
Forestry and Wood Update

Forest Sector Development/COFORD Division

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New COFORD Council

A new COFORD Council for the period 2016-2018 was appointed by the Minister at the end of 2015. The membership is:

- Seamus Dunne, Forest Service, Department of Agriculture, Food and the Marine (DAFM)
- Michael Fleming, IFA
- Mike Glennon, Glennon Brothers Ltd
- Eugene Hendrick, Forest Sector Development/COFORD (DAFM)
- Daragh Little, Irish Forestry and Forest Products Association
- Michael Lynn, Chairman
- John McCarthy, None-so-Hardy Nurseries Ltd
- Tom McDonald, Research, Food & CODEX Co-ordination (DAFM)
- Gerard Murphy, Coillte
- Nuala Ní Fhlatharta, Teagasc
- John Joe O'Boyle, Northern Ireland Forest Service
- John Phelan, Woodland Managers Limited
- Fred Tottenham, Irish BioEnergy Association (IrBEA)
- Donal Whelan, Irish Timber Growers Association

A number of Working Groups are in the process of being established and convened, covering the following areas:

- Forest policy review
- Forest genetic resources
- Land availability and the promotion of afforestation
- The forest sector and the bioeconomy
- Wood mobilisation and forecasting
- The management of mixed forests

Updates on the work of the groups will be provided in future issues of the Newsletter.

The final reports of working groups convened under the 2011-2014 Council and the updated *Forestry 2030* papers are available at www.coford.ie.

Michael Lynn
Chairman

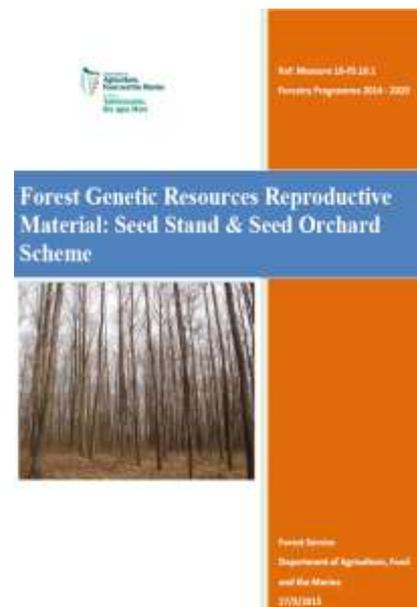
Information and support services

DAFM Grant Aid schemes

Seed Stand/Seed Orchard Scheme 2015

The Forest Genetic Resources Reproductive Material: Seed Stand & Seed Orchard Scheme was launched in June 2015. The objectives of the scheme are to: increase the resilience, productivity and quality of Irish forests; increase self sufficiency in tree seed production; provide for in-situ and ex-situ conservation of forest genetic resources and provide breeding populations of designated broadleaf species. Element 1 of the Scheme is aimed at improving the management and conservation of registered broadleaf seed stands included on the National List of Basic Material; while Element 2 supports the establishment of new seed orchards, both clonal and seedling, indoor and outdoor.

In 2015, two seed orchards were approved, an indoor downy birch seed orchard and an outdoor sycamore seed orchard. These orchards are to be established, owned and managed by None-So-Hardy Ltd., in partnership with Teagasc. Both orchards are eligible to be registered as *Qualified* as per the EU Directive 1999/105/EC.



The source material for both orchards originates from improvement programmes operated by Teagasc. The Birch Improvement Programme was initiated in 1998 and has reached a stage where it is producing improved seed in small quantities. It does not, however, have the capacity to meet industry requirements. Therefore, there is a need to scale up production. It is anticipated that the proposed orchard will come into production within 3-4 years.

The Sycamore Improvement Programme was developed by Teagasc in collaboration with DAFM and the Future Trees Trust. The parent material consists of 184 plus trees selected in forest estates in Britain and Ireland. Again, a small amount of *Qualified* seed is produced at present, this new orchard however has the potential to greatly increase the volume of *Qualified* material for market.

This constitutes a successful first year for the scheme. These new orchards have the potential to greatly increase the availability of improved birch and sycamore material for market. They are the product of a long number of years research by Teagasc in collaboration with DAFM and The Future Trees Trust.

For further information on seed stand and seed orchards please contact Brian Clifford. brian.clifford@agriculture.gov.ie.

Forestry for Fibre Measure

Forestry for Fibre provides grant aid to cover the costs of establishment of a specified range of species grown on short rotations, mainly for energy end uses. In addition to the establishment grant, 10 annual premiums of €180/ha are also provided on successful establishment. Trees established under Forestry for Fibre can be harvested in 10–15 years, generating yields of between 150–300 cubic metres per hectare. This rotation is significantly less than conventional forestry where conifer forests typically mature between 30 and 40 years.

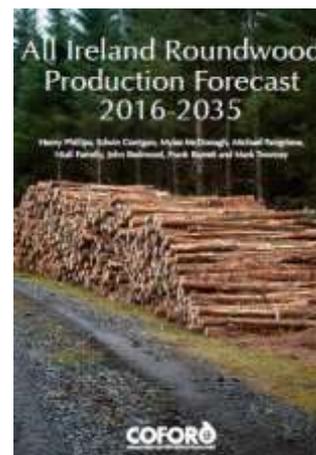
For further information on Forestry for Fibre please contact Tony Quinn tony.quinn@agriculture.gov.ie.



COFORD Publications

New roundwood and wood energy production forecast

The new *All Ireland Roundwood Production Forecast 2016-2035* is now available at www.coford.ie. In addition to the publication itself there are accompanying tables and spreadsheets available, with the forecast broken down by assortment, species group, source and by county for a number of categories. Queries on the forecast should be sent to fds@agriculture.gov.ie.



New series of COFORD Connects Notes

A new series of Connect notes will be published in May 2016, including:

- an overview of the 2013, 2014 and 2015 meetings of the United Nations Economic Commission for Europe (UNECE) Committee on forests and the forest industry by Eoin O'Driscoll. These notes provide an excellent record of the state of the forest industry worldwide.
- a selection of notes by Pieter Kofman on: worldwide standards for solid biofuels, health and safety aspects of using wood chips as a fuel, health and safety in the handling, storage and use wood pellets, and wood ash.
- a note by Seamus Dolan and Colin Birkinshaw on heat treatment of softwoods to improve stability and durability.

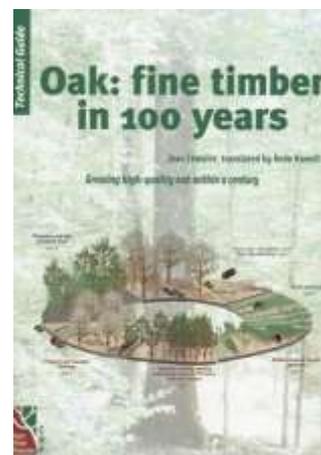


These notes will be available electronically at www.coford.ie and in hardcopy upon request.

Future Trees Trust publication – Oak: fine timber in 100 years

Future Trees Trust have published the definitive guide to growing quality oak - *Oak: fine timber in 100 years*. Originally published as *Le chene autrement*, the book by Jean Lamaire has been translated by FTT oak group member Bede Howell, a chartered forester who has worked in French oak woods and sawmills and whose knowledge of oak and its silviculture in Britain is extensive.

The book is the outcome of 30 years of research in France, and shows that high quality, timber-yielding oak can be grown over a much shorter time than was previously the case in France. Copies are available at €35 (including p&p) through Orla Cashen – email orla.cashen@agriculture.gov.ie to order.



Ordering COFORD publications

New arrangements for buying hard copies of COFORD publications are now in place. Orders for **COFORD project reports and books** listed on www.coford.ie can be sent to orla.cashen@agriculture.gov.ie or ordered via info@coford.ie. Details of payment procedures will be provided on receipt of the order.

Events

GROWFOR workshop

The next training workshop on GROWFOR will be held in **Newport, Tipperary on Friday 1 July**. This course is delivered by Paddy Purser of Purser Tarleton Russell Ltd. on behalf of Forest Sector Development/COFORD Division of the Department of Agriculture, Food and Marine. The course attracts eight points under the Society of Irish Foresters Continuous Professional Development system.

GROWFOR is the software interface for Irish Dynamic Yield Models for different tree species and facilitates:

- Timber volume assessment and production forecasting using user specific forest management plans.
- Flexibility with regard to the timing and intensity of harvest operations across a range of conifer species and uses the user's own forest inventory data as input. It produces product assortments at every stage of stand development and users can avail of a range of price / size data to value timber harvests.
- The calculation of Net Present Value of crops.

The workshop involves a field session in a local forest in which participants gain a clear understanding of the necessary field data input requirements of GROWFOR and a brief session on how these data are collected. Then participants are shown how to use GROWFOR and complete a series of exercises using the package. Participants are asked, where possible, to bring their own laptop computers in order that the package can be installed correctly and in order that they can familiarize themselves with it on their own machines.

The cost of the workshop is €100, which includes a GROWFOR licence, access to ongoing back-up support via email and any GROWFOR updates as they are developed.

If you would like to book a place on this workshop then please contact Paddy Purser directly via ptr@eircom.net. Places are limited so book early to avoid disappointment. A waiting list for this course is maintained and further courses can be held based on demand.

The event will attract

8 Society of Irish Foresters CPD points

Wood Fuel Supply Chain Costings and Standards

Hosted by Forest Sector Development/COFORD Division, and presented by Pieter D. Kofman, senior consultant wood for energy, a series of workshops on:

- supply chain costings: What are the costs of producing and delivering wood chips depending on tree species, basic density, moisture content at different stages of the production process, ash content, harvesting and chipping costs, transport distance, storage period etc?
- new ISO EN (European) standards for solid biofuels, particularly for non-industrial applications: wood chip, pellets, briquettes, firewood
- units and conversion: Units, conversion factors and formulae for wood for energy. Make sense of units such as: m³ solid, m³ loose volume, tonnes, GJ, kWh, and understand the importance of moisture and energy content in determining price and return on investment.
- New software will be demonstrated and provided that will answer questions such as:
 - what will my annual cost be for an alternative (bio) fuel compared to my present consumption of fossil fuel (coal, oil, electricity, peat)
 - how long a pay-back if I change to another fuel?
 - what are the costs of producing and delivering wood chips depending on tree species, basic density, moisture content at different stages of the production process, ash content, harvesting and chipping costs, transport distance, storage period etc?
- the Ecodesign Directive (EU) 2015/1188 of 28 April 2015: This Regulation establishes ecodesign requirements for the placing on the market and putting into service of domestic local space heaters with a nominal heat output of 50 kW or less and commercial local space heaters with a nominal heat output of the product or of a single segment of 120 kW or less.
- EUTR and importation requirements: The European Union Timber Regulation (EUTR) is one



part of the EU's FLEGT(Forest Law Enforcement, Governance and Trade) Action Plan which is aimed at helping to stamp out illegal logging worldwide. The Regulation entered into force on 3rd March 2013 and it is directly applicable in all EU Member States. Forest Protection and plant requirements Irelands protective status.

The workshops are aimed at anyone with an interest in wood for energy and no prior training is required. It is particularly useful for farmers/forest owners, engineers, chipper and boiler manufacturers and installers and suppliers, forest contractors, wood fuel suppliers, people who want to install a wood boiler, state forest services, advisory services, consultants etc.

The workshops will take place at the following venues and dates:

- **Sligo:** Sligo Park Hotel, Pearse Rd, Sligo. **Tuesday 21st June**
- **Portlaoise:** The Killeshin Hotel, Dublin Road, Portlaoise. **Wednesday 22nd June**
- **Tralee:** Meadowlands Hotel Oakpark, Tralee. **Thursday 23rd June**

Registration fee is €35 per person. This includes a copy of the costings software, tea/coffee, USB keys with associated programmes and handouts. The workshop is limited to 20 participants so prior registration is essential - contact Orla Cashen tel: 01 6072487, or email orla.cashen@agriculture.gov.ie

The event will attract

4 Society of Irish Foresters CPD points and

4 Engineers Ireland CPD points.

National Forestry Conference - WOOD MOBILISATION

Organised by The Wood Marketing Federation and the Society of Irish Foresters , Johnstown House Hotel, Enfield, Co. Meath, Wednesday 1 June 2016.

THE NATIONAL CONFERENCE explores opportunities to optimise wood mobilisation in Ireland, now regarded as the key to providing a return on investment for plantation owners, contractors and timber processors. This was highlighted in the report Mobilising Ireland's Forest Resource, published by COFORD, which identified a current shortfall of one million cubic meters between forecasted supply and demand. This shortfall will double by 2020, so maximising timber mobility will minimise this difference as well as our reliance on imports. The conference will address ways of increasing the flow of timber as well as barriers to wood mobilisation.

Please contact sif@eircom.net for registration details.

Future Trees Trust Supporters' Day, 7 October, Gorey, Co Wexford

Future Trees Trust, formerly known as the British and Irish Hardwood Improvement Programme, is holding its inaugural Annual Supporters' Day at the Amber Sands Hotel in Gorey, Co. Wexford on Friday October 7th. If you'd like to know more about the Future Trees Trust and its selective hardwood breeding programmes, come along and find out. It is totally free to attend, lunch will be provided and

the day will conclude with a guided tour of nearby None-so-Hardy Nursery. For further information or to reserve your place on what promises to be a great day, contact Tim Rowland at tim.rowland@futuretrees.org.

Wood Marketing Federation - Wood Awards Ireland 2016

The Wood Marketing Federation Council is once again organising Wood Awards Ireland (WAI) in 2016, following the successful inaugural event in 2014. WAI was initiated to promote wood usage and design among architects, engineers, designer and craftspeople. The aim of the initiative is to:

- supplement and support the sector's drive in increasing export market share;
- highlight the importance of specifying Irish timber to Irish architects, engineers and designers in construction projects;
- provide new opportunities for Irish timber and timber products; and
- demonstrate that Irish timber is 100% sustainably sourced which is now a key reason why domestic and international builders and specifiers are turning to certified wood since the enactment of the EU Timber Regulation.

Entries will be accepted in eight categories:

1. Large-scale public buildings
2. Small-scale private buildings
3. Restoration and conservation
4. Structural
5. Furniture –bespoke and production
6. Innovation and other (Wood Local, Wood Innovation and Woodwork)
7. New entrant
8. Best international project (select category)

For further information see www.wood.ie or contact Donal Magner donalmagner@eircom.net.

*Donal Magner
Secretary
Wood Marketing Federation*

Wood Matters

Wood Technology Ireland

Wood Technology Ireland (WTI) has been established to provide the Irish timber and construction industry and building professionals with technical advice and information to help promote the increased use of timber and wood products and facilitate compliance with new standards and regulations, including CE marking. The product areas covered include structural timber, floor and roofing timbers, timber frame construction, panel products, flooring, cladding, fencing, decking, joinery

products and wood preservation. WTI information is provided through information sheets, training courses and response to technical enquiries.

WTI is supported by the Department of Agriculture, Food and the Marine through Forest Sector Development/COFORD Division and is comprised of a COFORD consultative panel and a panel of technical advisory consultants who can provide technical advice on the specification and use of timber and wood products used in building and construction.



Training course for timber graders

Wood Technology Ireland (WTI) provided a training module on 'Structural Timber and CE marking' on the NSAI (National Standards Authority of Ireland) course on the 'Visual Strength Grading of Structural Timber' held for the first time at Teagasc, Ballyhaise Agricultural College, Co Cavan. The course was attended by personnel from sawmills, distributors and roof truss manufacturers who enjoyed the excellent facilities of the college.

Contact WTI at:

C/O 36 Dodder View, Beatty Avenue, Ballsbridge, Dublin 4, DO4 CX80.

Email: WTI.timber@gmail.com

Tel: 00353 (0) 89 443 2221

Web: www.woodtechnologyireland.ie

Multi-rise timber buildings

Timber Tower Report Previews 42-Story Wood Skyscraper

CHICAGO - A Timber Tower design for a 42-story wood tower, the tallest yet envisioned, has been published in a report by Skidmore Owings & Merrill (SOM), world renowned architects. Its carbon footprint is smaller than a steel tower.

The building would be constructed using "Mass Timber Products," says SOM, including CLT or Cross Laminated Timber, and mixes of species in the mass timbers.



"The proposed structural system can be designed with mass timber products built up using different species and grades of wood. Potential species include: Douglas Fir – Larch (DF - L), Hemlock - Fir (HR), Spruce - Pine - Fir (SPF), and Southern Yellow Pine (SYP).

"The grade chosen is related to the desired performance for the different elements in the structural system such as the floors and the columns. In that respect, it is more useful to categorize the wood material chosen in terms of desired strength and stiffness similar to a machine stress rated (MSR) lumber," says SOM.

Funding for the Timber Tower Research Project was provided by the Softwood Lumber Board, an industry funded research, promotion and information program for softwood lumber.

The 72-page report details materials and engineering involved in construction of a wood building. Moving a step beyond theoretical wood skyscraper, SOM has developed engineering and design approaches that would make the construction practical.

In fact, SOM has used an existing concrete apartment building that it designed in 1965 as the basis for the Timber Tower. The 395-foot-tall, 42-story Dewitt-Chestnut Apartments used an advanced cantilevered approach to its construction.

"The goal of the Timber Tower Research Project was to develop a structural system for tall buildings that uses mass timber as the main structural material and minimizes the embodied carbon footprint of the building," says SOM in its report. "SOM's solution to the tall wooden building problem is the 'Concrete Jointed Timber Frame.'"

SOM explains that its system relies primarily on mass timber for the main structural elements, with supplementary reinforced concrete at the highly stressed locations of the structure: the connecting joints.

"This system plays to the strengths of both materials and allows the engineer to apply sound tall building engineering fundamentals. The result is believed to be an efficient structure that could compete with reinforced concrete and steel while reducing the carbon footprint by 60 to 75%," says the report.

SOM says because wood "is arguably the most sustainable structural material, the system is to consist primarily of wood. Technological advances in wood technology have made this possible with products referred to as 'mass timber,'" which use softwood products built up using adhesives.

"The resulting structural elements behave similar to heavy timber. The advantage is that the material can scale to larger sizes necessary to support the required loads as well as behave like heavy timber in a fire by charring rather than burning," says the report from SOM.

Courtesy of Woodworking Network www.woodworkingnetwork.com

Wood Fuel Quality Assurance Scheme

The Wood Fuel Quality Assurance Scheme (WFQA) is a certification scheme for wood fuels in Ireland. Currently the scheme certifies 18 companies supplying woodchip, wood pellets, firewood and wood

briquettes. In 2016 the WFQA took the decision to move to EN standards rather than a previous national standard, this brings Ireland's wood fuel supply in line with European standards and will ensure that wood fuels supplied in Ireland can be certified suitable for European manufactured boilers and appliances. The WFQA scheme is certifying new suppliers and is noticing an increase in interest from volume producers of woodchip and wood pellet, due to the forthcoming government-funded Renewable Heat Incentive (RHI) that will incentivise the use of renewable heat sources and woodfuels in commercial and industrial premises. WFQA has also started a campaign with Plan Magazine - focused on building designers and architects to ensure that they have full confidence in quality wood fuels and in specifying wood heating sources for the buildings of the future.



Noel Gavigan

Irish Bioenergy Association

International wood fuel standards

Update on ISO/TC 238 Solid biofuels

The technical committee carries out work on standardisation of terminology, specifications and classes, quality assurance, sampling and sample preparation and test methods in the field of raw and processed materials originating from arboriculture, agriculture, aquaculture, horticulture and forestry to be used as a source for solid biofuels. It does not deal with liquid biofuels (ISO/TC 28/SC 7) or natural gas (ISO/TC 193).

In the last week of April ISO/TC 238 met in Kuala Lumpur for the annual workgroup meetings and general assembly.

Workgroup 1: Terminology will start the revision of the existing standard which was published in 2014. Existing terms will be reviewed and new terms added.

Workgroup 2 on requirements and classes discussed the latest draft of ISO 17225 - Fuel Specifications and Classes, Part 8 thermally treated biomass. This draft was discussed in detail. It may be issued as a TS (Technical Specification initially).

Workgroup 4 on physical test methods continued work on several standards that are now close to publication. A new work item on self-heating was proposed, to deal with pelletised biomass.

Workgroup 5 on chemical test methods brought several standards close to publication.

Workgroup 6 on sampling and sample preparation also moved the main standards close to publication. A new work item was proposed on simplified sampling from small scale storages, a standard which is sorely needed, but which will take several years to complete

.Workgroup 7 on health and safety decided to merge the two parts of the health and safety on industrial scale storage into one main standard to avoid duplication. The standard on health and

safety of residential and other small scale storage and handling was discussed at length and will move one step closer to the end from Committee Draft to Draft International Standard.

The General Assembly gratefully accepted the invitation from Ireland to host the 2017 workgroup meetings and General Assembly of ISO/TC 238 Solid Biofuels.

Pieter D. Kofman
Wood energy consultant to DAFM
woodenergy.ie

Topical views – an occasional column on items of current interest

The Ecodesign Directive and wood fuels – an opportunity for Ireland?

Ireland has a commitment under The National Action Renewable Plan to achieve 12% of heat use from renewable sources. There is a need for policy makers to create incentives if these targets are to be achieved. The use of biomass (wood) in local space heaters will greatly assist in reaching this target.

Wood, both in its raw and processed form, can be considered a sustainable fuel. The combustion of wood releases carbon dioxide; this emission is the carbon which the tree has collected and stored over its lifetime. A landscape level approach is needed to assess sustainability. As a forest is felled and partly or wholly used for combustion, the carbon dioxide released from this combustion is recaptured by existing and establishing forests. In turn, the felled forest itself must be re-established, fulfilling its role in recapturing carbon dioxide from other forest energy emissions. It is important that wood fuel is obtained from sustainable sources, to ensure that carbon is recaptured at a landscape level and the circle of emissions and capture remains unbroken. With this principle in place the overall contribution of carbon dioxide to atmospheric levels is minimal.

However, the area of air emissions from the combustion solid fuel and biomass burnt in unsuitable appliances needs to be addressed. There are however concerns that biomass for heating will add to Ireland's emission levels of particulate matter (PM), organic gaseous compounds (OGCs), carbon monoxide (CO) and nitrogen oxides (NO_x). While there is a sustainable supply of quality assured wood fuel readily available on the Irish market, the bulk of this fuel is currently being combusted in traditional smoky, multi-fuel appliances.

The Ecodesign criteria for local space heaters addresses this issue. Emissions from quality assured wood burnt in ecodesign approved, technologically advanced appliances are well below the permitted levels.

These appliances are also significantly more efficient than traditional space heaters and boilers, reducing the annual cost of heating the home. The beneficial by-product of this increased efficiency is a reduction in the quantity of fuel needed to create equivalent heat, in turn lowering emissions. Using biomass for local space heating will support the growth of indigenous local industry, supporting the rural economy and provide sustainable employment for the future.

Ecodesign requirements and timetable for local space heaters

The Ecodesign Directive (EU) 2015/1188 of 28 April 2015 EU) 2015/1185 of 24 April 2015¹: requirements for solid fuel local space heaters (*to be implemented from January 2018*) Annex 11 and Annex 111 from

January 2022.

Ecodesign requirements for energy efficiency and for emissions of (PM), (OGCs), (CO), (NO_x) from local space heaters. (*Biomass boilers are covered under a different Annex of the Directive*)

This part of the directive allows time 2018-2022 for countries to implement the directive. In France, certified appliances have a reduced VAT rate of 5%, along with tax credits over 5 years plus interest free loans for the works. Italy's renewable heat incentive, Conto Termico 2016 will cover up to 40 % or 65 % of expenditure on approved technology.

The opportunity is there for Ireland to become a supplier of Ecodesign local space heaters ahead of other competing member states. It is important we are not caught lagging in this fast moving industry allowing this opportunity to pass by exporting jobs to other progressive member states. There are multifaceted benefits of a progressive outlook, increasing employment in both the indigenous biomass sector and the manufacture of appliances for efficient biomass combustion, in conjunction with the positive carbon benefits of replacing fossil fuels and the positive contribution to the obligations in The National Action Renewable Plan.

The issue is that an unwary public are buying appliances with a life expectancy of 15 years which will be obsolete when the directive is implemented in 6 years. The advanced appliances cost considerably more so unless there is some incentive the general public will not choose this option.

Pat Murphy
Chair WOOD Fuel Quality Assurance Scheme

National and international news

European Forest Institute developments

EFI is an international Finnish based international organisation which was established by European States through an international Convention. Ireland is one of 25 European countries who have ratified the EFI Convention – 2010 in Ireland's case.

In addition, EFI has 115 associate and affiliate members from 36 countries. In Ireland's case these include The Forest Service of the Department of Agriculture, Food and the Marine, Coillte Teoranta and UCD.

The establishment of EFI was initiated in 1993 with the aim of enhancing international forest research and providing decision makers with unbiased forest-related information at a pan-European level.

Over 20 years later, EFI has grown and developed into a vibrant and well respected international organisation that conducts, co-ordinates and facilitates forest related research. EFI also provides support to its members on policy related and capacity building issues.

EFI has five regional offices which are strategically positioned geographically in order to give EFI a

strong presence throughout Europe. These also serve to bring increasing visibility to regional issues at European level.

EFI thematic work programmes

Three distinct programmes have been established in order to provide for a greater concentration of expertise, capacity building and to facilitate the rollout of thematic results. These are

1. The EU REDD Facility hosted by EFI (reducing emissions from deforestation and forest degradation)
2. The EU FLEGT Facility hosted by EFI (forest law enforcement, governance and trade)
3. The Multi Donor Trust Fund (MDTF) in support of the EFI Foresight and Policy Support Programme including ThinkForest.

Ireland's involvement in the three EFI thematic work programmes

Through the Department of Agriculture, Food and the Marine, Ireland has been to the forefront as a founding and financial contributor to the Multi Donor Trust Fund on Policy Support and also as an active financial contributor to the EU REDD Facility. The Department is represented as a full member on the Steering Committees of both the MDTF and the EU REDD Facility while it has observer status on the Steering Committee of the third thematic work programme, the EU FLEGT Facility.

Detailed information, publications and updates on the ongoing work of the EU REDD Facility, the EU FLEGT Facility and the MDTF on Policy Support including ThinkForest can be found on these links:

www.efi.int

www.euredd.efi.int

www.euflegt.efi.int

www.efi.int/portal/policy_advice/fps

www.efi.int/portal/policy_advice/thinkforest

www.efi.int/portal/virtual_library/publications/policy_briefs

www.efi.int/portal/policy_advice/thinkforest

Ireland to take on Chairmanship of the European Forest Institute

All member countries are represented on the Council of EFI, the highest body in the Institute. Chairmanship of the Council rotates, on a three-year cycle, between Members. Ireland will take over the Chairmanship in January 2017. The Department of Agriculture Food and the Marine has nominated Professor Emeritus Ted Farrell, of UCD, to represent Ireland as Chairman of the Council.

Ireland has been closely associated with the Atlantic Regional Office of EFI, EFIATLANTIC, since its establishment in 2009. EFIATLANTIC, which is based in France, has been very active in coordinating forest research in Atlantic Europe, from Scotland to Portugal. The emphasis on planted forests throughout the region has provided a unifying theme, affording opportunities for collaborative research and the sharing of information. Professor Farrell was appointed first Chairman of the Regional Advisory Group of EFIATLANTIC, a position which he held for a four-year term.

EFIATLANTIC and the Department of Agriculture Food and the Marine are jointly organising an International Summer School on plantation forest management and utilisation to be held in Ireland, in June 2017. The Summer School will be hosted by Waterford Institute of Technology.

EUFORGEN Steering Committee Meeting, Dublin, November 2015

Ireland joined Phase V of EUFORGEN (European Forest Genetic Resources Programme) which will run from 2015 to 2019. Over the course of this Programme EUFORGEN will continue the pan-European implementation of Strasbourg Resolution 2 and other relevant FOREST EUROPE commitments on forest genetic resources. Furthermore, the Programme will contribute to the implementation of relevant decisions of the Convention on Biological Diversity and the Global Plan Action on forest genetic resources adopted by the FAO Conference in 2013. EUFORGEN will operate as before through working groups and workshops but with updated objectives. Ireland hosted the 11th Steering Committee meeting in November 2015 where results from the previous phase were put to the committee and objectives for the new phase discussed.

The Programme will continue to disseminate reliable information on forest genetic resources in Europe, coordinate the conservation of forest genetic resources in Europe, and prepare analyses on topics and issues relevant for the use of forest genetic resources. EUFORGEN will also continue maintaining the EUFGIS information system. Further information on EUFORGEN is available at www.euforgen.org or from brian.clifford@agriculture.gov.ie.

Climate change

Forest management and climate change mitigation

Continuous-cover forestry (CCF) has been suggested to offer better ecosystem services, such as carbon sequestration, when compared to conventional clear-cut (CF) silvicultural practice. However, recent research shows that the long-term C sequestration potential of forest ecosystems and wood products is very similar under both CCF and CF management scenarios (Lundmark et al., 2016). The authors suggested that the largest climate change mitigation benefit may be obtained under a conventional marginal thinning CF scenario with emphasis on high fossil fuel substitution and production of long term wood products. The research does point out that the most effective climate change mitigation strategy would be to increase forest growth and yield and to maximize wood substitution benefits. Maintenance of long term sustainable yields has been suggested to be the most important climate change mitigation strategy in numerous other studies (Poudel et al., 2015, Chikumbo and Starka, 2012), supporting the recent findings. Perhaps future C sequestration research should be targeted at defining the optimal mix of frequency, intensity, and timing of thinning maintained maximum growth rate for as long as possible for any one rotation and for identifying best wood flow paths for optimal product substitution value.

Dr Kevin Black

Chikumbo and Starka, 2012. Maintaining an Optimal Flow of Forest Products under a Carbon Market: Approximating a Pareto Set of Optimal Silvicultural Regimes for *Eucalyptus fastigata*. *Open Journal of Forestry* Vol.2, No.3, 138-149
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The Paris Agreement

The Paris Agreement on climate change and the associated Decision 1/CP.21, finalised on the 12 December 2016, brought to a successful conclusion a negotiation process that had begun in Durban at the end of 2011. In preparation for the COP-21, more than 180 countries (representing 95% of global GHG emissions) submitted their emission reduction targets in the Intended Nationally Determined Contributions (INDCs). Nearly 100 countries explicitly mentioned a mitigation role for the Land Use, Land Use Change and Forestry (LULUCF) sector, emphasising the important role it has to play.

A summary of the main outcomes from Paris is available at <http://www.unfccc.int>. What follows here is a short summary of the main outcomes and their likely impact on the forest and wood products sector in Ireland.

The central element of the agreement is the long-term temperature goal (Article 2), which reaffirms the need to limit global temperature increase to well below 2 degrees Celsius, while pursuing efforts to limit the increase to 1.5 degrees. Article 4 goes on to say that that to achieve the temperature goal

Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, recognizing peaking will take longer for developing country Parties, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of the century.

These words mean in effect that biological sinks (including forests) will play an increasing role in tackling climate change post 2020, in a period when the level of emissions is expected to be well below current levels. As an indication of how far reductions must go, the October 2009 European Council set the appropriate abatement objective for Europe and other developed economies at 80-95% below 1990 levels by 2050. To prepare for the decarbonised world that these policies are aiming for, continued expansion of forest cover and avoidance of forest loss are necessary at the global level. In Ireland it means continued state and private investment in afforestation, a greatly expanded use of wood products in the construction sector (see article on cross laminated timber this issue), and use of locally-sourced wood fuels in heating and CHP.

Sinks and reservoirs are specifically covered in Article 5, which encourages Parties to conserve and enhance, as appropriate, sinks and reservoirs of greenhouse gases as referred to in Article 4, paragraph 1(d) of the Convention, including forests.

An important element of the agreement is a global goal to significantly strengthen national adaptation efforts – enhancing adaptive capacity, strengthening resilience and reduction of vulnerability to climate change – through support and international cooperation. The forest sector is inputting to the national adaptation plan process. An important principle here is the need to maintain genetic diversity and adaptive capacity in species used in both afforestation and reforestation. This is one of the considerations underlying the Seed Stands and Seed Orchard Scheme (see article this issue). The agreement also recognizes that adaptation is a global challenge faced by all. All Parties should submit and update periodically an adaptation communication on their priorities, implementation and support needs, plans and actions.

Where does the process go from here? Article 4 of the agreement establishes binding commitments by

all Parties to prepare, communicate and maintain a nationally determined contribution (NDC) and to pursue domestic measures to achieve them. To set a firm foundation for higher ambition, each successive NDC will represent a progression beyond the previous one and reflect the highest possible ambition. One of the next steps will be to elaborate principles and rules for accounting for soil carbon and forests under the UNFCCC process

At EU level the Commission is currently preparing a draft legal decision to give effect to the commitment, endorsed at the European Council in October 2014, for a binding EU target of an at least 40% domestic reduction in greenhouse gas emissions by 2030 compared to 1990. It is expected the legal proposal will issue later this year. The codecision process will then determine the final form of the legal agreement, including the treatment of forests and other land uses.
