry regulation.

State investment in the Irish forest products sector

To date, the Irish Government has invested €107.26 million to aid the development of the Irish timber processing sector. Since 1980, a total of €82.94 million has been invested in the panel products sector with the balance invested in the Irish sawmilling sector[70].

Research investment

Investment in business-led and national forest research (including COFORD funding of €4 million) is €14 million per annum, just over 0.7% of overall output. As a comparison, the most recent figures available for investment in ocean and fisheries sciences in the Marine Institute budget represented 1.1% of the overall output[71].

IFFPA believes that research priorities for the forestry and forest products sector must be based on the industry led strategic research agenda model. It also believes that

[68] http://www.coford.ie/media/coford/content/publications/2016/MobilisingIrelandsforestresources100516.pdf

[69] Forest Service Monthly Reports (2011-2015): www.agriculture.gov.ie

[70] This data has been provided by Enterprise Ireland; www.enterprise-ireland.com

[71] http://www.coford.ie/publications/forestry2030/irishforestryandtheeconomy/

Ireland's taxation regime must provide a framework to incentivise and enhance support for research and development in the Irish forestry and forest products sector. IFFPA supports the development of the Forest Research in Ireland Programme (FORI) over the period 2014-2017[72].

[72] https://www.agriculture.gov.ie/media/migration/research/whatsnew/ForestResearchIreland20143Layout1091014.pdf

7. Case studies and discussion points

7.1 Growing wood mobilisation

In 2015, demand for roundwood from the sawmilling, wood-based panel and energy sectors remained high.

By 2035, total timber production on the island of Ireland is forecast to reach 7.9 million cubic metres, an increase of 219% on the 3.6 million cubic metres which was harvested in 2015. The opportunity exists to increase the annual value of the forestry and forest products industry from €2.3 billion at present to at least €4.5 billion by 2035, but only if the timber forecasts are realised[73].

A new timber forecast which was recently published by COFORD foresees[74] "a doubling of roundwood production on the island by 2035: from 3.6 million cubic metres (2014) to 7.87 million cubic metres. Almost all of the increase is set to come from the private sector in the Republic of Ireland, largely due to state-aided afforestation since the mid 80's".

The level of wood mobilisation depends on many factors, including the underlying level of demand for solid wood products and fuels. Based on analysis carried out for the COFORD report *Mobilising Ireland's forest resource*[75], "demand for all major product groups is expected to increase in the decade ahead. By 2020, overall demand in the Republic is forecast to be in the region of 4.7 million cubic metres".

This report contined to state that: "overall supply in 2020 is now forecast as 4.0 million cubic metres. The largest supply/demand gaps are likely to be in the sawmilling and energy wood sectors. The biggest imponderable is renewable energy demand (RES-H). Depending on the conversion rate for projects already in the pipeline, and policy developments such as the Renewable Heat Incentive (RHI); demand could expand by well over an additional million cubic metres[74]".

The COFORD mobilisation report and its associated 40 recommendations provide a template for action. However, both the public and private sectors need to play their part in addressing the recommendations.

Minister of State for Forestry Andrew Doyle TD, recently commented that "we must also maximise the volume of raw material that is harvested from our existing forests, not just roundwood for our processers but also for our growing renewable energy sector[76]".

IFFPA Chairman Daragh Little also recently commented that "the structure, ownership and distribution of Irish forests is fragmented and often located in areas that are sensitive in terms of the environment or infrastructure. As these forests mature, this will mean many more entrances from public roads and increased activity within forests which will require more interactions between forest owners and other stakeholders. This is in the context of a lack of a forestry culture amongst forest owners. There is a need build up forest owners' knowledge and build trust between them and other parts of the supply chain. All parts of the sector need to focus on forest owners in this regard"[77].

[73] http://www.wood.ie/wp-content/uploads/2016/06/WOOD-MOBILISATION-24PP-2016A.pdf
[74] http://www.coford.ie/media/coford/content/publications/2016/CofordRoundwoodProd1635020916.pdf
[75] http://www.coford.ie/media/coford/content/publications/2016/MobilisingIrelandsforestresources100516.pdf
[76] https://www.agriculture.gov.ie/media/migration/press/pressreleases/2016/june/PR542016010616.pdf
[77] http://www.wood.ie/wp-content/uploads/2016/06/WOOD-MOBILISATION-24PP-2016A.pdf

7.2 The value of public goods

Coillte notes that "Ireland's natural and cultural assets i.e. its forests, lakes, rivers, bogs, ancient monuments contribute to delivering a range of non-market services, services that cannot be traded but yet are enjoyed by many. These include contributing to national biodiversity, providing extensive recreation opportunities, protecting cultural heritage, improving water quality etc. These non market services are known as public goods[78]".

A recent report[79] by the Department of Agriculture, Food and the Marine found that "the public good values of Irish forests include:

Environment
Forestry contributes much to the health and diversity of Ireland's natural environment. Irish forest management practices have impacts on water quality, habitats and ecosystems. Greater diversity of forest resources and forest management models, combined with improved environmental protection measures throughout forest planning and management cycles, can contribute to meeting our national, EU and international environmental objectives and obligations"[79].

Climate Change
"Forests mitigate climate change through sequestration of carbon by tree growth and carbon storage in soils, tree stems, roots and ground litter. Forests can also assist adaptation to climate change through, for example, flood alleviation associated with some alluvial woodland types. The extent to which forests mitigate climate change depends on the type of forest, site and management. The removal of carbon dioxide (CO_2) from the atmosphere by Ireland's forests exceeds 6 million tonnes per annum".

Biodiversity
"Biodiversity describes the variability among living organisms and the ecosystems of which they are part. Forestry plantations can make a significant positive contribution to biodiversity in the landscape when properly planned and managed, but can impact negatively in the absence of good management practices[80]".

Water quality and hydrology
Forests can play an important positive role in the maintenance and enhancement of water quality, but can also impact negatively in the absence of good management practices.

[78] http://www.coillte.ie/fileadmin/user_upload/pdfs/Public_Goods/Public-Goods-Booklet.pdf
[79] https://www.agriculture.gov.ie/media/migration/forestry/publicconsultation/forestpolicyreview/ForestPolicyReviewpublicconsult21Jun2013.pdf
[80] BioForest Report, EPA, http://www.epa.ie/pubs/reports/research/biodiversity/bioforestfinalreport/

Recreation

Forests provide the venue for a wide variety of outdoor recreational activities. The monetary value of the recreational use of forests and trails has been examined in a number of recent studies. A report from Fitzpatrick and Associates estimated that "on an annual basis, 18 million recreational visits were made to the Coillte estate, providing a non-market value of €97 million annually[81]".

Coillte and the Heritage Council have conducted research to evaluate the public goods value of three important services – Biodiversity/ Nature, Landscape and Cultural Heritage. These were found to have a cumulative value of over €500 million. This is an important contribution to Irish society[81].

- Biodiversity/Nature: €322 million
- Landscape: €96 million
- Cultural heritage: €92 million

Similarly Coillte and the Irish Sports Council have estimated that "forest recreation has a public goods contribution of €97 million annually with a value of €5.40 per visit accruing to Coillte forest users. It was also estimated that the economic activity generated by these visits is in the order of €270 million annually a significant contribution to rural economic development[81]".

Coillte's states that its "extensive landholdings provide a wide array of habitats. These range from native and mixed forests, through bogs and heaths, rivers and lakes to well managed production forests; all of which provide important habitats for our wild and native flora and fauna. Currently, about 90,000 hectares; 20% of the Coillte estate is flagged as biodiversity areas[81]".

[81] http://www.coillte.ie/fileadmin/templates/pdfs/Final%20Economic%20Study%20of%20Trails.pdf

7.3 Packaging success

In October 2015, the annual conference of FEFPEB[82,83], the European Federation of Wooden Pallet and Packaging Manufacturers was held in Cork. It is estimated that in 2015, that the pallet and wooden packaging industry in Europe consumed more than 20 million cubic metres of sawnwood. This market provides a valued outlet for Irish sawn timber, largely in Ireland, Northern Ireland and the UK. In 2015, 20% of Irish sawmill output was sold into the packaging sector.

The UK packaging market is showing signs of recovery. In 2013, the quantity of both newly manufactured and repaired pallets increased by just over 1%, to 66.2 million; while the quantity of newly manufactured pallets rose from 30.0 million in 2012 to 31.4 million in 2013, an increase of 4.5%. In 2014, the market for new pallets in the UK grew by 3.5% to 32.5 million (Table 29).

Delegates attending FEFPEB's conference in Cork were told that timber had a healthy 85% share in the pallet and packaging sector with European timber pallet markets currently stable[84].

A report by the Timber Packaging and Pallet Confederation (Timcon)[85] showed that in 2014, "home grown UK softwood had a 73% share of the UK pallet/packaging sector. Over the period 2012-2013 the exports of pallet/packaging timber from the Republic of Ireland grew by 60% to reach a market penetration of 5.5%".

Moreover, pallets and wooden packaging are well positioned to flourish under policies and laws aimed at a low-carbon economy and sustainability because they have very high rates of reuse, repair and recycling, and they can be used for wood energy or the manufacture of particleboard (chipboard) at the end of their useful lives.

82 Fédération Européenne des Fabricants de Palettes et Emballages en Bois (FEFPEB) - the European Federation of Wooden Pallet and Packaging Manufacturers: http://www.fefpebcongress.com/default.asp

83 The European Federation of Wooden Pallet & Packaging Manufacturers (FEFPEB) represents the industries of 14 European countries: Austria; Belgium; Denmark; France; Germany; Italy; Lithuania; the Netherlands; Portugal; Spain; Sweden; Switzerland; Turkey and the UK .

84 https://www.fefpebcongress.com/Downloads/Timcon%20Winter%202015%20newsletter.pdf

85 https://www.timcon.org/

7.4 SMARTPLY innovation

SMARTPLY OSB is made from locally sourced, sustainable, FSC[86] certified, fast-growing timber: i.e. the forest thinnings of new-growth pine and spruce. SMARTPLY OSB boards are fully certified, structurally approved, CE compliant[87] and provide a legal and sustainable alternative to tropical plywood.

In 2016, the OSB manufacturer SMARTPLY[88] commissioned a new production line at its facility outside Waterford. The upgrade of the existing infrastructure at SMARTPLY's Waterford location was part of a €59 million investment made by SMARTPLY. Furthermore, a Panel Products Innovation Centre is being developed on the current site.

This upgrade replaced an old multi-daylight press with a state-of-the-art OSB plant from Siempelkamp including a forming and Contiroll continuous press line as well as numerous finishing line machines. These include a resin blending and application system, a cooling and stacking line, a high-stack storage system as well as a cut-to-size line and a packing line.

Following commissioning, the first new SMARTPLY OSB rolled off the press on April 6th 2016. An extended period of trials, adjustments and prototypes were anticipated, but the product that emerged was an instant hit; exactly what SMARPLY had hoped for[89].

The board's remarkable consistency is due to the latest continuous press technology used in its production. This powerful process involves raw materials being transported via conveyor belt between precision milled, highly-accurate rollers and guides, guaranteeing the accuracy that customers demanded. The cutting-edge machinery also enables huge flexibility in dimensions, allowing an even broader range of lengths, widths and thicknesses.

The new SMARTPLY'S smoother finish and consistent size is said to be a huge benefit when the product is used in ranges such as SMARTPLY SITEPROTECT[90] and TOUGHPLY[91] where panels are pre-coated or primed to speed installation of site hoardings or security screens.

86 www.fsc.org
87 https://ec.europa.eu/growth/single-market/ce-marking_en
88 SMARTPLY is part of Coillte, an innovative, FSC certified Irish forestry and forest products manufacturer. Based in Waterford, Ireland, SMARTPLY produces a versatile range of OSB2 and OSB3 building products: www.smartply.com

89 http://www.irishbuildingmagazine.ie/2016/06/30/smartplys-latest-board-a-triumph-of-customer-led-innovation/
90 http://www.smartply.com/products/smartply-siteprotect
91 http://www.smartply.com/products/toughply-new

7.5 Wood versatility

In July 2016, the versatility of wood as a raw material was demonstrated by students throughout Ireland at the Third Level Student Wood Awards (2016) organised by the Wood Marketing Federation (WMF). Presented by Minister of State for Forestry Andrew Doyle T.D. in the National Botanic Gardens, Dublin, the use of wood in a variety of end used was researched. Most of the seven students who made the shortlist for this year's Third Level Student Wood Awards explored traditional and contemporary timber end uses. While solid sawn timber applications formed the basis of a number of entries, today's students are invariably attracted to engineered wood products (EWP) and push timber well beyond its traditional boundaries. This approach reflects global architectural and engineering trends[92].

Commending the organisers of the Awards competition, the Minister of State expressed his view that "I consider this Award competition to be particularly significant in that it not only promotes the use of wood in the various types of applications but fosters creativity in our students and also opens our eyes to the potential of timber[93]".

Innovative use of OSB by Matt Collins, University of Limerick, the winner of the Engineering Award at the Wood Marketing Federation Student Awards. He explored a grid shell concept to produce large load bearing spans using oriented strand board

[92] http://www.wood.ie/category/student-wood-awards/
[93] https://www.agriculture.gov.ie/press/pressreleases/2016/july/title,98594,en.html

7.6 Adding value to wood biomass energy, the AgriForValor Project

2016 saw the start of an exciting new project for IFFPA, linking with Teagasc, the Irish Farmers' Association (IFA), the Institute of Technology Tralee and 12 other institutions around Europe[94] under a project called AgriForValor[95].

AgriForValor (i.e. Agriculture & Forestry Valorization) aims to generate additional value from the by-products which are produced in the agriculture and forestry sectors. The project has already uncovered a lot of very interesting possibilities around Ireland and Europe. These include the production of smokeless fuels, bio-plastics, new wood fuels, renewable gas, bio-oil and the use of brash from forest sites.

Energy, renewable gas and bio-oil

We are all familiar with the use of woodchips, bark, sawmill residues for fuel, and indeed the increased trade in firewood in urban areas thanks to the growing use of stoves burning wood biomass for heat and energy production. However, the production of the next generation of fuels from wood is well underway. The production of renewable gas from wood is one such possibility. Methane (CH_4), a natural gas is being produced from wood in a small number of research and development (R&D) plants around Europe. Producing renewable natural gas using wood as a base material is readily achieved. The next phase of development is to refine the process to reduce production costs and to allow for the commercialisation of the technology.

Fortum[96] based in Finland produces bio-oil from wood. Bio-oil is produced by rapidly heating wood causing it to break down into heavy gasses. These are then rapidly cooled to form bio-oil. Fortum uses the bio-oil to replace heavy fuel oil in a combined heat and power (CHP) plant. Additionally, bio-oil can be used to replace heavy fuel oil for heating purposes. This has the advantages of requiring less space than woodchip or pellets and being able to supply fluctuating heat loads. Future development looks at extracting base chemicals from the bio-oil for use in the manufacture of plastics, pharmaceuticals and in other sectors.

Bio-Plastics

Tecnaro[97] is a German company operating since 1998. It produces Arboroform[98], a wood product that behaves like plastic. This can be melted and molded (including blow molded) into intricate shapes while still retaining many of the properties and texture of wood. Producing over 5,000 tonnes per year, the bio-plastic is used to make many interesting products including steering wheels, musical instruments, engineering parts, bottles, furniture, disposable plastic cups, decking, panel boards and much more. Its product line makes interesting viewing.

[94] http://www.agriforvalor.eu/pages/partners
[95] http://www.agriforvalor.eu/

[96] http://www.fortum.com/en/products-and-services/biooil/pages/default.aspx
[97] http://www.tecnaro.de/english/willkommen.htm
[98] http://www.tecnaro.de/english/arboform.htm?section=arboform

Bio-plastics are seen as a long term necessity given our reliance on oil based plastics can only be finite; coupled with the desirable fine wood texture that bio-plastics can retain the future looks promising. Perhaps we can look forward to having a wooden cover for the latest iPhone!

Low Smoke Fuels

From late 2017, all bituminous (smokey) fuels in Ireland will be banned. Therefore, the race is on to supply the market with low smoke fuels. Low moisture firewood is one traditional fuel that is produced in good quantities around the country from pulpwood, the ban on smokey fuels is likely to drive up the demand for low moisture firewood.

Two Irish companies are hoping to manufacture low smoke ovoid's using biomass as one of the feedstocks. CPL Fuels[99] and Arigna fuels[100] are both developing low smoke fuels that will be made from a variety of materials including woodchip and brash. Both companies have already developed the technology and are ready for the market change.

The AgriForValor project aims to build relationships between the forestry sector and research organisations to allow the development of new products and materials in Ireland. Thanks to the afforestation programmes in place since 1990, we have a growing forestry sector in Ireland. With ever increasing demand for products and materials in today's economy it can only be expected that we will see more and more products coming from our wood resources.

For more information on the AgriForValor project contact: mark.mccauley@ibec.ie or noel.gavigan@ibec.ie

[99] http://www.cplfuels.ie/
[100] http://www.arignafuels.ie/products/ecobrite/

7.7 Carbon benefits

In November 2015, the then Minister for Agriculture Simon Coveney TD said that "afforestation is the most significant mitigation option" against climate change that's available to Ireland's land-use sector. The then Minister of State for Forestry Tom Hayes TD added that "an important way of using this potential was to convert less efficient grazing land to forestry, mainly on beef farms. While all types of Irish farming present opportunities to reduce greenhouse gas emissions through better practices, there is more room for improvement through afforestation (the conversion of new land to forests) than anywhere else[101]".

According to data provided by the Department of Agriculture, Food and the Marine, "the 300,000 hectares of new forests planted since 1990 now absorb 18% of Irish agriculture's annual greenhouse gas emissions. By 2020, it is estimated that Irish forests will sequester over 4 million tonnes of carbon dioxide (CO_2) per annum. In addition, the use of wood as fuel or as a construction material replaces more carbon-intensive products derived from fossil fuels. The use of harvested wood products (HWP) to substitute more carbon-intensive materials used in construction and manufacturing processes has a triple benefit: acting as a further carbon store, reducing the use of energy intensive materials and adding to the financial incentive to plant and renew forests."

COP21, the UN climate change conference which was held in Paris in December 2015 was a pivotal moment for forests because their role in combating climate change was formally recognised.

Article 5 of the COP21 Agreement requires Parties to take action to conserve and enhance sinks and reservoirs of greenhouse gases, including forests. It also encourages Parties to implement and support activities to reduce emissions from deforestation and forest degradation, and highlights the role of conservation, sustainable management of forests and enhancement of forest carbon[102].

A recent report from the Forest Service states that "a wide range of non-market public goods are provided by Irish forests. These include recreation, biodiversity, water quality, landscape enhancement and carbon sequestration. The ability of forests to store and sequester atmospheric carbon and to provide fuels and solid wood products are an important means of reducing greenhouse gas (GHG) concentrations".

A report from the Irish National Forestry Foundation (INFF) states that "Irish forests mitigate climate change through the sequestration of carbon by tree growth and carbon storage in soils, tree stems, roots and in ground litter. Carbon is stored in the stem, branches, leaves, needles and roots of trees. As young woodland develops, the amount of stored carbon increases until equilibrium is reached when the amount of carbon stored through photosynthesis is matched by the carbon lost through respiration and decay[103]".

A report from the Forest Service states that "the total carbon reservoir or store in Irish forests currently exceeds one billion tonnes of carbon dioxide, most of which is in the soil. Moreover, forests in Ireland are a significant sink of greenhouse gases[104] (GHG), removing in excess of 4 million tonnes of carbon dioxide (CO_2) per annum (net of harvest). This equates to 6% of Irish greenhouse gas emissions[105]".

It is estimated that Irish forests established since 1990 have sequestered an estimated 18 million tonnes of carbon dioxide over the 5-year commitment period of the Kyoto Protocol (2008-2012).

In addition, according to the Forest Service, "the forestry sector provides a range of opportunities to mitigate rises in greenhouse gas levels, including afforestation/reforestation; forest management; reduced deforestation (land use change from forest to non-forest); the increased use of wood products

[101] http://www.farmersjournal.ie/ireland-bets-on-forestry-to-meet-climate-change-targets-194276

[102] http://www.policyforum.net/the-paris-climate-agreement-and-forests/

[103] http://www.inff.ie/cmsfiles/pdf/Carbon%20Issues%20in%20Irish%20Forestry.pdf

[104] https://www.agriculture.gov.ie/media/migration/forestry/forestpolicyreviewforestsproductsandpeople/EnvironmentalReportFPR020714.pdf

[105] Irish National Inventory Report to the UNFCCC: http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/9492.php

and the use of forest products for bioenergy to replace fossil fuel use[106]".

In a recent report, the Department of Agriculture, Food and the Marine stated that "after wind energy, wood fuels are the largest contributor to renewable energy generation in Ireland, while forests' contribution to climate change mitigation through carbon sequestration and the use of wood products form an important element of the national climate change strategy. Latest estimates show that, after taking harvest and wood use into account, forests established since 1990 will remove from the atmosphere a net 3.4 million tonnes in 2015. By 2025, the rate of removal is projected to be in the region of 4.7 million tonnes[107]".

It further stated that "as one of our fastest growing tree species, Sitka spruce also has an important role to play in carbon sequestration. Over a rotation Sitka spruce can fix over 200 tonnes of carbon per hectare. More recent work for the Interdepartmental Technical Committee on climate change indicates that an additional 4,000 hectares of afforestation per annum would provide for a total sink of over 6 million tonnes of carbon dioxide (CO_2) over the period 2021-2030, and increasing beyond 2030".

The Forest Service recently stated that "while afforestation levels proposed under the New Forestry Programme (2014-2020)[108] will have little effect on the levels of carbon sequestered in the short term because forests grow relatively slowly as they establish themselves over the first five years or so, these forests will make a substantial contribution to climate change mitigation in the longer term. A planting programme of 10,000 hectares will also support a sustainable harvest of 7-8 million cubic metres of roundwood per annum into the future and consequently make a sustainable contribution to climate mitigation over the long term".

The benefits of using wood products in construction and other uses are that it delays emissions from harvest, replaces energy intensive materials and acts as a long term carbon store outside of the forest. A continuing afforestation programme is needed to maintain these mitigation benefits.

The value of carbon sequestration by forests should be recognised and an appropriate scheme put in place to raise the level of carbon sequestration of the existing forest estate through productivity improvements. Schemes to promote retention of carbon in soils and forests through innovative management regimes should also be considered.

The UN climate change conference (COP21)[109] which was held in Paris in December 2015 was a pivotal moment for forests because their role in combating climate change was formally recognised. Forest-based measures to reduce greenhouse gas emissions such as reducing deforestation and increasing sequestration through better management of existing forests and restoring forests have long been considered a valuable climate policy measure that, if fully achieved, could cut greenhouse gas emissions by almost a third[110].

In March 2016, the European Commission set binding annual greenhouse gas (GHG) emission targets for Member States for the period 2021–2030. This stated that "Ireland will have to reduce its carbon emissions by up to 30% compared to 2005 levels between now and 2030 in order to meet binding new targets set by the EU[111]. In September 2016, the USA and China endorsed the outcomes of COP21. In doing so, U.S. President Barack Obama and Chinese President Xi Jinping outlined new plans for expanding their joint efforts on climate change[112]".

[106] http://www.coford.ie/media/coford/content/publications/forestry2030/00504%20Forestry%202030%20Inserts%20-%2004%20Climate%20Change.pdf
[107] https://www.agriculture.gov.ie/media/migration/foodindustrydevelopmenttrademarkets/foodwise2025/report/FoodWise2025.pdf
[108] https://www.agriculture.gov.ie/media/migration/forestry/forestryprogramme2014-2020/IRELANDForestryProgramme20142020230215.pdf
[109] http://www.cop21paris.org/about/cop21
[110] http://www.policyforum.net/the-paris-climate-agreement-and-forests/
[111] https://www.seai.ie/Publications/Statistics_Publications/Energy_Modelling_Group_Publications/Ireland%E2%80%99s-Energy-Targets-Progress-Ambition-and-Impacts.pdf
[112] http://www.wsj.com/articles/u-s-china-agree-on-implementing-paris-climate-change-pact-1472896645

7.8 Irish forests and water

Woodland has positive benefits on water supply and quality. By regulating runoff it may reduce down-stream flooding and help to prevent soil erosion. A recent report[113] by the Confederation of Forest Industries (UK) [Confor] notes that "forests and woodland can reduce flooding in several ways. These include:

- The greater water use by trees reduces flood volumes.
- The higher infiltration rates of woodland soils reduces rapid surface run-off of water, reducing flood generation.
- The 'hydraulic roughness' of trees, shrubs and large woody debris acts as a drag on flood waters, slowing flows.
- Trees protect soil from erosion, decreasing the amount of sediment going into watercourses and reducing the need for dredging".

The EU Water Framework Directive (WFD)[114] provides the common framework for addressing all pressures on the water environment. The policy goal is good ecological status of surface water by 2015. The key pressures on WFD defined water bodies from forestry include phosphorus, sedimentation, acidification and dangerous substances. However, the forestry sector has shown an ability to meet new environmental challenges and will need to act responsibly and to continuously respond to environmental challenges in line with best environmental practices[115].

Significant progress has been made in seeking to ensure that forestry development is compatible with the protection of the environment. A suite of environmental guidelines addressing biodiversity, water quality, archaeology, landscape, harvesting and aerial fertilisation were introduced in 2000 with the understanding that they would be reviewed on a regular basis. Compliance is required as a condition of planting approvals, grant aid and felling approvals.

[113] http://www.confor.org.uk/media/246067/confor-37_forestryandfloodingreportfeb2016.pdf

[114] http://ec.europa.eu/environment/water/water-framework/index_en.html

[115] https://www.agriculture.gov.ie/media/migration/forestry/publicconsultation/forestpolicyreview/ForestPolicyReviewpublicconsult21Jun2013.pdf

8. Sectoral Review/the Irish Forestry Development Sector

8.1 The Irish forest estate[116]

Forests play an important economic, environmental and social role in Ireland making a significant contribution to the Irish economy, currently estimated at €2.3 billion and an increasingly important role in rural development not only through the diversification of farm income but also through the provision of rurally based employment both of which contribute to rural stabilisation and viability[117].

In December 2015, the Irish forest estate covered an area of over 750,000 hectares[118]. This equates to just 10.7% of Ireland's land area. Privately owned forests account for 47% of this with the balance being owned and managed by Coillte[119]. By comparison, the average level of forest cover in the European Union (EU) is 38% with Finland having the highest forest cover at 73%[120]. In general, there has been a trend away from planting in western counties towards the better soils of the midlands and south west. This is accompanied by an increase in the level of planting of broadleaf species.

However, the Irish private sector forest estate is generally fragmented, thereby increasing both management overheads and harvesting costs[121]. There are over 21,000 private forest owners with the average size of their forest holdings being just 8 hectares (20 acres)[122]. Current planting recommendations require the inclusion of a minimum of 30% broadleaves and have a requirement that 15% of the area to be afforested is left unplanted for the enhancement of biodiversity[123]. If these private forests are to be commercially viable, it is important that these forests are well managed.

In addition, it is essential that the Irish afforestation programme, particularly its species composition is designed to better mirror the market demand for roundwood. It is crucial that Ireland's afforestation programme is linked to the forecasted demands for forest products. Irish forest policy should not unduly favour the growing of broadleaves. IFFPA believes that broadleaves should only be planted on sites which support the growing of good quality broadleaf forests which can be managed on a commercial basis.

116 http://www.forestryyearbook.ie/statistics/Total%20Forest%20cover.pdf
117 https://www.agriculture.gov.ie/media/migration/foodindustrydevelopmenttrademarkets/foodwise2025/report/FoodWise2025.pdf
118 http://www.agriculture.gov.ie/media/migration/publications/2011/AR02011.pdf
119 www.coillte.ie
120 http://www.teagasc.ie/forestry/docs/technical_info/articles/teagasc_outlook_forestry_0809.pdf
121 http://www.agriculture.gov.ie/media/migration/2020/2020strategy/2020Forestry.doc
122 One hectare covers an area of 100m x 100 m (10,000 m2). This is roughly 2.5 acres.
123 http://www.forest.joensuu.fi/silva/Main/DOCUMENTS/files/PDF/Ireland%20update.pdf

Furthermore, a review of those areas which are currently excluded from the provision of grant aid for forestry development should be undertaken.

8.2 Support measures

The new Forestry Programme 2015-2020 provides increases in forest grants and premium payments[124] but the funding period has been reduced from 20 to 15 years.

The main proposals cover afforestation grants and premium payments as well as roading grants. The nine remaining measures include supports for reconstitution of damaged forests, woodland improvement and investment in technology as well as support for producer groups and incentives for private owners to produce forest management plans (FmPs)[125].

Two new agro-forestry and fast rotation for fibre (forestry for fibre) production schemes have been introduced with respective premium schemes of five and 10-year periods. The objective of this measure is meet a forecasted supply-demand gap for fibre for energy and other wood product applications by growing multiple crop rotations on a 10 to 15 year cycle with wood biomass yields in the region of 150-300 cubic metres per hectare[126]. IFFPA sees this scheme as potentially playing an important role in helping to bridge the gap between fibre supply and demand for energy production and for the production of wood-based panels.

IFFPA welcomes the increases in grants and premium payments especially those for areas above 8 hectares. We also support the replacement of the farmer and non-farmer premium rates with a single rate.

This will bring in clients who previously would not plant because they could not attain farmer status and will also encourage investors into the market. However, this is not likely to cause a dramatic increase in afforestation levels in the medium term.

8.3 Environmental guidelines

IFFPA broadly welcomes the updating and formalisation of the extensive suite of environmental guidelines that currently exist and sees merit in bringing together these guidelines under one master document.

However, IFFPA would like to stress that the current suite of guidelines is working well and that there are no major environmental problems currently arising from the afforestation programme. Therefore, there is no need to introduce a large number of new requirements and measures. These will impact on the afforestation programme. It is clear from the experience of IFFPA foresters in the field that reduced planted areas are a major disincentive to the landowner going into forestry.

IFFPA believes that these new environmental requirements, as documented, will make the decision to plant more difficult and make planting operations themselves more difficult. This is surely at variance with the stated objectives of the Forest Service and with government policy to increase afforestation levels.

Environmental constraints, especially in relation to water have led to a very conservative approach to approvals for afforestation and have added considerably to costs and time with requests for further information.

8.4 Land available for afforestation

Ireland faces a number of challenges to realise the policy to expand forest cover, from the current 11% of the land area of the country to 18% by mid century. Such an expansion and the associated rate of afforestation are needed to provide a sustainable level of wood supply from 2030 onwards, and to continue to provide environmental services from existing and new forests[127].

Current, short term, government policy is to increase the annual afforestation program from its current low base of 6,500 hectares per annum to a minimum of 7,000 hectares for the next planting season and to progressively increase this total in a tiered manner subject to funds being available until we achieve a sustainable, meaningful program.

[124] https://www.teagasc.ie/crops/forestry/grants/brief-overview-of-forestry-grant-rates/

[125] http://www.forestry.ie/images/MiscDocs/2015YearbookArticles/2015YBNewForestryProgramme.pdf

[126] https://www.teagasc.ie/crops/forestry/grants/forestry-for-fibre/

[127] http://www.coford.ie/media/coford/content/publications/cofordarticles/LandAvailabAfforestation130116.pdf

The eventual planting target has to be built up in conjunction with the nursery sector over a 3 year period rising initially to 12,000 hectares and progressing onto 15,000 hectares per annum.

The achievement of 18% forest cover would require an additional 510,000 hectares of land to be planted. In order to achieve this target it may be necessary to consider afforestation on land that has little or no agricultural output value.

It is estimated that there is at least 500,000 hectares that is in low intensity agriculture which is capable of achieving at least yield class 16 when planted with Sitka spruce.

Given these constraints on land availability, the afforestation targets over the coming years are challenging[128]. IFFPA welcomes the work undertaken by the COFORD Land Availability Working Group and the publication of its recent report. The recommendations of the COFORD Council Land Availability Working Group (CCLAWG) should inform the Forest Service on the issues that need to be addressed in order to achieve both afforestation and timber supply targets[129].

8.5 Achieving planting targets

Forestry is a long term investment for individuals and the Irish State, however, it will pay significant economic, environmental and climate change dividends in the future. The shortfall in achieving our planting targets now will have more significant knock on effects in future years[130].

To ensure that roundwood production and carbon sequestration from Irish forests remains at a sustainable positive level in the future, IFFPA supports a planting programme of at least 15,000 hectares per annum.

To achieve a 15,000 hectare planting programme will require an assessment of all marginal land not in viable agricultural production including at least 200,000 hectares of productive unenclosed land which is now once again being reconsidered for viable forestry. This is land in the yield class (YC) range 14 to 18 (i.e. producing 14-18 cubic metres per hectare per annum). It is medium to low yield forestry but provides far greater income than sheep farming and also a comparable income with many cattle rearing systems as outlined by Teagasc[131].

[128] http://www.coford.ie/media/coford/content/publications/cofordarticles/LandAvailabAfforestation130116.pdf

[129] https://www.agriculture.gov.ie/media/migration/forestry/publicconsultation/submissionsreceived2014/IFFPASubmissionForestryProgramme150514.pdf

[130] http://www.itga.ie/docs/ITGA%20Submission%20on%20Statement%20of%20Strategy%202016-2019.pdf

[131] http://www.forestry.ie/images/MiscDocs/2016YearbookArticles/ComparisonsForestryAgriculture.pdf

High yield forestry income (€602 per annum) averaging yield class 24 is 57% higher than sheep farming, 41% higher than predominantly suckler farm production and 24% higher than systems where cattle fattening is the dominant enterprise.

Lower yield forestry (€415) averaging yield class is 3% below suckler cattle systems and 14% below predominantly cattle fattening systems but 8% higher than sheep farming.

8.6 Forest fencing

The current arrangements pertaining to fencing grant aid were determined by the Forest Service prior to the cut to the afforestation grant in 2009. Since such arrangements were determined, the average size of plantations established has reduced significantly, thereby automatically increasing the fencing ratios per hectare planted.

The current fencing grant allows for a maximum of 100 metres per hectare. This is not adequate for many applications. We recommend that FS pay for all fencing on a site plus allow the costs of the Forester to be allowed in the fencing. The fencing required per application should be determined at the Form 1 application stage. The current rate per meter needs to be increased in line with IFFPA submission on same

Gates and stiles should be allowed in the fencing costs. Currently they are not and they are necessary for access and Health and Safety.

Fencing which is required to demonstrate exclusion zones around archaeological sites and other biodiversity areas should be accountable for grant aid under the scheme. Costs should also include cost of erecting fence and forester time in locating the designated site and marking its perimeter.

8.7 Forest management plans

The Irish private sector forest estate is generally fragmented, thereby increasing both management overheads and harvesting costs[132]. There are 21,000 private forest owners in Ireland with the average size of their forest holdings being just 8 hectares (20 acres)[133]. If these private forests are to be commercially viable, it is important that these forests are well managed.

In November 2015, the Forest Service published its forest standards manual/forest management template[134]. IFFPA welcomes this measure and recognises its potential in preparing forecasts of future timber supplies from the private sector. This will have a positive effect on the ongoing development of the sector.

8.8 Roading grants

This measure will support the construction of forest roads and associated infrastructure. The primary objectives are to improve the economic value and competitiveness of the forest resource and provide access for harvesting machinery and timber transport. There have been a number of changes to the forest road scheme in relation to the area of eligibility and the timing of payments. A rate of €40 per linear metre to a maximum of 20 metres per hectare is available where 50% or greater of the area is due for harvesting in the next three years.

Special construction works may be funded on environmentally sensitive sites up to a maximum of €5,000 per application or 50% of costs whichever is lower. This provision is primarily aimed at facilitating the construction of forest roads in environmentally sensitive sites to limit any potential adverse impacts from harvesting activities[135].

IFFPA recognises the essential role that constructing harvesting roads has to play in the release of timber to the market, the proper development of the national forest estate and realisation of a return to the forest owner, the

[132] http://www.agriculture.gov.ie/media/migration/2020/2020strategy/2020Forestry.doc
[133] One hectare covers an area of 100m x 100 m (10,000 m2). This is roughly 2.5 acres.
[134] https://www.agriculture.gov.ie/media/migration/forestry/grantandpremiumschemes/2015/ForestryStandManNov15050116.pdf
[135] https://www.teagasc.ie/crops/forestry/grants/forest-roads-scheme/

sector and the national economy. This is the final support needed for a forest owner and assures the state of a return on its past investment into the sector.

However, the current proposal to provide funding for 40% of the cost of constructing forest roads will result in many forests going into a no thin regime. This is not in the interests of the entire sector and will hamper the development of the private sector when demand for timber is strong. Indeed, there is an inevitable correlation between an inadequately funded forest roading scheme and afforestation levels as current landowners see current forest owners suffer from bad policy decisions. Equally, it has been seen that forest owners often plant more land once they experience the benefits. Reducing grant aid still further for roading will undermine this[136].

The private Irish forest estate is at a developmental stage. It requires forest roads. These roads will not be built at a grant rate of less than 80% of the true costs.

IFFPA believes that the Forest Service's specification for roads is not compatible with the level of grant aid available to build such roads. In many cases the cost of material and labour, not to mention the approved forester cost substantially exceed the level of grant aid available. Some IFFPA member companies have reported that they are no longer willing to provide a road construction service to their clients such is the economic failing in the current scheme.

8.9 Forest genetic material

IFFPA welcomes the Forest Genetic Reproductive Material Scheme and believe that it should be constructed to include seed stands as well as seed and clonal orchards of the major conifer species as well as broadleaves. It should also be designed in a way that supports the long term tree improvement programme in Sitka Spruce which is the main species used in Irish forestry. Work already undertaken by Coillte with Sitka spruce has demonstrated the very significant potential for enhanced volume production in this area

IFFPA can confirm that its consultations with companies throughout the industry support the view that Improved Sitka Spruce of seed source Queen Charlotte Islands (QCI) must continue to be used and supported by the Forestry Programme. The position of IFFPA is that the reference to 'best available material', as appears in the current Forestry Programme, should continue to be used[137].

8.10 Taxation of forests

IFFPA welcomes the exemption of forestry income from the high earners' restriction as this provides a major boost to the forestry development sector[138].

Mark McAuley, Director, IFFPA stated that "the budget's removal of profits from the occupation of woodlands from the high earners' restriction is very welcome. It will boost the whole sector. IFFPA has worked hard with the Department of Agriculture to remove forestry income from the tax net. This is a major gain and will greatly help the forestry sector to grow and prosper".

[136] https://www.agriculture.gov.ie/media/migration/forestry/publicconsultation/submissionsreceived2014/IFFPASubmissionForestryProgramme150514.pdf

[137] https://www.agriculture.gov.ie/media/migration/forestry/publicconsultation/reproductivematerialconsult/submissionsreceived/MarkMcAuleyIFFPA.pdf

[138] http://www.iffpa.ie/IBEC/Press/PressPublicationsdoclib3.nsf/wvIFFPANewsByTitle/budget-a-major-boost-for-irish-forestry-13-10-2015?OpenDocument

9. Sectoral Review/the Irish Sawmilling Sector

9.1 Irish roundwood supply to 2035

By 2035, the volume of roundwood available for harvesting in Irish forests will double to 7.9 million cubic metres (Table 12). Almost all of this increase will come from the private forest estate[139].

The forest processing and emerging wood energy sectors require forecast volumes at an all Ireland level, to underpin investment decisions. It is thus important that forecasts are accurate.

Table 12: Forecast of potential net realisable volume (NRV) production from forests in the Republic of Ireland by assortment category (2016-2035)[140]

Year	7-13 cm	14-19 cm	20 cm +	Total
	000 cubic metres overbark			
2016	1,008	1,128	1,818	3,955
2017	948	1,057	1,956	3,961
2018	961	1,183	1,871	4,015
2019	1,053	1,331	1,926	4,310
2020	1,046	1,340	2,067	4,453
2021	1,114	1,548	1,972	4,634
2022	1,159	1,662	2,124	4,946
2023	1,207	1,868	2,403	5,478
2024	1,207	1,885	2,754	5,846
2025	1,244	2,071	2,820	6,136
2026	1,181	2,005	3,183	6,369
2027	1,209	2,006	3,198	6,412
2028	1,085	1,820	3,136	6,041
2029	1,134	1,862	3,130	6,126
2030	1,176	2,041	3,154	6,371
2031	964	1,736	3,695	6,395
2032	1,015	1,908	3,710	6,632
2033	1,000	1,864	3,890	6,753
2034	1,045	1,950	4,008	7,003
2035	1,189	2,222	4,452	7,863

9.2 Maximising roundwood supply

To achieve the roundwood harvest (Table 12), the potential to establish long term supply contracts between private growers and timber processors should be evaluated. This should include the evaluation of a co-operative approach which will deliver roundwood to timber processors while maximising the return to the grower. Forwood Forestry, a subsidiary of Forestry Services Ltd. has recently established such a model, which has proved to be successful[141].

Mobilising roundwood supply

Realising this increase in potential roundwood production will entail significant capital investment in roads, harvesting equipment and in information technology (IT) systems by forest owners, contractors and by the State. If the potential roundwood harvest to 2035 (Table 12) is to be realised, the following challenges need to be overcome:

- Improve the accessibility for timber harvesting of private forests;
- Continued Forest Service grant assistance for the development of forest roads;
- Develop a 'standardised low cost' roundwood sales system which facilitates roundwood sales in the Irish private forest estate, and;
- Combine private woodlots into larger sales units which can be harvested more economically.

IFFPA welcomes the work undertaken by the COFORD Wood Mobilisation Group in this regard[142].

[139] http://www.coford.ie/media/coford/content/publications/2016/CofordRoundwoodProd1635020916.pdf
[140] http://www.coford.ie/allirelandroundwoodproductionforecast2016-2035
[141] http://www.teagasc.ie/forestry/docs/events/talking%20timber%20forwood%20company.pdf
[142] http://www.coford.ie/media/coford/content/publications/projectreports/Mobilising%20Irelands%20forest%20resources%20-%20Digital%20March2015.pdf

9.3 Estimated demand for wood fibre in Ireland to 2020

The Irish timber processing sector has traditionally processed all of the roundwood which has been harvested from Irish forests. In addition there is a lot of scope for the private forest sector to supply wood fibre for energy use[143]. The estimated level of demand for wood fibre on the island of Ireland (2014-2020) is shown in Table 13. To meet customer demands in home and export markets, it is important that the roundwood supply chain remains responsive.

Table 13: Estimated roundwood demand on the island of Ireland in 2014 and 2020

Item	2014	2020
	000 cubic metres overbark	
Roundwood supply forecast (a)	3,623	3,830
Demand forecast and residue offset		
Roundwood for sawmilling[144]	2,699	3,283
Roundwood for boardmills	730	880
Residues for boardmills	670	720
Forest-based energy[145,146]	1,912	3,259
Sawmill residue offset[147]	-1,295	-1,633
Boardmill residue offset	-89	-103
Net demand[148] (b)	4,597	6,406
Supply position (a-b)	-974	-2,097

Moreover, if a renewable heat incentive (RHI) is established, there is considerable scope exists to expand the use of wood biomass energy for the production of renewable heat (RES-H). Apart from the requirement for RES-H, there are many additional benefits to investment in biomass heating.

Meeting the 2020 targets for renewable energy would support around 240 new full-time jobs, as well as 120 man years during the construction phase. The growth of an RES-H sector would help the biomass supply chain to mature and stimulate regional demand for forest thinnings, energy crops and other sources of biomass[149].

This increased demand for wood biomass energy is in addition to supplies for sawmilling and board manufacture.

143 http://www.coford.ie/iopen24/pub/reilly.pdf.pdf

144 Source: A survey of the roundwood demand sawmills and boardmills as undertaken by drima marketing (April, 2014).

145 The estimated demand for wood biomass energy in the Republic of Ireland was provided by the Sustainable Energy Authority of Ireland (SEAI); This is based on the best available data available as of April 2014; www.seai.ie

146 The estimated demand for wood biomass energy in Northern Ireland was provided by Action Renewables; (personal communication); This is based on the best available data available as of April 2014; http://www.actionrenewables.co.uk/

147 The estimation of sawmill and boardmill residues is based on the analysis as used for Woodflow (2012); http://www.coford.ie/media/coford/content/publications/projectreports/cofordconnects/Woodflow%20and%20forest-based%20biomass%20energy%20use%20on%20the%20island%20of%20Ireland%20(2012).pdf

148 Net demand is defined as the demand for wood fibre less (the supply of roundwood from Irish forests + the supply of wood residues from the sawmilling and boardmill sectors).

149 http://www.irbea.org/wp-content/uploads/2016/03/IrBEA-Renewable-Heat-Incentive-Report-final.pdf

9.4 Sawmill overview

The Irish sawmill sector, which comprises eight companies (Table 14) all of which are certified to Forest Stewardship Council (FSC)[150] and/or to PEFC[151] (Programme for the Endorsement of Forest Certification) standards, is modern, efficient, export focused and customer focused. The sector employs more than 2,500 people; 1,600 directly and the remainder on an indirect basis.

Sawmills provides the primary outlet for the sawlog and stakewood which is harvested in Ireland. The sector also supplies large volumes of sawmill residues (including bark, sawdust shavings and wood chip) to the panel products and bio-energy sectors.

In recent years, continued reinvestment by Irish sawmills in innovation-led technology has enabled the sector to produce a high quality timber product and to develop a customer-focused service largely for their UK customer base[152].

Table 14: Key sawmills operating on the island of Ireland by size and location[153]

Size	Sawmill name	Irish location(s)	Website
Large	Balcas Ltd.	Enniskillen, Co. Fermanagh	www.balcas.com
Large	ECC Timber Products Ltd. / Earraí Coillte Chonnacht Teoranta	Corr na Móna, Co. Galway	www.ecc.ie
Large	Glennon Brothers Ltd.	Longford, Co. Longford Fermoy, Co. Cork	www.glennonbrothers.ie
Large	GP Wood Ltd.[154]	Enniskeane, Co. Cork Lissarda, Co. Cork	www.gpwood.ie
Large	Murray Timber Group (MTG)	Ballygar, Co. Galway Ballon, Co. Carlow	www.mtg.ie
Medium	Coolrain Sawmills Ltd.	Coolrain, Co. Laois	www.gardendeckingfencing.ie
Medium	Laois Sawmills Ltd.	Portlaoise, Co. Laois	www.laoissawmills.com
Medium	Woodfab Timber Ltd.	Aughrim, Co. Wicklow	www.woodfabtimber.ie

[150] www.fsc.org
[151] www.pefc.org
[152] http://www.ttjonline.com/features/irish-mills-make-a-stand-4386512/
[153] Source: drima market research survey.
[154] GP Wood was formed in 2013 following the merger of Grainger Sawmills and Palfab Timber Ltd.

Use of roundwood by Irish sawmills (2011-2015)

In 2015, Irish sawmills utilised 2.04 million cubic metres of roundwood (Table 15), 71% of which was sold by Coillte, with the balance supplied by imports and by the private forest sector. The sawmilling sector used 100% of available logs. Due to a shortage of suitable roundwood for sawmill use; additional logs were imported from Scotland.

Table 15: Roundwood available for processing in the Republic of Ireland (2011-2015)[155]

Item	2011	2012	2013	2014	2015
	Thousand cubic metres				
Commercial softwood					
Imports less exports	55	-18	49	68	40
Coillte	2,299	2,269	2,474	2,434	2,377
Private sector	386	343	328	447	646
Commercial hardwood					
Imports less exports	0	0	-1	0	0
Coillte	1	1	2	6	3
Private sector	1	1	1	0	0
Total	2,742	2,596	2,853	2,955	3,066
Of which					
Sawlog	1,575	1,622	1,710	1,815	1,867
Stakewood	115	131	117	133	169
Total use of roundwood by sawmills	1,690	1,753	1,827	1,948	2,036

This roundwood is graded by size; small sawlog: (14-20 cm diameter) is used for the production of pallets, fencing, crates and for the production of small dimension structural timber products. Large sawlog: (>20cm diameter) is primarily used for the production of construction timbers.

Key products produced

The products which are produced by the sector include kiln dried strength graded carcassing, pallet/packing case material, Canadian Lumber Standard (CLS) for the timber frame manufacturing industry and machined whitewoods for the construction and garden shed industries.

Irish sawmill output (2011-2015)

In 2015, the Irish sawmill sector produced 1.09 million cubic metres of timber products. This included the production of sawn timber products[156] and round stakes (Table 16). The timber products produced by the sector serve three main markets; construction/structural; pallet/packaging and fencing uses. The output of the sector for the period 2011 to 2015 is shown in Table 16[157].

[155] COFORD Connects Woodflow Series: http://www.coford.ie/media/coford/content/publications/woodflow2015/WoodflowCCN2015FirstDraft280716.pdf

[156] i.e. construction, square edged fencing and pallet/packaging timbers

[157] This data is for the Republic of Ireland (RoI)

Table 16: Irish sawn timber output by product and year (2011-2015)[158]

Product	2011	2012	2013	2014	2015
	000 cubic metres				
Construction/ structural	289	297	313	477	491
Pallet/packaging	251	258	272	207	221
Square edged fencing	206	211	223	203	203
Round stakes	106	119	106	133	154
Other	15	15	16	17	16
Total output	867	900	930	1,037	1,085

Key export markets for the softwood sawn timber

Northern Ireland and the UK are the principal markets for the sawn softwood exports from the Republic of Ireland. However in recent years, Irish sawmillers have developed new export markets including France. Over the period 2011-2015, the volume of sawn softwood which has been exported by the Irish sawmill sector increased by 13% (Table 17).

Table 17: Exports of sawn softwood from the Republic of Ireland (2011-2015)[159]

Year	Exports
	000 cubic metres
2011	619
2012	534
2013	601
2014	718
2015	701

[158] COFORD Connects Woodflow Series: www.coford.ie
[159] Source; Central Statistics Office (CSO); www.cso.ie

Certification of sawn timber products

The majority of the logs which are supplied to Irish sawmills are certified to FSC[160,161] or PEFC[162] standards. In addition, Irish sawmills have their own chain of custody (CoC) certification. This enables them to certify their products to FSC or PEFC standards. The end user (of Irish produced sawn timber products) can therefore be confident that the timber products which they source from Irish sawmillers meet strict environmental criteria. These criteria are independently verified.

9.5 Opportunities for Irish sawn timber in the UK

Since 2007, Irish sawmillers have grown their share of the UK market for sawn softwood from to 3.34% in 2007 to 5.09% in 2015. Moreover, in 2015 Ireland was the fifth largest supplier of sawn softwood to the UK. The ways in which the Irish sawmill sector has reacted to the UK market includes[163]:

- Irish sawmills are now producing 47mm construction grade studding to target the UK construction marketplace. This is in addition to the 44mm studding commonly used in Ireland.
- Glennon Brothers[164] aims to provide 'a one-stop timber solution for Irish and UK markets'. With its range of value-added products including fencing and decking (marketed under the Glenfence[165] and Glendeck[166] brands), tongued and grooved (T and G) flooring and specials, Glennon's aim is to be a 'one-stop solution' for both the Irish and UK markets.

[160] FSC: Forest Stewardship Council; www.fsc.org
[161] The Forest Stewardship Council (FSC) is an independent, non Governmental, not for profit organisation established to promote the responsible management of the world's forests; www.fsc.org
[162] www.pefc.org
[163] http://www.ttjonline.com/story.asp?storycode=60505
[164] www.glennonbrothers.ie
[165] http://www.glennonbrothers.ie/glenfence.html
[166] http://www.glennonbrothers.ie/glendeck.html

Its recent investment in two UK timber processing facilities shows its ongoing commitment to the UK marketplace.

- Murray Timber Group's (MTG)[167,168] new processing line has increased both yield and quality. With the UK market in mind, in 2008, a €4 million planing line was added to the MTG facility at Ballygar, Co. Galway. This compliments an existing high speed planing line which was installed in Murray's Ballon plant in 2005.
- GP Wood[169] now exports 2,500 cubic metres of construction timber a month to its customer base across the Irish Sea.

9.6 UK overview

UK economic growth had already slowed from around 3% in 2014 to around 2% before the EU referendum due to slower global growth, but the vote to leave the EU is likely to lead to a significant further slowdown. UK growth is projected to slow to around 1.6% in 2016 and 0.6% in 2017, largely due to the increased political and economic uncertainty following the 'Brexit' vote[170].

The UK is a significant importer of sawn timber and panel products. The majority of imported wood products are sourced from the European Union (EU). The UK remains the key market for sawn timber and wood-based panels (WBP) which are produced in Ireland.

The UK construction market is showing signs of improvement. In 2015, UK housing starts grew by 6% over 2014 to 172,000.

9.7 UK market for sawn timber

UK sawn timber imports

The UK is a significant importer of sawn timber, importing 6.3 million cubic metres in 2015, a decline of 1.6% on 2014 (Table 18).

Table 18: UK imports of sawn timber (2011-2015)[171]

Year	Sawn timber imports
	000 cubic metres/annum
2011	4,900
2012	5,100
2013	5,500
2014	6,425
2015	6,323

An analysis of the consumption of sawn timber in the UK (2011-2015)

Over the period 2011-2015, the volume of sawn softwood which has been exported by the sawmill sector in the Republic of Ireland has increased by 13%. The two key markets for the sawn softwood exported from the Republic of Ireland are Northern Ireland and the UK. However in recent years, Irish sawmillers have developed new export markets including France.

Over the period 2007-2015, Ireland's market share of the UK sawn softwood timber market grew by more than 50% from 3.34% in 2007 to 5.09% in 2015. Moreover, in 2015, the Republic of Ireland was the fifth largest exporter of sawn softwood timber to the UK. There are further opportunities for the Irish sawmilling sector to grow its market share in the UK.

In 2015, only 37% of the market for sawn softwood in the UK was sourced domestically (Figure 8). More than 90% of the sawn hardwood used in the UK is imported. Key end user markets for sawn softwood in the UK are shown in Table 23.

[167] www.mtg.ie
[168] MTG: Murray Timber Group; www.mtg.ie
[169] www.graingersawmills.com
[170] http://www.pwc.co.uk/services/economics-policy/insights/uk-economic-outlook.html

[171] http://www.forestry.gov.uk/forestry/beeh-a9zjnu

An analysis is provided below on the consumption of sawn timber in the UK for the period 2011-2015 (Tables 19-21)[172,173,174].

Table 19: Estimated consumption of sawn softwood in the UK (2011-2015)

Year	Production	Imports	Exports	Consumption
	Thousand cubic metres			
2011	3,227	4,514	131	7,610
2012	3,361	4,756	116	8,001
2013	3,548	5,092	148	8,492
2014	3,716	5,928	157	9,496
2015	3,449	5,888	167	9,170

Table 20: Estimated sawn softwood consumption by end use in the UK (2011-2015)[175,176]

End use	2011	2012	2013	2014	2015
	Thousand cubic metres				
Construction	4,734	5,015	5,146	5,950	5,907
Pallets and packaging	1,333	1,386	1,530	1,630	1,555
Fencing and outdoor	1,315	1,337	1,455	1,541	1,469
Other	228	263	342	367	370
Total	7,610	8,001	8,473	9,488	9,301

Table 21: Estimated consumption of sawn hardwood in the UK (2011-2015)

Year	Production	Imports	Exports	Consumption
	Thousand cubic metres			
2011	52	410	32	430
2012	48	423	25	446
2013	46	436	19	463
2014	47	496	18	525
2015	44	435	20	459

9.8 The UK market for sawn softwood

Key exporters of sawn softwood to the UK (2011-2015) are shown in Table 22. In value terms, Ireland's share of the UK market for sawn softwood timber grew by more than 50% from 3.34% in 2007 to 5.09% in 2015. Moreover, in 2015, the Republic of Ireland was the fifth largest exporter of sawn softwood to the UK. There are further opportunities for the Irish sawmilling sector to grow its UK market share, as in 2015, only 37% of the UK demand for sawn softwood was supplied from domestic sources (Figure 8).

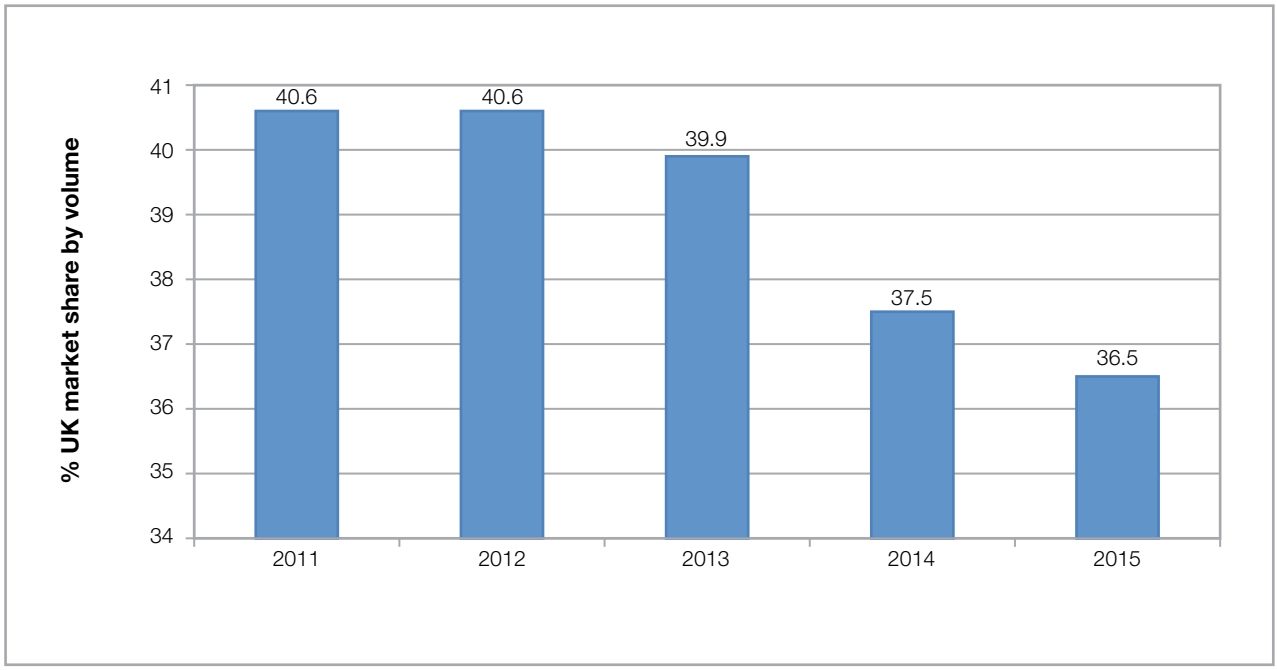
[172] http://www.forestry.gov.uk/pdf/TimberUtilisationReport2013.pdf/$FILE/TimberUtilisationReport2013.pdf
[173] http://www.unece.org/fileadmin/DAM/timber/country-info/UnitedKingdom2013.pdf
[174] http://faostat.fao.org/site/626/default.aspx#ancor
[175] http://www.forestry.gov.uk/forestry/beeh-9vvf6w
[176] http://www.forestry.gov.uk/pdf/Timber_Utilisation_Report_2015.pdf/$FILE/Timber_Utilisation_Report_2015.pdf

Table 22: Key exporters of sawn softwood timber to the UK market by value and year (2011-2015)[177]

Exporter	2011	2012	2013	2014	2015
	€ million				
Sweden	453.89	513.83	513.26	594.66	604.93
Finland	135.72	140.32	157.00	177.14	185.40
Latvia	123.76	124.41	147.49	181.27	196.76
Ireland	54.39	67.74	73.72	74.18	67.13
Germany	61.28	58.85	58.27	65.64	62.88
Russian Federation	54.22	51.14	52.74	71.73	73.22
Estonia	15.27	16.74	15.06	20.48	15.47
Norway	7.93	8.10	11.69	9.06	10.96
Austria	5.10	3.87	6.64	7.99	6.37
Belgium & Luxembourg	7.39	3.36	5.96	6.21	6.68
USA	4.31	4.70	4.40	5.35	4.77
Lithuania	5.90	4.07	3.07	5.46	9.85
Netherlands	0.82	3.31	2.40	3.98	8.33
Denmark	1.58	2.29	2.02	5.11	6.77
Poland	1.79	2.07	2.11	2.84	5.98
New Zealand	0.81	0.51	0.73	1.18	1.36
France	0.34	0.77	0.44	0.75	1.00
Other	52.83	32.5	52.96	46.68	51.83
Total	987.33	1,038.58	1,104.00	1,286.00	1,319.69
% Ireland	5.51%	6.52%	6.68%	5.77%	5.09%

[177] Source: Eurostat; epp.eurostat.ec.europa.eu

Figure 8: UK domestic producers share of the UK market for sawn softwood (2011-2015)[178]



The UK market for sawn timber by end use type[179,180,181]

The UK is the key market for Irish sawn softwood exports. Consumption of sawn softwood in the UK is dominated by its use in the construction sector (Table 23). Over the period 2013-2014, sawn softwood consumed by the building of new housing grew by 15.6% to 5.95 million cubic metres. Over the same period, housing starts grew by 22% to reach 162,000. In 2015, this growth moderated to 6% to reach starts of 172,000 (Table 24)[182].

The recovery in new home building in the UK (Table 24) has led to a resurgence in timber frame building. The cost benefits, speed of build and the overwhelming environmental and quality advantages of timber frame resulted in a faster rate of growth than for masonry built homes which in turn, has benefitted sawn softwood consumption and imported sawn softwood especially.

Over the period 2012-2013 the exports of pallet/packaging timber from the Republic of Ireland grew by 60% to reach a market penetration of 5.5%. Over the period 2013-2014, the production of wooden pallets in the UK grew by 3.5% to reach 32.5 million (Table 25).

Table 23: Share of sawn softwood consumption in the UK by main market (2010-2014)[183]

Market	2010	2011	2012	2013	2014
	% of annual consumption				
Construction	65	62	63	61	63
Pallets/packaging	18	18	17	17	16
Fencing /outdoor	14	17	17	18	17
Other	3	3	3	4	4
Total	100	100	100	100	100

Table 24: Estimated use of sawn softwood in new house construction in the UK (2011-2015)

Item	Unit	2011	2012	2013	2014	2015
Housing starts	000	137	124	127	162	172
Softwood consumption	000 cubic metres	415	385	455	555	589

178 http://www.forestry.gov.uk/pdf/Timber_Utilisation_Report_2015.pdf/$FILE/Timber_Utilisation_Report_2015.pdf
179 At the time of writing, not all data for 2015 was available.
180 http://www.forestry.gov.uk/pdf/Timber_Utilisation_Report_2015.pdf/$FILE/Timber_Utilisation_Report_2015.pdf
181 https://www.gov.uk/government/statistical-data-sets/live-tables-on-house-building
182 https://www.gov.uk/government/statistical-data-sets/live-tables-on-house-building
183 At the time of writing, data for 2015 was not available.

Table 25: UK production of new pallets (2011-2014)[184]

Market	2011	2012	2013	2014
	Million pallets			
Pallet production	29.7	30.0	31.4	32.5

Over the period 2013-2014, the consumption of sawn softwood increased by 12% in the UK (Table 26). The breakdown of use by market is shown in Table 26. Market share by origin is in Table 27.

Table 26: Estimated consumption of sawn softwood by end use in the UK (2007-2014)[185,186]

Market	2007	2008	2009	2010	2011	2012	2013	2014
	000 cubic metres							
Construction	6,992	5,069	4,760	5,346	4,734	5,015	5,146	5,950
Pallets/packaging	2,119	1,595	1,431	1,343	1,333	1,386	1,455	1,541
Fencing/outdoor	1,338	1,173	1,123	1,257	1,315	1,337	1,530	1,630
Other	250	200	175	174	228	263	342	367
Total	10,669	8,037	7,490	8,119	7,610	8,001	8,472	9,488

[184] http://www.forestry.gov.uk/pdf/WoodPackagingStudy2013.pdf/$FILE/WoodPackagingStudy2013.pdf
[185] http://www.forestry.gov.uk/forestry/INFD-7FGKH4
[186] At the time of writing, data for 2015 was not available.

Table 27: Share of the UK sawn softwood by market type by origin (2011-2014)[187]

Market	2011		2012		2013		2014	
	UK	Imports	UK	Imports	UK	Imports	UK	Imports
Construction	21	79	17	83	18	82	15	85
Pallets/packaging	69	31	76	24	74	26	73	27
Fencing/outdoor	89	11	90	10	89	11	79	21

Mike Glennon, Joint Managing Director Glennon Brother's welcoming delegates to the FEFPEP Packaging Conference which was held in Cork in October 2015

[187] http://www.forestry.gov.uk/pdf/Timber_Utilisation_Report_2015.pdf/$FILE/Timber_Utilisation_Report_2015.pdf

10. Sectoral Review/the Irish Panel Products Sector

10.1 Key panel product manufacturers

MEDITE TRICOYA EXTREME used as wall cladding

Three panel product mills operate in the Republic of Ireland. The products which are produced by this sector and the location of these panel mills are detailed below (Table 28).

Table 28: Wood-based panel mills operating in the Republic of Ireland as of December 2015

Panel products mill	Established	Product(s) produced	Location
Masonite Ireland[188]	1997	Fibreboard door facings	Carrick-on-Shannon, County Leitrim
MEDITE[189]	1983	Medium Density Fibreboard (MDF)	Clonmel, County Tipperary
SMARTPLY[190]	1995	Oriented Strand Board (OSB)	Slieverue, County Kilkenny

In 2015, the Irish panel products sector had a combined output of 769,000 cubic metres (Table 29). The sector is an active buyer of pulp wood; sawmill residues (i.e. sawdust, woodchip and bark) and post consumer recovered wood (PCRW). In 2015, the estimated annual wood fibre requirement[191] (for process use) of the wood-based panel mills operating in the Irish Republic was 1.37 million cubic metres.

[188] www.masonite.com
[189] MEDITE -Europe Ltd was established in Clonmel by the Medford Corporation in 1983. In November 2006, MEDITE was acquired by Coillte; www.medite-europe.com
[190] The OSB mill at Slieverue was first established as a joint venture between Coillte and Louisiana-Pacific in 1995. In May 2002, Coillte acquired full ownership of this business. It now trades as SMARTPLY; www.smartply.com
[191] This includes pulpwood, wood chips, sawdust and post consumer recovered wood (PCRW).

Since commencing production in 1997, Masonite has exported 201 million doors to its customers worldwide

Table 29: Output of the panel sector in the Republic of Ireland (2011-2015)[192]

Item	2011	2012	2013	2014	2015
	000 cubic metres/annum				
Output	736	704	739	773	769

The sector is strongly export orientated. In 2015, 79% of the panel products which were produced in Ireland were sold in overseas markets.

10.2 Panel products produced

The products manufactured by the Irish panel products sector include Oriented Strand Board (OSB), Medium Density Fibreboard (MDF) and moulded door facings.

10.3 The value and volume of Irish panel product exports (2011-2015)[193]

In 2015, 79% of the panel products which were manufactured in Ireland were exported. In total, 610,000 cubic metres of panel products were exported from Ireland to a value of €190 million (Table 30). These exports are dominated by export sales of door panels, Oriented Strand Board (OSB) and Medium Density Fibreboard (MDF). These products are manufactured by Masonite, MEDITE and SMARTPLY.

[192] COFORD Connects Woodflow Series; www.coford.ie .

[193] www.coford.ie/iopen24/pub/ccn-pp18.pdf

Table 30: The annual value and volume of panel product exports from the Republic of Ireland (2011-2015)[194]

Item	Exports									
	000 cubic metres					€ million				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Panel exports	616	630	665	662	610	174	179	199	198	190

10.4 Key export markets for Irish panel products (2011-2015)

On average, over the four year period 2011 to 2015, Northern Ireland, the UK, Germany and the Benelux country markets were responsible for 80% of panel exports from the Republic of Ireland. Over the same period, 63% of the panel products which were exported from the Republic of Ireland were sold in the UK and in Northern Ireland (Table 31). Over this period, the Irish panel products sector was the largest exporter of MDF to the UK (Table 34).

Table 31: Key export markets for panel products manufactured in the Republic of Ireland (2011-2015)[195]

Export market	2011	2012	2013	2014	2015	Average
	%					
UK	59.44	57.64	54.23	57.33	58.95	57.52
Netherlands	10.88	11.39	10.79	11.00	7.37	10.29
Northern Ireland	3.84	5.03	6.93	9.35	10.76	7.18
Belgium	5.08	5.03	5.06	4.59	3.64	4.68
Germany	5.01	4.98	4.65	4.12	3.62	4.48
Norway	5.00	2.30	3.78	3.36	1.09	3.11
Russian Federation	0.62	2.27	3.30	1.03	0.02	1.45
Sweden	0.63	2.60	3.06	2.31	2.14	2.15
France	4.42	2.75	2.82	0.84	3.91	2.95
Turkey	0.00	1.17	0.81	1.71	1.02	0.94
Italy	2.81	1.14	0.62	0.54	0.70	1.16
Denmark	0.41	0.37	0.26	0.55	0.43	0.40
Poland	0.24	0.14	0.03	0.00	0.37	0.16
Total	98.38	96.81	96.34	96.71	94.01	96.45

10.5 UK market for panel products

The UK is a key market for wood-based panel exports from Ireland. In 2015, the UK imported 3.2 million cubic metres of wood-based panels, virtually unchanged on 2014 (Table 32). Key exporters and consumption of particleboard/OSB and MDF to the UK are shown in Tables 33-34.

In 2015, Ireland was the third largest exporter of particleboard and OSB to the UK (Table 33).

Table 32: UK imports of wood-based panels (2011-2015)

Year	Panel imports
	000 cubic metres/annum
2011	2,800
2012	2,700
2013	2,962
2014	3,260
2015	3,217

[194] Source: Eurostat Joint Forest Sector Questionnaire for Ireland (JFSQ), 2012-2016
[195] Data source: Central Statistics Office; www.cso.ie

Table 33: Key exporters of particleboard and OSB to the UK (2011-2015)[196,197]

Supplier	2011	2012	2013	2014	2015
	€ million				
Germany	49.20	41.87	47.14	41.42	52.94
Ireland	42.81	22.71	22.91	21.39	24.37
France	22.11	15.47	19.64	30.90	27.38
Belgium & Luxembourg	12.64	11.99	13.94	18.45	22.69
Portugal	12.6	6.63	16.60	21.37	22.14
Latvia	1.40	5.77	10.75	13.21	21.68
Spain	4.18	4.04	5.67	8.05	7.69
Italy	2.40	5.19	3.9	6.89	3.28
Austria	2.43	2.83	3.22	2.52	4.20
Netherlands	2.59	2.31	1.21	1.03	1.60
Norway	0.13	0.05	2.50	1.90	1.51
Poland	1.64	0.33	0.13	0.89	3.59
Total	154.13	119.19	147.61	168.02	193.08

In 2015, Ireland was the largest exporter of medium density fibreboard (MDF) to the UK (Table 34).

Table 34: Key exporters of MDF to the UK (2011-2015)[198]

Supplier	2011	2012	2013	2014	2015
	€ million				
Ireland	19.36	75.57	79.64	78.00	78.59
Belgium & Luxembourg	22.10	30.38	31.32	40.80	41.80
Germany	31.62	28.09	29.50	27.89	30.92
Spain	22.66	24.36	24.52	27.03	29.33
Latvia	12.06	12.59	12.74	12.87	13.57
Poland	9.58	6.44	8.08	7.50	3.91
Austria	2.44	3.44	2.38	3.12	3.25
Hungary	1.08	1.48	2.35	1.25	0.92
Portugal	2.73	1.45	2.09	2.43	2.32
Sweden	2.66	1.10	1.60		0.06
France	0.55	1.27	1.23	0.98	1.19
Netherlands	2.17	2.39	0.87	0.52	0.63
Italy	1.76	0.57	0.68	0.27	0.31
Norway	2.15	2.42	0.47		
Total	132.92	191.55	197.47	202.66	206.8

196 http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/themes
197 The EUROSTAT database does not enable the data for particleboard and OSB exports to be separated.
198 http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/themes

The estimated consumption of particleboard and MDF in the UK (2011-2015) are shown in Tables 35 and 36 respectively.

Table 35: Estimated consumption of particleboard in the UK (2011-2015)[199]

Year	Production	Imports	Exports	Consumption
	Thousand cubic metres			
2011	2,625	691	291	3,025
2012	2,215	610	332	2,493
2013	2,276	790	229	2,837
2014	2,319	980	218	3,081
2015	2,324	970	167	3,127

Table 36: Estimated consumption of MDF in the UK (2011-2015)

Year	Production	Imports	Exports	Consumption
	Thousand cubic metres			
2011	759	611	166	1,204
2012	788	558	193	1,153
2013	756	576	126	1,206
2014	749	669	96	1,322
2015	756	560	55	1,261

[199] Particleboard data includes oriented strand board (OSB).

11. Sectoral Review/Other Sectors

11.1 Wood biomass energy sector

Energy produced from wood biomass is renewable, considered carbon neutral and is sustainable. Greenhouse gas (GHG) emissions from the sustainable combustion of wood are not counted under the Kyoto Protocol, as trees that are used for fuel are replaced in the forest[200].

The Irish wood based energy sector is still in the early stages of its development. How this sector will develop and how it will contribute to the development of renewable energy output is currently a topic of debate. Renewable thermal energy use in Ireland is dominated by biomass, in particular the use of waste wood to produce thermal energy during the manufacture of panel products, in sawmills and at wood processing plants. Thermal biomass energy is also produced using meat and bone meal (MBM) and tallow. This is produced in rendering plants.

The emerging wood biomass sector in Ireland provides a new market for wood fibre. This demand can be supplied by roundwood and /or by the use of sawmill residues.

There is significant potential to develop Ireland's bioenergy resources. This includes the potential for wood biomass to displace fossil fuel, particularly for the generation of heat. By 2015, the wood energy business in Ireland is capable of utilising over 1 million cubic metres of woodchip/pulpwood per annum[201].The National Bioenergy Action Plan[202] aims to increase the use of renewable energy in three key sectors: transport, heat and electricity. The main driver for same is the National Renewable Energy Plan (NREAP)[203]. This is outlined overleaf.

[200] http://www.dcenr.gov.ie/NR/rdonlyres/6D4AF07E-874D-4DB5-A2C5-63E10F9753EB/27345/BioenergyActionPlan.pdf

[201] http://www.agriculture.gov.ie/media/migration/forestry/forestryreview/submissionsreceived/Reps%20of%20the%20Private%20Forestry%20Sector.pdf

[202] www.dcmnr.gov.ie/NR/rdonlyres/4FFF6234-26CA-46B5-878AA04A7288DA4/0/FinalBioenergyReport.pdf

[203] http://www.dcenr.gov.ie/NR/rdonlyres/B611ADDD-6937-4340-BCD6-7C85EAE10E8F/0/IrelandfirstreportonNREAPJan2012.pdf

National Renewable Energy Plan (NREAP)

Under the EU Renewable Energy Directive, Ireland's target for 2020 is for renewable energy sources to provide 16% of final energy consumption[204]. By 2020, a third of all the electricity which will be consumed in Ireland will be generated from renewable sources. This target has since been increased to 40%. By 2020, all peat fired power generation stations will be 30% co-fired with wood biomass. Renewable heat will provide 12% of Ireland's heat demand. National renewable energy targets are shown in Table 37.

Table 37: Renewable energy targets to 2020 by renewable energy (RE) type[205].

RE type	2015	2016	2017	2018	2019	2020
	Renewable energy targets to 2020 by type					
Renewable heat (RES-H)	8	9	10	10	11	12
Renewable electricity (RES-E)	34	36	38	40	42	44
Renewable transport (RES-T)	7	7	9	9	10	11
Overall RES	12	12	13	14	15	16

The Irish Government's ambitions for renewable energy and the related national targets are fully commensurate with the European Union's energy policy objectives and the targets addressed to Ireland under the EU Renewable Energy Directive[206]. Ireland's energy efficiency ambitions (20% by 2020) as set out in the National Energy Efficiency Action Plan are duly reflected in the NREAP. The areas of NREAP which affect the wood biomass sector are renewable heat (RES-H) and renewable electricity (RES-E). These are outlined below.

Renewable heat (RES-H)

The Government has set a target of 12% renewable heat by 2020. The related programmes and supports are designed to support the achievement of this target. For historical, geographical and demographic reasons, renewable heat poses considerable challenges for Ireland, which the Government is determined to address.

Renewable electricity (RES-E)

The Government has set a target of 40% electricity consumption from renewable sources by 2020. In the last 5 years in particular, Ireland has made huge strides in accelerating renewable generation (RES-E). In the 2001 European RES-E Directive, Ireland was set a target of moving from 3.6% RES-E to 13.2% RES-E by 2010. Ireland achieved 14.4% RES-E in 2009 and is on track to exceed the national target of 15% in 2010.

The main support scheme for RES-E is REFIT (Renewable Energy Feed-In Tariff). This scheme currently covers onshore wind (large and small scale), small scale hydro, biomass landfill gas and other biomass. Subject to state aid clearance, REFIT will also be offered for Anaerobic Digestion/High Efficiency CHP, ocean (wave and tidal) energy and offshore wind.

Renewable Energy Feed-In Tariff (REFIT)

The REFIT[207] scheme provides support to renewable energy projects over a 15 year period. The new support mechanism differ from the previous programme in that it operates as a fixed feed-in tariff mechanism rather than as a competitive tendering process. Applicants to REFIT must have planning permission and a grid connection offer for their project. In May 2010, a revised set of REFIT tariffs for biomass combustion, anaerobic digestion (AD) and biomass fuelled CHP were announced by the Department of Communications, Energy and Natural Resources (SEAI) These REFIT tariffs will provide grant support to assist the deployment of CHP systems which are fuelled by biomass (Table 38). A REFIT tender for biomass generated electricity is currently being conducted for the period 2013-2015[208].

[204] Source: Sustainable Energy Ireland (SEI); www.sei.ie; now SEAI; www.seai.ie
[205] http://www.mnag.ie/workshop_2010_7_2172276902.pdf
[206] Official Journal of the European Union, L140/16 to L140/62, 5.6.2009.
[207] http://www.dcenr.gov.ie/Energy/Sustainable+and+Renewable+Energy+Division/REFIT.htm
[208] http://www.dcenr.gov.ie/NR/rdonlyres/66F84902-6F06-49B8-8861-4AAE06641FFD/0/BiomassREFITTermsandConditionsTransferring.pdf

Table 38: REFIT tariffs under the new SEAI CHP/AD CHP schemes.

Item	REFIT tariff
	€/MWh
AD CHP ≤ 500 kW	150
AD CHP > 500 kW	130
AD (non CHP) ≤ 500kW	110
AD (non CHP) > 500kW	100
Biomass CHP ≤ 1500kW	140
Biomass CHP > 1,500kW	120
Biomass combustion using energy crops	95
Biomass combustion using all other biomass	85

Those who are considering investing in biomass technologies require certainty and appropriate pricing for supply. IFFPA believes that to produce an adequate level of return, that those who are successful under REFIT would require a REFIT tariff of €140 to €150 per megawatt hour (MWh).

Demand for biomass to 2020

The overall demand for roundwood is forecast to increase from 4.6 million cubic metres in 2014 to 6.4 million cubic metres by 2020 (Table 39).

Table 39: Estimated roundwood demand on the island of Ireland in 2014 and 2020 [209, 210, 211, 212, 213]

Item	2014	2020
	000 cubic metres overbark	
Roundwood supply forecast (a)	3,623	3,830
Demand forecast and residue offset		
Roundwood for sawmilling[209]	2,699	3,283
Roundwood for boardmills	730	880
Residues for boardmills	670	720
Forest-based energy[210, 211]	1,912	3,259
Sawmill residue offset[212]	-1,295	-1,633
Boardmill residue offset	-89	-103
Net demand[213] (b)	4,597	6,406
Supply position (a-b)	-974	-2,097

Based on scenario modelling[214], the Sustainable Energy Authority of Ireland (SEAI) forecasts that by 2020, the demand for biomass for energy in the Republic of Ireland will be 53 million gigajoules (GJ). Forest based biomass and waste resources could deliver about 9 million GJ each, with agricultural residues having the potential to supply a further 8 million GJ. The balance of supply is likely to comprise indigenous purpose-grown energy crops and imported biomass.

The demand for forest-based biomass for energy in 2011 and in 2020 is an aggregate of the demand for combined heat and power (CHP), heat only and co-firing. Expected demand levels in 2011 and 2020 are shown in Table 41. To meet the 2020 renewable energy target, the demand for forest-based biomass for energy production will need to double over the period 2011 to 2020 (Table 40). This is a challenging target. However, experience in Scotland and in Austria has shown that biomass use can grow to meet challenging renewable energy targets.

[209] Source: A survey of the roundwood demand sawmills and boardmills as undertaken by drima marketing (April, 2014).

[210] The estimated demand for wood-based biomass energy in the Republic of Ireland was provided by the Sustainable Energy Authority of Ireland (SEAI); This is based on the best available data available as of April 2014; www.seai.ie

[211] The estimated demand for wood-based biomass energy in Northern Ireland was provided by Action Renewables; (personal communication); This is based on the best available data available as of April 2014; http://www.actionrenewables.co.uk/

[212] The estimation of sawmill and boardmill residues is based on the analysis as used for Woodflow (2012); http://www.coford.ie/media/coford/content/publications/projectreports/cofordconnects/Woodflow%20and%20forest-based%20biomass%20energy%20use%20on%20the%20island%20of%20Ireland%20(2012).pdf

[213] Net demand is defined as the demand for wood fibre less (the supply of roundwood from Irish forests + the supply of wood residues from the sawmilling and boardmill sectors).

[214] This is based on data available as of 2/11/2010.

To meet the stated targets for renewable energy by 2020, the gross demand for forest-based biomass for energy production will increase 2-fold, from 1.589 million cubic metres in 2011 to 3.084 million cubic metres in 2020. Such a steep increase in wood biomass demand will require a significant investment in the sectoral supply chain, and will significantly increase the competition for wood fibre.

Table 40: Estimated demand for forest-based biomass for energy production on the island of Ireland in 2011 and 2020[215]

Market	2011	2020	2011	2020
	000 cubic metres overbark/annum		% of total demand	
CHP	388	1,550	24	50
Heat only	1,092	1,425	69	46
Co-firing	109	109	7	4
Total	1,589	3,084	100	100

Achieving renewable energy targets will require significant investment in biomass fuelled combined heat and power (CHP). Before becoming operational, such facilities have at least a 2-year lead-in period.

Wood biomass use in Ireland (2011-2015)

In 2015, 35% of the roundwood used in the Republic of Ireland was used for energy generation, mainly within the forest products sector (Table 41). The use of wood biomass energy in Ireland results in greenhouse gas (GHG) emission savings from the displacement of fossil fuels. The saving in 2013 is estimated as over 0.5 million tonnes of carbon dioxide (CO_2), which compares with total emissions of 57.8 million tonnes of carbon dioxide (CO_2) in the same year.

In 2015, the output of the forest based biomass energy sector grew by 3% over 2014. However, demand for wood biomass energy from Edenderry Power was reduced in 2015, caused by the outage of the power station to facilitate a boiler upgrade.

In 2015, 237,000 cubic metres of firewood was used in the Republic of Ireland to a value of €34 million, showing that it is providing a steady and a growing market for first thinnings (Table 41). 8,000 cubic metres of this demand was imported, with the balance being supplied domestically. In addition, firewood is also harvested by forest owners for their own use. Wood biomass fuels used by the sector are shown in Table 41.

[215] http://www.coford.ie/media/coford/content/publications/projectreports/roundwooddemand2011/COFORD_demand01Mar11.pdf

Table 41: Use of forest based biomass and as a proportion of total roundwood harvest (2011-2015)[216]

Item	2011	20121	2013	2014	2015
	Thousand cubic metres				
Wood biomass use by the energy[217] and forest products industry	572	611	704	760	796
Roundwood chipped for primary energy use[218]	41	30	100	100	114
Domestic firewood use	214	225	230	235	237
Short rotation coppice (SRC)	5	5	5	5	5
Wood pellets and briquettes	129	144	161	150	154
Charcoal	5	2	1	1	1
Total	966	1,017	1,201	1,251	1,307
Of which supplied from domestic resources	896	910	1,034	1,166	1,132
Roundwood available for processing	2,740	2,594	2,852	2,975	3,016
Firewood used	214	225	230	235	237
Total roundwood use[219]	2,954	2,819	3,082	3,210	3,253
Domestic wood biomass use as a % of roundwood used	30.3	32.3	33.5	36.3	34.8

Biomass supply streams

Not all biomass will be supplied from forest resources. Of the 53 million gigajoules (GJ) of biomass expected to be required by 2020, forest based biomass and waste resources could deliver about 9 million GJ each, with agricultural residues having the potential to supply a further 8 million GJ. The balance of supply would be made up of indigenous purpose-grown energy crops and imported biomass (Table 42)[220].

[216] UNECE Joint Wood Energy Enquiry (JWEE); 2012-2016
[217] Includes co-firing of wood biomass at Edenderry Power; www.edenderrypower.ie
[218] Primarily used for space and process heating
[219] Roundwood use includes the use of domestically sourced and imported roundwood
[220] This supply data is base on work which was undertaken by the COFORD Roundwood Supply Group (2010) http://www.coford.ie/media/coford/content/publications/projectreports/roundwood/Roundwood%20Prod%20Forecast%20LR%20June%202011.pdf

Table 42: Estimated supply streams which will be available to meet the biomass demand for energy production in the Republic of Ireland in 2020[221]

Item	Estimated annual supply	
	Million GJ	%
Biomass segregated from waste stream	9	17
Forest-based biomass	9	17
Agricultural residues	8	15
Indigenous purpose-grown energy crops and imported biomass	27	51
Total	53	100
Roundwood equivalent[222] at 40-45% moisture content million cubic metres	7.5	
Roundwood equivalent at 4-45% moisture content million tonnes	5.5	

Co-firing of wood biomass

The expected demand for wood biomass fibre for co-firing at Edenderry Power is shown in Table 43.

Table 43: Estimated demand for wood fibre for co-firing at Edenderry Power (2015-2020)

Year	000 tonnes/annum
2015	300
2020	500

Efficiency of biomass energy systems

To generate the maximum level of return, it is important that the Irish wood biomass resource is used as efficiently and as cost effectively as possible. If wood fibre is to be used for the production of biomass energy, this means placing a greater emphasis on utilising this biomass resource in localised combined heat and power (CHP) and heat only plants where efficiencies are greater than 80%, rather than co-firing wood biomass with peat and/or with coal fired power stations where efficiency is less than 35%[223].

[221] Data source: SEAI; www.seai.ie

[222] http://www.teagasc.ie/forestry/docs/events/Roundwood_S_D_Eugene_Hendrick.pdf

[223] http://www.agriculture.gov.ie/media/migration/forestry/forestryreview/submissionsreceived/Reps%20of%20the%20Private%20Forestry%20Sector.pdf

11.2 Timber frame housing

New timber frame houses being constructed in Ireland

The timber frame sector has been a significant user of both construction timber and of wood based panels. Over the period 1992 to 2006, the use of timber frame housing in the Irish construction sector grew from a market share of 5% in 1992 to 30% in 2006[224,225]. In line with the increase in output from the construction sector, the timber frame sector is continuing to recover.

Glennon Brothers operate timber frame businesses in Ireland and Scotland. This has provided a second route to market for the sawn construction grade timber which Glennon Brothers produces in its Irish and Scottish sawmills.

[224] i.e. market share is taken as the percentage of new house / apartment completions which are constructed using timber frame methods.
[225] Source: Irish timber frame manufacturers association; www.itfma.ie

12. Sectoral Review/Environmental & Recreational Benefits of Forests

12.1 Biodiversity[226]

Biodiversity describes the variability among living organisms and the ecosystems of which they are part. Three conceptual levels of biodiversity are recognised i.e. ecosystem, species and genetic[227].Ireland's forests create an opportunity to conserve and enhance biodiversity at both local and national levels.

Although little native woodland remains in Ireland today, the total forest cover has increased through afforestation programmes supported by both the Irish Government, and by the European Union (EU). The strategic aim for forestry in Ireland as outlined in 'Growing for the Future'[228] is to increase Irish forest cover to 17% by 2030. These new plantations are managed principally for timber production and are dominated by non-native trees, particularly North American conifers such as Sitka spruce *(Picea sitchensis)* and Lodgepole pine *(Pinus contorta),* although in recent years there has been an increase in the planting of broadleaved species such as Oak *(Quercus spp)* and Ash *(Fraxinus excelsior)*[229].

Careful management of Ireland's forests is essential to ensure that the biodiversity which they support is not threatened. While this goal is achievable, in order to promote forest biodiversity and to fully practice sustainable forest management, it is necessary that we first have a comprehensive understanding of the biota[230] associated with our forest plantations. COFORD, together with the Irish Environmental Protection Agency (EPA)[231], funded the Bioforest[232] research project. This project ran from 2001 to 2006 and brought together researchers from University College Cork (UCC), Trinity College Dublin (TCD) and Coillte in a multi-disciplinary study of biodiversity in Irish plantations forests during their first rotation. This project studied more than 100 forest sites distributed around Ireland. Tree species composition and the age of the forest were both key elements of the site selection, as well as the nature of the soil, the previous land use or habitat and the surrounding landscape. Sitka spruce and ash-dominated forests are the main forest types investigated by this the study, but larch forests also formed a component of the study.

226 http://www.epa.ie/downloads/pubs/research/biodiversity/ertdi%20report%2051.pdf
227 http://www.agriculture.gov.ie/media/migration/forestry/publications/biodiversity.pdf
228 www.agriculture.gov.ie/forestservice/publications/growingforthefuture/
229 http://www.coford.ie/iopen24/pub/Science%20Spin%2024.pdf

230 Biota is defined as the total collection of organisms which are present within a geographic region or within a time period.
231 www.epa.ie
232 http://bioforest.ucc.ie/index.htm

Key indicator organisms studied were:

- Animals - birds, hoverflies, spiders and to a lesser extent moths and beetles
- Plants - higher plants, ferns, mosses, liverworts and lichens.

The results of the project were encouraging and it concluded that the promotion of biodiversity in forestry requires the support of good policies and practices. Recommendations arising from the project addressed many aspects of forestry from strategic planning to localised planning and practice. Today, all grant-aided forest development in Ireland must conform to the Forest Service's forest biodiversity guidelines[233]. These focus on how best to conserve and enhance biodiversity in Irish forests through appropriate planning, conservation and management.

Following from the success of the Bioforest project, COFORD has recently pledged over €3 million to support the six year Planforbio research programme[234]. This will focus on biodiversity in plantation forests in their second rotation. More recent research has shown that Irish forests are home to a diversity of birds as well as nationally important populations of some rare or declining species. These include the hen harrier, nightjar and merlin. Irish forests may also provide opportunities for other bird species to colonise Ireland. In addition, conifer plantations in Ireland provide strongholds for the native red squirrel[235].

In recent years, the management of Ireland's forests has changed from having a single goal of timber production to having a multiple use approach to forest management. This includes the production of a range of wood products, the promotion of forest biodiversity, acting as a carbon sink and facilitating widespread leisure use. Several policy measures support this multiple use approach. These include Ireland's National Biodiversity Plan[236], the Forest Service's Forest Biodiversity Guidelines[237], the Forest Service's Native Woodland Scheme[238] and the Forestry Environment Protection (afforestation) Scheme (FEPS)[239].

12.2 Forest recreation in Ireland[240,241]

While walking is the most popular activity, forest recreation embraces other specialised activities including orienteering, mountain biking, horse riding and fishing. Irish forests are well served with roads, tracks, rides, and increasingly with purpose built trail and cycle tracks in selected locations. The management, conservation and access to forests are essential to Irish tourism; both as a recreational asset for visitors as well as providing an opportunity to experience the uniqueness of Ireland's biodiversity[242]. A report on forest recreation in Ireland undertaken by Fitzpatrick and Associates (2005)[243] has estimated that 18 million people visit Irish forests per annum. Coillte and the National Parks and Wildlife Service (NPWS) provide access to 445,000 hectares of forest and to 66,000 hectares of National Parks[244].

233 http://www.agriculture.gov.ie/media/migration/forestry/publications/biodiversity.pdf
234 http://www.ucc.ie/en/planforbio/
235 http://www.coford.ie/iopen24/defaultarticle.php?cArticlePath=127_525_529
236 www.npws.ie/en/.../NationalBiodiversityPlan
237 www.agriculture.gov.ie/media/migration/forestry/.../biodiversity.pdf
238 www.client.teagasc.ie/.../Native%20Woodland%20Scheme.pdf
239 www.agriculture.gov.ie/.../forestry/.../schemes/FEPSSchemeDocUpdatedSept2009040210.doc

240 http://www.forestry.ie/forestry_recreation.htm
241 http://www.irishtimes.com/newspaper/weekend/2009/0808/1224252211814.html
242 Source: Fáilte Ireland ; www.failteireland.ie
243 http://www.coillte.ie/fileadmin/templates/pdfs/Final%20Economic%20Study%20of%20Trails.pdf
244 http://www.npws.ie/en/

Developed recreational trails and forest infrastructure are an integral part of both the walking and cycling tourism product in Ireland[245]. The majority of visitors to forest areas and trails are not specialist users and are unlikely to stay for more than three hours or engage in active hiking or other specialist sports. The forest estate in Ireland is well distributed across the country and as such can provide recreational opportunities to an increasingly urbanised population[246].

Professional/managerial socio-economic groups are more likely to visit trails and forest areas, while people in older age groups were found to visit trails and forests more frequently; this indicates a likely increase in demand as Ireland's population ages. Coillte is a major provider of walking trails, and has over 8,000 km of forest roads which are available to walkers.

Walking and cycling tourism is a growth market for overseas visitors to Ireland. Walking tourism offers valuable business opportunities in remote rural areas, which attract less general traffic. Since 2006, €3 million has been invested by Coillte and by Fáilte Ireland in the upgrading and the development of walking and cycling trails in key visitor locations around the country. This funding is supported by the National Development Plan (NDP) The potential for continued economic growth is significant. Walking in Ireland is very well regarded and is effective in terms of identifiable tourist segments. In 2008, 517,000 visitors participated in walking while holidaying in Ireland, spending an estimated €364 million. 120,000 visitors took part in cycling whilst holidaying in Ireland with an estimated spend of €103 million[247].

A recent survey of private forest owners gave timber production as the main objective for their forest but 42% of those surveyed included recreation as an objective.

Fitzpatrick and Associates estimated that the annual 18 million visits to Irish forests provide a non-market value of €97 million or €5.40 per person. The total economic activity generated by domestic forest users is estimated at €268 million. Walking tourism, which is generally undertaken by overseas visitors, accounts for a further €138 million per annum.

Coillte is Ireland's largest provider of outdoor recreation with more than 2,000kms of waymarked trails, 150 recreation sites and 11 forest parks. Its recreation sites range from forest parks, a stalwart of outdoor recreation since their inception in the 1960's and becoming increasingly more popular again today, to trailheads giving access to its extensive network of trails[248]. This facility opened in 2015[249]. Coillte develop new and innovative opportunities every year. It has just designated Ireland's first wilderness area, Wild Nephin[250], to reconnect with our once wild landscapes and provide an authentic and primitive recreation experience, valued by so many outdoor enthusiasts.

Whether it's walking, hiking, cycling, picnicking, camping, rock-climbing, canoeing, mountain-biking, horse-riding, or almost any other outdoor activity you can think of, Coillte provide it somewhere on more than one million acres of land managed for forestry and public goods. Given its geographic spread the benefits accruing from these activities are realised locally in the heart of rural Ireland.

In May 2008, the Dublin Mountains Partnership (DMP)[251] was set up. This has the ultimate aim of improving the recreational experience for users of the Dublin Mountains, whilst recognising the objectives and constraints of the various landowners. The partner organisations involved are Coillte, South Dublin County Council, Dún Laoghaire Rathdown County Council, Dublin City Council, the National Parks and Wildlife Service and the Dublin Mountains Initiative, an umbrella group representing the recreation users of the Dublin Mountains. In October 2010, the Dublin Mountains Way was officially opened. The entire 43 km route which runs from Shankill to Tallaght is now fully way marked[252].

In 2008, 73% of all visitors to Ireland said that they were 'very satisfied with their walking experience while holidaying in Ireland'. In order to continue to attract visitors who wish to partake in both walking and cycling activities while holidaying in Ireland, further development of forest parks and recreation sites as well as continued upgrading and maintenance of both looped and linear long distance trails in forests is essential[253].

245 http://www.mountaineering.ie/documentbank/uploads/Irish%20Trails%20Strategy.pdf
246 http://www.forestry.ie/forestry_recreation.htm
247 Source: Fáilte Ireland; www.failteireland.ie

248 http://www.coillteoutdoors.ie/index.php?id=140
249 http://www.coillte.ie/aboutcoillte/news/article/view/minister-michael-ring-td-officially-opens-first-phase-of-visitor-access-facilities-at-wild-nephin/
250 http://www.wildnephin.ie/
251 http://www.dublinmountains.ie/home/
252 http://www.coillteoutdoors.ie/index.php?id=125
253 http://www.agriculture.gov.ie/media/migration/forestry/forestryreview/submissionsreceived/Sub%2051%20Failte%20Ireland.pdf

In June 2011, the Irish Sports Council and Coillte agreed an extension to the very successful trails and forest recreation programme that has been in operation for the last three years and supports active participation in outdoor activities and rural tourism. The initiative, which supports a national technical trails advisor and three regional trail managers within Coillte has delivered many new trail and forest recreation projects throughout the country over the past four years and has also lead to very successful initiatives like National Trails Day[254].

In 2008, Coillte opened the first purpose-built mountain bike (MTB) trail network in Ireland in the Ballyhoura Mountains between Limerick and Cork at a capital cost of €1.2 million[255]. Visitor numbers have increased steadily to 35,000 in 2013 with the average visit contributing €48.80 in spend on accommodation, fuel, food, bike spares and other retail items in the locality. This delivers more than €1.7 million per annum in a rural area struggling to attract visitors.

[254] http://www.irishtrails.ie/National_Trails_Office/
[255] http://visitballyhoura.com/index.php/mountain-biking/

13. Member profiles

13.1 Member Profiles/Forestry Development

The Agricultural Consultants Association (ACA)[256] was established in 1979. Today its members are at the forefront of the provision of professional services to farmers in agri-business in all parts of Ireland. These services include:

- Forestry consultancy, acquisitions, planting & management.
- Farm accounts, income tax, PAYE, VAT, capital gains tax, inheritance and gift tax.
- European Union (EU) and Government related schemes in agriculture and farming including: REPS, early retirement schemes, forestry, Leader, Area Aid and educational courses.
- Project management and new business set-up services.
- Environmental consultancy including preparation of environmental impact statements and preparation of integrated pollution control licence applications and
- Land valuations.

Members of the Association of Irish Forestry Consultants (AIFC)[257] come from various backgrounds. These include the State forestry sector, private forestry companies, forest education and research. All AIFC members hold professional forestry qualifications. They are experienced in a wide range of forest related activities. AIFC consultants are committed to ongoing Continued Professional Development (CPD) and to raising standards in the Irish forestry sector.

AIFC members provide a full range of forestry services. These include forest establishment and management, forest and timber valuations, dealing with the Forest Service and legal issues. An increasing number of plantation owners are engaging AIFC members at the post-maintenance grant stage, to manage their plantations right up to first thinning and beyond. AIFC members provide harvesting expertise/ services at all stages of the rotation for both conifer and broadleaf crops.

[256] http://aca.ie/

[257] http://www.aifc.ie/

Coillte[258] was established in 1989 when it acquired ownership of the State's forests. Coillte is now Ireland's largest forestry, land and natural resources company. It is a key player in the manufacture of wood panel products[259]. It employs approximately 1,000 people in Ireland, the UK and Europe. It owns over 445,000 hectares of land, of which 390,000 hectares is under forest.

Coillte manages 7% of the land in Ireland in a sustainable and responsible way. Coillte is also Ireland's leading provider of world class recreation facilities such as mountain bike trails and forest parks[260].

Coillte is working with the National Parks & Wildlife Service (NPWS) to create a wilderness area of 11,000 hectares for people to enjoy in a truly unique landscape with its Wild Nephin Project[261] in County Mayo. This is just one example of the public goods that Coillte delivers to the people of Ireland. Independent research estimates the value of these public goods such as nature conservation, recreation and heritage at €600m per annum[262].

Coillte's forests are internationally recognised as being managed responsibly and sustainably. In 2013, Coillte won the European Business Award for Environmental and Corporate Sustainability. In 2011, Coillte celebrated 10 years of Forest Stewardship Council (FSC) certification[263] and has also secured PEFC (Programme for the Endorsement of Forestry Certifications)[264] certification for its forestry operations. These certifications have become increasingly valuable as awareness has grown of the importance that timber and timber based products are sourced from forests which are managed in accordance with strict environmental, social and economic criteria. Over 15% of the Coillte estate is actively managed for nature conservation.

As part of its continuous investment in the forests of Ireland, Coillte plants approx. 15 million trees in Ireland every year covering an area of approx 6,000 hectares. These trees will play a vital role in Coillte's forest products business and will also significantly enhance the Coillte estate for the benefit of all users.

In 2015, 2.4 million cubic metres of roundwood were sold from Coillte forests. This was used by its customers in the sawmilling, wood-based panel and energy markets.

MEDITE[265], part of MEDITE SMARTPLY (formerly Coillte Panel Products) is the leading producer of medium density fibreboard (MDF). Over 90% of turnover was derived from export sales to a more than 30 countries, following a concerted effort to seek out new markets for its products.

Since 1983, wood panel products from MEDITE have been exported with an estimated total value of €2.50 billion.

Coillte also supplies roundwood to the Irish sawmill sector which has become much more export focused. Over the period 2007-2015, Ireland's share of the UK sawn softwood timber market grew by more than 50% from 3.34% in 2007 to 5.77% in 2015.

Coillte looks to add value to every hectare of land it manages with interests in renewable energy and telecoms. Coillte is committed to helping reduce Ireland's carbon emissions and achieving the Irish Government's renewable energy targets.

For more visit **www.coillte.ie** or follow us on Twitter or Facebook.

258 www.coillte.ie
259 http://www.mdfosb.com/
260 www.coillteoutdoors.ie
261 http://www.coillte.ie/aboutcoillte/news/article/view/irelands-first-wilderness-project-launched/
262 http://www.coillte.ie/fileadmin/user_upload/pdfs/Public_Goods/Coillte_Public_Goods_2011.pdf
263 http://www.coillte.ie/coillteforest/responsible_forest_management_and_certification/fsc_pefc/
264 www.pefc.org
265 http://www.medite-europe.com/

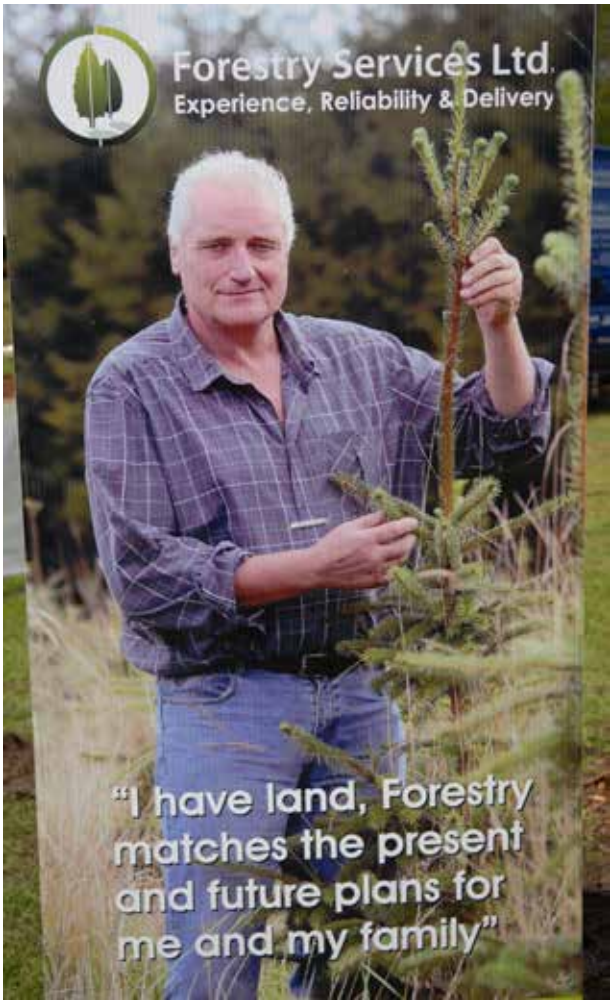
From a number of regional offices around the country co-ordinated through a central administrative office in Cork city, the Forestry Company[266] provides a nationwide service in farm forestry.

Established in 2009, the Forestry Company specialises in all aspects of forest management and prides itself on delivering a professional and personal service. Each member of the team has the expertise to provide advice on all forestry related matters. From the initial step of applying for grants and premiums to planting, managing, thinning and harvesting timber, the Forestry Company knows farm forestry.

[266] www.theforestrycompany.ie

Forestry Services Ltd.
experience, reliability & delivery

Established in 1985, Forestry Services Ltd.[267] (FSL) is one of Ireland's leading and largest forestry management companies. FSL specialises in forest establishment and management, estate management and succession planning. We manage over 30,000 hectares of forest on behalf of our clients. These include farmers, high net worth individuals, pension/investment funds and Government agencies.



Forestry investment appraisals are becoming an increasingly important business for FSL. Through our nationwide network of professional foresters, we source land suitable for afforestation and acquire existing plantations for investors.

FSL are also involved in international timberland investment. We have recently sold 9,000 hectares of forest and agricultural land in Estonia to a large timber investment management organisation (TIMO).

forwood
forest management
harvesting and marketing experts

Forwood Forestry Ltd.[268] is an integrated forest management, timber harvesting and marketing company operating nationwide. Established in 2005 as a subsidiary of FSL, Forwood is the only joint venture of its kind in Ireland between a forest management company and a timber harvesting company. We provide a uniquely integrated management service in the harvesting of crops for private forest owners. The forest owner pays for the services provided on a commission basis. This provides a win-win for forest owners and the timber processing sector. Our experience is that forest owners are pleased with the transparency provided on costs and returns, while the forest products industry is facilitated by the bulk selling of timber by a single entity.

[267] http://www.forestryservices.ie/

[268] www.forwood.ie

Green Belt[269] was originally formed in 1982 by Tim O'Brien and Mossie Ryan in response to the launch of the European Community forestry grant scheme and the absence of any private professional management company capable of catering for the requirements of investors at the time. Since that time, the company has grown strongly, in line with the upsurge in afforestation since the early 1980's.

Green Belt currently manages in excess of 130,000 hectares of forests in Ireland for private clients, investors and pension funds. Green Belt are always at the coal face of forestry promotion and regularly lobby local councillors and TD's in efforts to promote and maintain planting grants and premia, the back bone of afforestation in Ireland.

Green Belt currently plant an average of 2,500 hectares of new ground per annum for both farmers and investors, harvest in excess of 100,000 tonnes of timber each year through thinning and clearfell and build in excess of 15 kilometres of new forest roads.

These services are provided through a strategically positioned permanent work force of 30 professional staff ably assisted by in excess of 250 experienced contracts.

With the vast knowledge gained over the years and our extensive network of professional foresters, Green Belt are ideally placed to provide the optimal service to you and the optimal return from your forest. From initial planting to management through to mid rotation harvesting and final clear fell, we are the market leaders and the results for our clients are second to none.

Green Belt also brought this experience to play in other forestry markets, including the UK and Central America, in particular Panama, where Green Belt established, managed and indeed sold nearly 1,000 hectares of teak plantations.

For proven results contact Green Belt for all your forestry needs.

[269] http://www.greenbelt.ie/

None So Hardy (Forestry) [NsH][270] Ltd is a privately owned Irish company. It specialises in the growing and in the supply of forestry planting stock. Its nurseries are located in Co. Wexford. Sales, administration and distribution are based in Shillelagh, Co. Wicklow. The company employs 80 people.

It is the largest supplier of forestry planting stock to private forestry sector in Ireland. On an annual basis, it has the potential to supply 25 million trees. It produces a comprehensive range of tree species. These include the hardwoods, Oak, Sycamore, Alder, Beech, Birch, Mountain ash, and Hawthorn. The conifer species which it supplies includes Sitka spruce, Norway spruce, Douglas fir, Noble fir, Scots pine, Lodgepole pine and also European and Hybrid Larch.

Two important investments have been vital for the successful development of NsH. In 1994 it erected a cold store at its Shillelagh base. This had the capacity to hold 3 million plants. In 2002, this facility was extended. It can now hold 8 million plants. The use of these cold stores ensures that the short Irish planting season can be extended by at least two months.

In 2002, NsH also established a new irrigation system at both of its forest nurseries. These are located in Ballymurn and in Donishall in Co Wexford. The Ballymurn site produces hardwood planting stock; principally Oak, Beech, Sycamore, Alder, Birch, Mountain Ash and Hawthorn. NsH aims to supply the forest contractor with quality forest planting stock. These are grown from native seed sources. The installation of this irrigation system has been a crucial element in achieving this strategy.

In recent years, NsH has pioneered the introduction of improved Sitka spruce seedlings into the planting programme[271].

[270] http://www.nonesohardy.ie/

[271] http://nonesohardy.ie/nsh-developments/

Roundwood Timber Ltd
FORESTRY & TIMBER SERVICES

Roundwood Forestry and Timber Services[272] provide a complete range of forestry consultancy advice and harvesting services to private forest owners in Ireland. We have been operating successfully since the 1980's. During this time, we have built up a successful working relationship with forest owners throughout Ireland.

If you are considering planting your land, we can provide expertise and advice. We are fully registered to apply for afforestation and other Forest Service grants on your behalf.

We have built up a strong track record in forest tending and thinning operations. We have a fully trained and highly experienced harvest team carrying out forest thinning throughout Ireland. We can manage your harvesting operations from start to finish, including applications for forest road and woodland improvement grants.

We provide a consultancy and management service from forest planning and establishment to tending, thinning and harvesting.

SWS Forestry

SWS Forestry Services[273] have been managing plantations across Ireland for almost 30 years. They evolved from the South Western Co-operative society, an entity which began as an agricultural services company in 1957. SWS Forestry Services has strong links with the agricultural community, being an integral part of South Western Agricultural services for almost 30 years and developing to become a forerunner in the forestry and biomass sector in Ireland. People planting their land appreciate the advantage and comfort of dealing with a solid organisation with a strong track record; a company that will be there from 'seed to sawdust'.

SWS Forestry Services has always believed in the potential of forestry as an indigenous resource, and in how it can play a significant role in helping Ireland during the good times as well as the more challenging periods. This multi functioning sector not only creates employment in rural areas but also mitigates greenhouse gases, reduces dependence on imported fuels, enhances our amenity portfolio and creates economic activity worth 1.0% of gross domestic product (GDP).

The company's key activities include forest establishment, forest management, roading, harvesting, forest insurance and land purchase.

SWS Forestry Services is headquartered in Clonakilty, Co. Cork and operates a nationwide network of local, professional foresters who are registered with the Society of Irish Foresters and who undertake ongoing studies and research, both nationally and internationally, so we can offer our clients the most up to the minute advice.

[272] http://roundwoodtimber.ie/about-us/

[273] http://www.swsforestry.ie/

2016 saw the launch of Veon Ltd[274] following the consolidation of two of Ireland's leading forestry participants; Forest Enterprises Ltd (FEL) and I.F.S Asset Managers Ltd (IFS).

Forest Enterprises Limited was founded in 1990 and the company now manages in excess of €100 million of forestry assets in Ireland. IFS introduced retail investment to Irish forestry through a series of specialist funds the first of which was launched in 1997.

As a full service forestry company with offices throughout the country, Veon's vision is to create sustainable wealth through forestry for its clients. The professional services and management systems which Veon provides are geared towards attaining this vision. We offer establishment, roading/harvesting, management and forestry investment services to a wide range of Irish and international clients from farmers to family wealth offices. We have invested heavily in state-of-the art information technology systems to help us sustainably manage a forest estate of over 14,000 hectares. Ireland's forests are among the most highly productive in Europe and as an investment they are an excellent counter balance to other more volatile asset classes.

Veon Limited is the only private forestry company in Ireland which is registered with the Central Bank as an Alternative Investment Fund Manager (AIFM).

Veon is client-focussed and provides individual forestry solutions to meet their varying requirements. Most forest owners want to plant or acquire high quality conifer plantations that are high yielding, larger than average in area and which are commercially oriented. In managing such forests Veon never loses sight of what the market is doing. Through constant monitoring of, and engagement with the market, Veon strives to deliver the most successful outcome for our clients.

An increasing number of clients have expressed a desire to include a hardwood component to their forest portfolio and Veon's specialist foresters are experienced in delivering advanced professional services to these forest owners.

Our establishment service is similarly focused on creating high quality commercially focused plantation portfolios for our clients. Veon's acquisition managers have over 25 years' experience in land and plantation purchases so we have a keen insight into what forestry investors are seeking. We follow a rigorous analysis and vetting procedure when acquiring plantations and this has ensured that we are now the leading purchaser of such plantations in Ireland. The average size of our client's forests are twice the national average area, benefit from higher yield classes and are well located close to markets.

Our harvesting service is centred on investing in the final crop and adding value to the plantation for our client's benefit. In all thinning operations, Veon's objective is simple: create more value in our client's forests and maximise the potential value of the final clearfell crop. This service has grown substantially over the years as the estate we manage grows to maturity and Veon is now the leading forestry company involved in harvesting timber in Ireland. The forestry estate managed by Veon ranges from young to mid-rotation forests, but is already producing substantial amounts of timber for the Irish market from early thinnings. This will continue to grow substantially over the coming years as our client's forestry portfolios mature.

[274] http://www.veon.ie/about-fel.html

Our professional consultancy services deliver professional clarity to aid decision making in Ireland and abroad. Such services include valuations, appraisals, asset maximisation, subtropical reforestation and wind farm projects. We recognise that we must be at the forefront of the latest advances in research and development. To achieve this Veon has developed close relationships with Irish and UK third level institutions and is taking part in a major pan European project to increase the mobilisation of timber from forests.

Veon aims to bring clarity to the market, develop and increase the ownership of sustainable forestry in Ireland and maximise the commercial benefits from this valuable alternative asset class for woodland estate owners, investors and farmers through innovative best-practice forestry asset management.

Western Forestry Co-op

Your Local Forestry Co-op

The Western Forestry Co-op[275] is the longest established forestry co-op in Ireland. It was founded in 1985 to provide support services and advice to landowners afforesting their land. Since then, the Western Forestry Co-op has established and managed thousands of hectares for over 3,000 forest owners, growing year on year. The Co-op's ethos of transparency, trust and openness are our foundation. Our trusted and professional service has seen our afforestation and harvesting business increase year on year.

We specialise in providing a comprehensive forest management service from planting your land to selling your timber. Our team of professional foresters have vast experience in all aspects of forestry, to include forest establishment & maintenance, forest management, forest valuations, the harvesting and marketing of roundwood, forest road construction and forest insurance scheme.

What sets us apart in the sector is that we listen to the requirements of each client and identify appropriate forestry solutions for their consideration. We conduct due diligence, including strategic and financial appraisal. Our forest management service is centred on safeguarding the long term value of the investment by delivering site specific strategies to maximise returns and we are committed to managing forests sustainably; for the best interests of our client, the environment and the local community.

[275] http://www.westernforestrycoop.ie/

13.2 Member Profiles/Sawmilling

GLENNON BROTHERS

In 2013, Glennon Brothers[276] celebrated 100 years in business. Over the last century, three generations of Glennon Brothers have developed a customer focused business, which is committed to the responsible manufacture of quality timber products. We have a core belief to continue to invest in people and technology, to improve product quality, improve customer service and reduce production costs.

Today, Glennon Brothers employs 380 people directly with a further 180 involved in our timber harvesting and haulage operations. All these jobs are located in rural locations, providing a significant boost to rural economies. In 2014, Glennon Brothers had an annual turnover of over €120 million, contributing over €42 million to the Irish economy. As a group, we process over 1 million cubic metres of logs per annum. Our annual sawn wood output of 500,000 cubic metres is divided between our mills in Ireland and Scotland.

Having acquired the Woodfab sawmill in Fermoy, Co. Cork from the Smurfit group in 1998, we embarked on a €25 million capital development plan to build a world class manufacturing facility in Fermoy. To date, we have invested our in excess of €60 million in the Irish sawmill sector.

In 2005, we made our first acquisition outside Ireland when Windymains Timber[277], was added to the group. Based in Humbie, near Edinburgh, Windymains Timber is a specialist producer of fencing and treated carcassing.

In 2007, we developed an alternative route to market for our sawn timber when we acquired Dempsey Timber Engineering (DTE)[278] in Arklow. DTE manufactures timber frame homes and engineered roof trusses.

In 2008, we further strengthened our position in the UK with the acquisition of Adam Wilsons & Sons[279], including Alexanders Timber Design[280] in Troon. Adam Wilsons was a fifth generation family business and is an established producer of kiln dried, stress graded construction timber.

Alexanders Timber Design, also situated in the port of Troon, is a leading provider of timber frame homes and engineered roof trusses.

These acquisitions allow Glennon Brothers to provide a one-stop-shop solution for sawn softwood, supplying the Irish and UK markets with timber products for the construction, pallet/packaging and fencing sectors.

In 2009, Glennon Brothers achieved a first in the history of the Irish and UK sawmilling sector, when we shipped home grown timber to France. Total sales to France now exceed €15 million.

In 2010, Glennon Brothers won the Industry Category Award at the Ernst & Young (EY) Ireland Entrepreneur of the Year Awards[281].

In 2011, Mike Glennon was the first Irish sawmiller to be invited to address the Members of the London Softwood Club.

In 2012, Glennon Brothers were selected as a national champion in the 'Import/Export' category at the European Business Awards[282]. In January 2013, after a further evaluation by a panel of judges, Glennon Brothers were awarded a highly coveted Ruban d'Honneur Award. As such, Glennon Brothers was one of 100 companies from across Europe that made it through to the final stage of the European Business Awards from the 15,000 companies that first entered the competition.

In November 2013, Glennon Brothers celebrated 100 years in business at a gala event, held in Croke Park, Dublin[283].

276 www.glennonbrothers.ie
277 www.windymainstimber.co.uk

278 www.dte.ie
279 www.adam-wilson.co.uk
280 www.alexanderstimberdesign.com
281 http://www.glennonbrothers.ie/press/EOY_2010.html
282 http://www.businessawardseurope.com/vote/entry/7/4698
283 http://www.glennonbrothers.ie/press/100_years_celebration.html

The keynote address was delivered by An Taoiseach (Irish Prime Minister), Mr Enda Kenny, T.D. Over 500 people attended the event including: Mr. Tom Hayes, T.D. Minister of State at the Department of Agriculture, Food and the Marine with special responsibility for Horticulture, Forestry, the Greyhound Industry and Food Safety and Mr Dominick Chilcott, then British Ambassador to Ireland.

The event also included a special performance by Riverdance.

As a key part of our 100 year celebrations and in recognition of the enormous contribution of many people from County Longford to our success, Glennon Brothers became the official sponsor of Longford GAA. This relationship is both for football and hurling teams at senior, junior and minor levels and is ongoing.

2014 saw production commence in our new €13 million value added processing plant in Fermoy. This new 4,500 square metre purpose built facility includes a state of the art, USNR Lineal High Grader (LHG). This provides a complete and highly accurate automated grading solution (for sawn timber products) and is the first of its kind in Europe. The LHG uses x-rays for density evaluation, lasers for geometric profile measurement and a multi-channel vision system to detect visual characteristics.

The new development also includes a top of the range Ledinek planer with feed speeds of 350 metres a minute, a new board sorting facility and new cross-cutting facilities. This investment underpins Glennon Brothers commitment to constantly push the boundaries of innovation and to improve the quality of home-grown timber, through the early adoption of new sawmilling and scanning technology.

In 2014, Glennon Brothers implemented a €750,000 state of the art Epicor Enterprise Resource Planning (ERP) software system. For the first time, this integrates and shares information across all four Glennon Brothers sites, improving stock visibility and enhancing the experience for our customers.

On November 3rd 2014, Glennon Brothers along with a number of other stakeholders launched the 'Red Princess' timber landing craft, which transports logs from islands and coastal lands on the West coast of Scotland, directly to our sawmill in Troon. This is an innovative and practical solution for otherwise inaccessible coastal forests.

Working to the highest standards in responsible forestry practice, Glennon Brothers has gained Forest Stewardship Council (FSC)[284] certification across all our timber processing sites. This ensures that all our feedstock is sourced from sustainably managed forests.

Our product portfolio includes:

- Kiln-dried, strength-graded carcassing timber for the construction industry.
- Pallet wood for the pallet and packing case industry.
- Profiled timber (CLS) for the timber frame manufacturing industry.
- Machined whitewoods for the construction and garden shed industries.
- Glendeck timber decking.
- Glenfence fencing for outdoor use.
- Timber frame homes.
- Engineered roof trusses.
- Residual products including wood chips, sawdust, bark and shavings.

[284] https://ic.fsc.org/

GP Wood[285] was formed in April 2013 as a result of the merger of two of Ireland's most successful and long established timber processing companies; the Grainger Group based in Enniskeane, County Cork and the Palfab Group based in Lissarda, County Cork. GP Wood is one of Ireland's largest and most diversified timber processing operations.

GP Wood's original companies were both established in 1977. The group employs 140 staff with a further 250 indirect employees in its forestry operations. Timber manufacturing spans construction, fencing, garden products, pallet and packaging products for both home and export markets. GP Wood has also developed long term export markets for forest residues and for sawmill by-products. All of its products are FSC certified with 70% of its roundwood intake being FSC certified.

GP Wood operates two of Ireland's largest and most technologically advanced sawmills. Both mills are located in West Cork, one in Lissarda and the other in Enniskeane. With a processing capacity of 345,000 cubic metres of roundwood per annum, the majority of the logs which it processes are harvested from within a 120 kilometre radius of its plants.

In recent years, GP Wood has invested in its kiln drying, timber treatment and in its specialised timber finishing facilities. In 2005, the Group constructed Irelands first large scale commercial biomass combined heat and power (CHP) plant. This was designed around the energy requirements of our Enniskeane sawmill. This produces 2.5 megawatts (MW) of electricity which is sold to the national grid and 6 MW of thermal energy.

In addition to producing its own sawn products, GP Wood also imports part-processed timber from Scandinavia, Russia, the Baltic States and from mainland Europe.

The Group has diversified into added value markets through a joint venture investment in Eirebloc Limited[286], manufacturers of pallet blocks from recycled timber.

[285] http://gpwood.ie/
[286] http://www.eirebloc.com/

Laois Sawmills Ltd.

Laois Sawmills[287] was established in 1987. Based on the outskirts of Portlaoise, Co. Laois, we employ 42 people directly and operate a state of the art sawmill processing 100,000 cubic metres of roundwood per annum. A further 25 are employed in timber harvesting and transport. We specialise in the production of timber for the pallet, fencing and garden shed sectors. Our sawn timber is sold to customers in Ireland, Northern Ireland, England, Scotland and Wales. In 2014, we won the manufacturing category at the Small Firms Association's (SFA) National Small Business Awards[288].

In 2009, a subsidiary Greenwood Pellets[289] was established. Set up to supply ever increasing bio-fuel market, this state of the art facility was commissioned in July 2009. We now produce 24,000 tonnes of wood pellets annually and we are now the only producer of wood pellets in the Republic of Ireland. The main concept of this pellet plant was to produce wood pellets from sawmilling residues primarily using sawdust and boiler fuel from our own sawmill operation.

Laois Garden World[290] is located adjacent to Laois Sawmills Ltd. This retail unit was originally developed to supply our timber products to the surrounding areas. We carry a wide range of products which we source internationally in order to provide a high quality product at excellent value.

287 http://www.laoissawmills.com/
288 http://www.sfa.ie/Sectors/SFA/SFA.nsf/vPages/News~sfa-national-small-business-awards-2014-winners-announced-06-03-2014?OpenDocument
289 http://www.laoissawmills.com/pellets1/wood-pellets/
290 http://www.laoissawmills.com/shop/

MURRAY TIMBER GROUP

The Murray Timber Group (MTG)[291,292,293] was established in 1977. Today, we employ 135 people directly. Operating from two locations in Ballygar, Co. Galway and at Ballon Co. Carlow, we operate two world class processing facilities capable of processing in excess of 1,00,000 cubic metres of roundwood on an annual basis.

After kiln drying, all of the structural timber which is produced by the MTG is then planed and graded to ensure that it meets customer quality requirements. All four edges are rounded to provide a construction product which is easy to use and to handle.

The sawn timber which is produced by the MTG is sold in the construction, fencing and packaging markets in Ireland and in the UK. The MTG has always exported pallet and fencing material to the UK market. However, we are now exporting 45% of our sawn structural grade timber to the UK. This is badged with our new SNR (Sustainable Natural Resource) brand.

291 http://ttjbuyersguide.com/adverts/TTJ102008wpbd.pdf
292 http://www.usnr.com/about/news/newsletters/Nov-07-E.htm
293 www.ttjonline.com/story.asp?storycode=60505

Woodfab Timber[294] was established in 1974 and is located in Aughrim, Co. Wicklow. It currently employs 48 people directly and the same number indirectly in timber harvesting and transport. Following a fire in August 2010, a new sawmill line, board edging line, push bar sorting and crosscutting line were purchased. This facility has the capacity to process 100,000 cubic metres of roundwood per annum on a single shift basis. This line was commissioned in March 2014. In March 2015, a Stenner line was commissioned to produce a wide range of components for the fencing and shed markets. Woodfab produces a wide range of fencing, carcassing, pallet and decking products for both the domestic and UK markets. The main products produced include farm fencing, post and rail, weaves, batons, feather edge boards and decking.

In 2001, Woodfab formed a subsidiary company, Woodfab Structures Limited[295] to produce a new range of fencing panels and acoustic barriers which are supplied to many of the major motorway projects in Ireland. In recent years, this company has also commenced producing a wide range of garden furniture and playground equipment.

294 www.woodfabtimber.ie
295 http://www.woodfabstructures.ie /

13.3 Member Profiles/Panel Products

Masonite's production facility is located at Carrick-on-Shannon, Co. Leitrim

Masonite[296] operates a state of the art production facility for the production of mounded fibreboard door facings at Carrick-on-Shannon, Co. Leitrim. These are supplied to other door manufacturers within the Masonite Group and to other door manufacturers throughout Europe, North Africa and the Middle East.

Masonite Ireland commenced production in Carrick-on-Shannon in 1997 following a $138 million investment. The facility processes wood residues to manufacture high quality moulded door facings. All of the output from this facility is exported.

Throughout the company's 80 year history, Masonite has maintained its focus on leading-edge innovation, manufacturing excellence and superior customer service.

Masonite is committed to delivering product and service innovations that will enhance beauty, functionality and architectural design to its customers around the world. Builders, remodelers, architects and homeowners rely on Masonite products to create homes of distinction.

Headquartered in Tampa, Florida, Masonite employs over seven thousand people worldwide.

All Masonite Ireland's products have chain of custody (CoC) certification from the Forest Stewardship Council (FSC).

[296] www.masonite.com

MEDITE SMARTPLY (formerly Coillte Panel Products) manufactures and supplies innovative and sustainable MDF and OSB to its customers throughout Europe from two manufacturing plants in the south-east of Ireland. With its MEDITE[297] and SMARTPLY[298] brands it is a well-established supplier of choice to many distributors and industrial users in the UK, Benelux and Ireland with a growing presence in other European markets. Its sales and marketing team services a diverse customer base across the construction, flooring and furniture sectors with a range of structural, non-structural and speciality products to meet the most demanding applications[299].

In 2015, development work continued apace on the €59 million upgrade in our Waterford plant and by year-end the building work for housing the new line was almost completed. Installation of the new equipment including forming-line, press and saw-line was close to completion by year-end and on track for a Q1 2016 start-up, which is expected to deliver significant operational efficiencies and underpin new product development. This line produced its first board in April 2016.

In 2015, MEDITE SMARTPLY extended its range of fire retardant MDF and OSB for use in shop-fitting, furniture and construction. It continued to expand its range of products for use in offsite construction, which is a growing market worldwide.

297 http://www.medite-europe.com/
298 http://www.smartply.com/
299 http://www.coillte.ie/fileadmin/user_upload/pdfs/Annual_reports/Coillte_Annual_Report_2015_Web.pdf

MEDITE[300] is arguably Europe's most recognised brand of MDF; available in Europe since 1976, MEDITE were the pioneers in introducing MDF to European markets. That has allowed MEDITE products to now be recognised as the benchmark for quality, consistency and performance in the MDF market.

From its production and research plant in Clonmel, MEDITE supplies a wide range of MDF products to meet the diverse needs of users, specifiers and designers across Europe and beyond. Its extensive range includes ten different families of MDF products and many variants of panel size and thickness.

Through consistent commitment to research and development MEDITE has maintained its position as the leading brand in the MDF market through the introduction of a wide range of innovative high quality products providing technical solutions to specific needs. These technological innovations have led the market to advances such as extra-smooth, moisture resistant, flame retardant and many more MDF varieties. Today the extensive MEDITE range includes MEDITE PREMIER, MEDITE TRICOYA EXTREME, MEDITE TRADE, MEDITE ULTRALITE, MEDITE MOISTURE RESISTANT (MR), MEDITE FLAME RETARDANT (FR), MEDITE EXTERIOR, MEDITE ECOLOGIQUE MEDITE FLOORING QUALITY (FQ) and MEDITE VENT.

The programme of innovation is continuous; with MEDITE TRICOYA EXTREME being described by TRADA's Technical Manager, Dr Andy Pitman, as 'absolutely unique' and that MEDITE TRICOYA EXTREME is 'one of the greatest advances in board products over the past 10 years'[301].

[300] www.medite-europe.com
[301] http://www.medite-europe.com/static/www.medite-europe.com/en/products_tricoya.php.html

In November 2006, MEDITE Europe became part of Coillte, which manages 445,000 hectares of forest and plants over 15 million trees every year, ensuring security of raw material supply.

The quality of indoor air has long been a live issue for panel products throughout Europe. As international retailers enforce formaldehyde reduction strategies, regulations from the California Air Resources Board[302] (CARB) set one of the toughest product emission standards in the world. All MEDITE MDF is CARB2 compliant to satisfy these stringent regulations.

All of MEDITE's MDF products have chain of custody (CoC) certification from the Forest Stewardship Council (FSC)[303].

SMARTPLY[304] manufactures SMARTPLY Oriented Strand Board (OSB) at its production facility located at Slieverue, Co. Kilkenny. All SMARTPLY's OSB products have chain of custody (CoC) certification from the Forest Stewardship Council (FSC)[305].

In June 2014, the shareholders of Coillte Panel Products approved a €59m investment in the SMARTPLY facility for the provision of a new continuous press and finishing line. Construction was completed in early 2016, with the line being commissioned in April 2016. The line is now fully operational[306].

This new line will allow SMARTPLY to produce a wider range of added value products and enhancing our sales and marketing presence in Europe to seek out new markets, while continuing to innovate and create new products from the wood fibre supply from Coillte Forest[307].

OSB is an innovative, environmentally sustainable, timber-based solution for structural and non-structural building applications. Developed as an alternative to plywood, SMARTPLY OSB does not delaminate, has no knotholes or other structural defects and is easy to work with. It

[302] http://www.arb.ca.gov/homepage.htm
[303] https://ic.fsc.org/
[304] www.smartply.com
[305] https://ic.fsc.org/
[306] http://www.coillte.ie/aboutcoillte/news/article/view/construction-commences-on-EUR59m-smartply-facility/
[307] http://www.coillte.ie/fileadmin/user_upload/pdfs/Annual_reports/Coillte_Annual_Report_2015_Web.pdf

SMARTPLY PROPASSIV used on the construction of a passive house.

can be bored, routed and planed with consistent results. SMARTPLY manufactures two grades of OSB:

- SMARTPLY OSB2 is a general purpose building panel manufactured to EN300 standard. Designed for use in both structural and non-structural applications in dry conditions, it is ideal for general boarding, packaging, signboards, furniture and temporary framework.
- SMARTPLY OSB3 is a strong, versatile board suitable for structural use in humid conditions. It is ideal for use in a range of applications including roofing, flooring and hoarding. This product is also approved for structural use by the British Board of Agrément (BBA), Irish Agrément Board (IAB), Dutch Agrément Board (KOMO), National House Building Council (NHBC) and Local Authority Building Inspectors.

  SMARTPLY OSB3 T&G is OSB3 with a tongue and groove edge, ideal for roofing and flooring applications.

  SMARTPLY SITEPROTECT[308] is a durable coated panel specifically designed for use as site hoarding and for security applications. The manufacture of SiteProtect uses the SMARTPLY OSB3 board as its substrate. This is then coated with a smooth heavy duty exterior surface treatment. As a result of this process, a hoarding which is built using SITEPROTECT does not need to be primed. This results in significant time and cost savings for the builder or contactor. In addition, logos can be fixed directly to SITEPROTECT. The smooth surface of SITEPROTECT requires fewer coats of paint than competing products to achieve a similar finish.

SMARTPLY TOUGHPLY[309] is a fully certified, legal and sustainable OSB alternative to tropical plywood. The highly engineered and enhanced moisture resistant double – sided, pre coated structural OSB3 panel is designed for both structural and non-structural applications.

Recent product introductions underpinning SMARTPLY's programme of product innovation include SMARTPLY Flame Retardant OSB3 and SMARTPLY PROPASSIV[310]. The unique manufacturing process for SMARTPLY FLAME RETARDANT OSB3[311] utilises an environmentally friendly water based fire retardant during panel manufacture to ensure fire performance without the degradation of physical panel properties.

Tailored to the needs of low energy buildings constructed to passive design principles, SMARTPLY PROPASSIV is an airtight OSB3 panel with an integrated vapour barrier for use within specialist timber frame applications.

[308] http://www.smartply.com/products/smartply-siteprotect

[309] http://www.smartply.com/products/toughply-new
[310] http://www.smartply.com/products/vapairtight
[311] http://www.smartply.com/products/fr-fr-build-osb3

FINSA

Based in Scariff, Co Clare, Finsa Forest Products (FFP)[312] is a subsidiary of the Spanish company Financiera Maderera SA (FINSA)[313,314,315]. Finsa acquired the Scariff facility 1984. In early 2011, Finsa announced that they were ceasing producing chipboard at Scariff[316]. However, Finsa continues to sell wood-based panels in Ireland which are sourced from its sister plants in Spain and Portugal.

312 www.finsa.es
313 http://www.finsa.es/
314 The Finsa Group is the largest producer of chipboard and MDF in the Iberian Peninsula. It was first founded in 1931 as a sawmill. Today, Finsa employs over 5,000 people and produces a total of 3 million cubic metres of panel products per annum; www.finsa.es
315 Finsa Perspectives, solutions in wood, an overview; www.finsa.es
316 http://www.clarechampion.ie/index.php?option=com_contentandview=articleandid=4893:52-staff-facing-redundancy-at-finsaandcatid=60:east-clareandItemid=56

14. IFFPA weblinks

The Irish Forestry and Forest Products Association (IFFPA) represent all aspects of the forestry sector in Ireland. A brief overview of those companies who are members of IFFA is given below. Weblinks are also provided.

14.1 Forestry Development

Agricultural Consultants Association

The Agricultural Consultants Association (ACA) was established in 1979. Today its members are at the forefront of the provision of professional services to farmers in agri-business in all parts of Ireland.

www.aca.ie

Association of Irish Forestry Consultants

The Association of Irish Forestry Consultants (AIFC) represents the forest consultancy profession in Ireland with a membership that has a nationwide presence and a client base of over 1,500 forest owners.

www.aifc.ie

Coillte

Coillte is a commercial forestry company operating in forestry management, productive lands solutions, renewable energy and wood panel products. It employs approximately 900 people and was established in 1989. It owns over 445,000 hectares of land, about 7% of the land cover of Ireland.

www.coillte.ie

The Forestry Company

Established in 2009, the Forestry Company specialises in all aspects of forest management and prides itself on delivering a professional and personal service. Each member of the team has the expertise to provide advice on all forestry related matters. From the initial step of applying for grants and premiums to planting, managing, thinning and harvesting timber, the Forestry Company knows farm forestry.

www.theforestrycompany.ie

Forestry Services Ltd.

Established in 1985, Forestry Services Ltd. is one of Ireland's leading and largest forestry management companies. While forest establishment remains the core activity of the company, thinning and tending of both broadleaf and conifer crops for private forest owners has become a more important element in recent years. Thinning of crops is carried out for clients through a subsidiary Forwood.

www.forestryservices.ie

Green Belt Ltd.

Green Belt was formed in 1982. It is Ireland's largest private forest management company, managing in excess of 130,000 hectares of forests in Ireland for private clients, investors and pension funds.

www.greenbelt.ie

None So Hardy (Forestry) Ltd.

None So Hardy (Forestry) Ltd. specialises in the growing and the supply of planting stock. Its nurseries are located in Co. Wexford. The company currently employs 80 people. It is the largest private nursery in Ireland, with the capacity to produce 25 million trees per annum.

www.nonesohardy.ie

Roundwood Forestry and Timber Services Ltd.

Roundwood Forestry and Timber services provide a complete range of forestry consultancy advice and harvesting services to private forest owners in Ireland. We have been operating successfully since the 1980's and during this time, we have built up a successful working relationship with forest owners throughout the country.

www.roundwoodtimber.ie

SWS Forestry

Since our establishment in 1986, SWS Forestry has grown to be one of the country's leading forestry contracting companies. Today we manage over 36,000 hectares of forest for private landowners. We have the experience and expertise to ensure that an investment in forestry will be secure and provide the maximum return for the landowner.

www.swsforestry.ie

Veon

2016 saw the launch of Veon Ltd following the consolidation of two of Ireland's leading forestry participants–Forest Enterprises Ltd (FEL) and I.F.S Asset Managers Ltd (IFS). Forest Enterprises Limited was founded in 1990 and the company now manages in excess of €100 million of forestry assets in Ireland. IFS introduced retail investment to Irish forestry through a series of specialist funds the first of which was launched in 1997.

www.veon.ie

Western Forestry Co Op

The Western Forestry Co-op was established in 1985 by the dairy co-ops to provide support services and advice to farmers afforesting the marginal areas of their farm. Since then, the Western Forestry Co-op has afforested thousands of hectares through our team of professional registered foresters, with a planting programme that is growing year on year.

www.westernforestrycoop.ie

14.2 Sawmills

Glennon Brothers Ltd.

Since 1913, Glennon Brothers have been manufacturing high-quality timber products. The company operates sawmills and timber production facilities in both Ireland and the UK. It supplies the construction, pallet wood and fencing industries.

www.glennonbrothers.ie

GP Wood Ltd.

GP Wood was formed in April 2013 as a result of the merger of two of Ireland's most successful and long established timber processing companies; the Grainger Group and the Palfab Group. GP Wood is one of Ireland's largest and most diversified timber processing operations producing timber products for use in the construction, fencing, garden products, pallet and packaging markets. It also operates a wood biomass fuelled combined heat and power (CHP) plant.

www.gpwood.ie

Laois Sawmills

Laois Sawmills Limited is based on the outskirts of Portlaoise and is a state of the art sawmill processing 100,000 cubic metres of roundwood annually. It currently employs 42 people directly and 25 people indirectly.

www.laoissawmills.com

Murray Timber Group (MTG)

The Murray Timber Group was established in 1977. Today, it employs 135 people directly. It operates two modern sawmills. These have the capacity to process in excess of 1,000,000 cubic metres of roundwood per annum. Its sawn timber output is sold in construction, fencing and packaging markets in Ireland and in the UK.

www.mtg.ie

Woodfab Timber Ltd.

Woodfab was established in 1974. It is a medium sized, Irish, timber processing company located in Aughrim, Co. Wicklow. It produces a wide range of fencing and decking products for both the domestic and UK markets.

www.woodfabtimber.ie

14.3 Panel Manufacturers

Finsa Forest Products Ltd.

Finsa Forest Products is a subsidiary of the Spanish company Financiera Maderera S.A. (Finsa), which manufactured particleboard products in Scariff, Co. Clare. In 2011, Finsa ceased producing particleboard at Scariff. It continues to sell a range of imported products.

www.finsa.es

Masonite Ireland

Masonite Ireland commenced production in July 1997. It processes wood residues to manufacture moulded door facings for use in house construction. Based outside Carrick-on-Shannon, Co. Leitrim, Masonite manufactures door facings for use in both its own door fabrication plants and by independent door manufacturers. It supplies markets in Europe, North Africa and the Middle East.

www.masonite.com

MEDITE

MEDITE is part of MEDITE SMARTPLY (formerly Coillte Panel Products). It produces Medium Density Fibreboard (MDF) at its production facility in Clonmel, Co. Tipperary. MEDITE MDF is an FSC certified, environmentally friendly wood product suitable for use in a range of applications including furniture, shop fittings, mouldings, wall/ceiling panels, shop fronts, external signs and flooring substrates.

www.medite-europe.com

MEDITE SMARTPLY

MEDITE SMARTPLY (formerly Coillte Panel Products) was established in June 2007 as part of the Coillte Group. This is an international focused business which operates two wood based panel facilities, i.e. SMARTPLY producing OSB and MEDITE producing MDF.

http://www.coillte.ie/medite_smartply/

SMARTPLY

SMARTPLY is part of MEDITE SMARTPLY (formerly Coillte Panel Products). It manufacturers Oriented Strand Board (OSB) at its production facility at Belview Port, near Waterford. SMARTPLY OSB is an FSC certified, environmentally friendly wood product which is suitable for use in a wide range of structural and non-structural applications. These include wall sheathing, roofing, flooring, site hoarding, packaging, furniture manufacture, DIY and general building applications.

www.smartply.com

15. Abbreviations

AVE	Annual equivalent value
CARB	California Air Resources Board
CHP	Combined heat and power
CoC	Chain of custody
CPP	Coillte Panel Products Ltd.
DIY	Do it yourself
EOY	Entrepreneur of the year
ESCO	Energy supply contract
EU	European Union
FFP	Finsa Forest Products Ltd.
FSC	Forest Stewardship Council
FR	Fire resistant
GDP	Gross domestic product
GNP	Gross national product
IRBEA	Irish Bioenergy Association
ktoe	Kilotonnes of oil equivalent
m^3	Cubic metre
MDF	Medium density fibreboard
MR	Moisture resistant
MTG	Murray Timber Group
NI	Northern Ireland
OB	Timber measurement overbark
OSB	Oriented strand board
PAO	Planed all over
PCRW	Post consumer recovered wood
RoI	Republic of Ireland
PEFC	Programme for the Endorsement of Forest Certification
PPP	Public procurement policy
RD&D	Research, development and demonstration
RHI	Renewable heat incentive
TCD	Trinity College Dublin
TIMO	Timber investment management organisation
T & G	Tongued and grooved (flooring)
UB	Timber measurement underbark
UCC	University College Cork
UCD	University College Dublin
VOC	Volatile organic compounds
WBP	Wood-based panels

16. Glossary

Afforestation	The establishment of a forest in areas where the preceding vegetation or land use was not forest.
Biota	The total collection of organisms present within a geographic region or within a time period.
Carbon dioxide (CO_2)	A compound of carbon and oxygen formed when carbon is burned. Carbon dioxide is one of the main greenhouse gases (GHG).
Carbon neutral	This means achieving a zero net release of carbon. This is usually achieved by calculating your total carbon emissions, reducing them where possible and balancing your remaining emissions with the purchase of carbon offsets.
Carbon offset	The act of counterbalancing ('offsetting') greenhouse gas emissions produced by undertaking emission reduction projects. Common examples include the use of renewable energy.
Carbon sequestration	The uptake and storage of carbon. Trees and plants, for example, absorb carbon dioxide (CO_2), release the oxygen and store the carbon.
Carbon sink	A carbon sink is a natural or manmade reservoir that accumulates and stores some carbon containing chemical compound for an indefinite period. The main natural sinks are: absorption of carbon dioxide by the oceans and photosynthesis by plants and algae
Chain of custody	CoC certification provides documentation regarding the production of certified forest products. Chain-of-custody certifies the movement of materials from the forest to the end-user, including all successive operations of timber harvesting, processing, manufacturing and distribution of forest products
Combined Heat and Power (CHP)	Combined heat and power (CHP) refers to power plants which are designed to produce both heat and electricity.
Cubic metre (cubic metres)	The form of timber measurement commonly used in Ireland. It is used to calculate the volume of both roundwood and of forest products.
ESCO	Energy Supply Contract; a long-term energy supply contract under which an energy provider covers design, fuel supply, equipment supply, finance, installation, operation and maintenance, and the client is invoiced for metered energy use on a monthly basis at a pre-agreed index-linked price

Forest certification	A procedure whereby an independent third party inspects forest management and utilisation practices to assess compliance with a set of ecological, economic and social standards for sustainable forestry
Greenhouse Gases (GHG)	Gases in an atmosphere that absorb and emit radiation within the thermal infrared range. This process is the fundamental cause of the greenhouse effect. The main greenhouse gases in the earth's atmosphere are water vapour (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O) and Ozone (O_3).
Hectare	A unit of land area equal to 10,000 square metres.
Kyoto Protocol	The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change (UNFCCC). The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialised countries and for the European community to reduce greenhouse gas (GHG) emissions. This amounts to an average reduction of 5% against 1990 levels over the five-year period of the Kyoto Protocol (2008-2012).
Rotation	The period of years required to establish and grow a timber crop to a specified condition of maturity, when it may be harvested and a new tree crop started.
Silviculture	The art and science of producing and tending a forest: the theory and practice of controlling forest establishment, composition, growth, and quality of forests to achieve the objectives of forest management.
Stand	An aggregation of trees occupying a specific area and uniform enough in composition (species), age and arrangement to be distinguishable from the forest on adjoining areas.
Tonne of Oil Equivalent (toe)	A conventional standardised unit of energy which is defined on the basis of a tonne of oil having a net calorific value of 41,686 kJ / kg.
Volatile Organic Compounds (VOCs)	Volatile organic compounds (VOCs) are emitted as gases from certain solids or liquids. VOCs include a variety of chemicals, some of which may have short and long-term adverse health effects.

17. IFFPA contact details

If you require further information regarding the Irish Forestry and Forest Products Association (IFFPA) please contact:

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This review was produced and edited on behalf of IFFPA and Ibec by Eoin O'Driscoll, drima marketing. Members of IFFPA were interviewed for this review.

Photo sources

Arigna Fuels Ltd., Cavan County Council, Coillte, Danish Kitchen Design, Dempsey Timber Engineering (DTE), drima marketing, FEFPEB, Glennon Brothers, Masonite Ireland, MEDITE SMARTPLY, Murray Timber Group (MTG), Small Firms Association, SWS Forestry Services Ltd., Woodfab Ltd. and the Wood Marketing Federation (WMF).

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