.

Forestry and Wood Update

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# COFORD News

# Seminar: The role of site classification in forest productivity and management

Good silvicultural decision-making and planning require knowledge of the growth of tree species across the full range of forest sites in Ireland. While site classification has long been used in forestry as a means of species selection and for estimating growth and yield, no overall system has been adapted for widespread use. Soil classification has been used to estimate productivity and to aid species selection, while indicator species and vegetation type are used as secondary indicators of soil fertility.

Anderson’s site classification (1950) has been used to classify the fertility class and moisture of sites, based on plant communities. It remains in use but recent years have seen growth in the use of multifactor classifications in Britain and Canada. These systems work by focusing attention on ecological site quality and its relation to the ecosystem, and can provide a sound basis for the sustainable production of wood and for the conservation of wildlife. Ecological Site Classification (ESC), currently in use in Canada and Britain, recognizes different site types according to environmental variables and provides an ecological basis for silvicultural practices, given that understanding the role of species variability in forest productivity is one of the essential elements for sustainable wood production.

In order to better understand the role and potential of site classification in the choice of tree species, site productivity and forest management, Teagasc and COFORD are holding a seminar on 4 June 2008 on the theme ***The role of site classification in forest productivity and management*** at the Tullamore Court Hotel, Co Offaly. The seminar will be addressed by invited speakers, including a number of eminent scientists in the area of site classification in Ireland and abroad.

All those interested in silvicultural decision-making and planning, and forest ecology will find attendance at the seminar worthwhile.

The programme includes the following presentations:

* *Soil classification, soil maps and their use in site classification for forestry in Ireland -* Niall Farrelly, Ray Fealy and Toddy Radford (Teagasc Research)
* *Ecosystem site classification, principles, concepts and rationale and application in forest resource management -* Karel Klinka (Emeritus Professor, University of British Columbia, Canada)
* *Potential productivity concepts and productivity of forest tree species in Canada -* Han Chen (Associate Professor, Faculty of Forestry, Lakehead University, Ontario, Canada)
* *Site, soil and climatic factors and the productivity of Sitka spruce in Ireland -* Niall Farrelly (Teagasc), Áine Ní Dhubháin and Maarten Nieuwenhuis (UCD)
* *Site factors and windthrow risk assessment* - Áine Ní Dhubháin (UCD)
* *The problems associated with afforestation and reforestation with reference to site factors -* Michael Keane (Coillte)
* *Afforestation of cutaway midland peats – with respect to site classification and species success -* Florence Renou-Wilson (UCD)
* *The impact of climate change on species selection in Ireland -* Kevin Black (FERS/UCD) and Duncan Ray (Forest Commission)
* *The use of GIS derived estimates of topographical exposure to aid species suitability and windthrow risk in Irish forestry -* Stuart Green (Teagasc)

[Click here to download the information brochure/booking form](http://www.coford.ie/iopen24/pub/pub/programme040608.pdf).

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# Bioenergy 2008 conference

The 2007 Energy White Paper and Bioenergy Action Plan have set out ambitious targets for the contribution of bioenergy to renewable energy and Ireland’s future energy mix. A one-day conference will take place on Thursday 19 June at Teagasc Mellows Centre, Athenry, on the eve of Bioenergy 2008. The conference, presented jointly by Sustainable Energy Ireland Renewable Energy Information Office, COFORD and Teagasc, will highlight progress too date, providing practical solutions to some of the most pressing issues and looking at new opportunities in the bioenergy sector with a commitment to local and national sustainability.

Sessions will include presentations on:

* *Bioenergy in Ireland – the Driving Forces* – looking at the economic drivers and financial support for bioenergy.
* *Delivering Quality Products to the Irish Market* - looking at sustainable and efficient biomass supply chains.
* *Bioenergy for Ireland’s Energy Managers* - this session will look at a number of case studies.
* *Emerging Bioenergy Technologies.*

Programme details will be announced in the next issue of this newsletter as well as on the Teagasc, SEI and COFORD websites.

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# Bioenergy 2008 at FarmFest

Following on from the highly successful Bioenergy 2007 event, Teagasc, SEI and COFORD are organising Bioenergy 2008, on 20 June 2008 at the Teagasc Mellows Centre, Athenry. The day will feature outdoor wood energy exhibitions, as well as many trade and information stands. Bioenergy 2008 will be held in association with Teagasc’s national farming and rural development event, ***FarmFest.*** If you are interested in reserving exhibition space, please contact Paul Dykes, SEI – tel: 023 63393 or 087 9978723.

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# COFORD R&D programme: project update

*Each issue of COFORD’s newsletter carries a short article on new and ongoing COFORD-funded projects. Feedback on the articles is welcome and should be addressed to the project leaders (contact details at the end of the article).*

## PLANFORBIO – Hen Harrier

The HEN HARRIER research project began in 2007 and the second field season is now getting underway. The aim of this project is to collect detailed information on Hen Harrier breeding and habitat use in five main areas in Ireland: Ballyhouras, Slieve Aughties, Mullaghareirks, West Clare and the Nagles. These data will improve our understanding of Hen Harrier ecology and habitat requirements and inform an indicative strategy for Hen Harrier management in SPAs. A further output of this project will be a GIS database of landuse and habitat types in these SPAs. During the very successful first field season in 2007 the breeding success of more than fifty individual Hen Harrier nests in these areas was assessed and 40 chicks were tagged with location-specific wing-tags. Already, there have been more than 15 confirmed resightings of these young birds, most recently returning to their natal areas during April of this year. During the 2008 field season we will continue to collect data from Hen Harrier nests throughout the study areas, and install nest cameras and deploy GPS tags on adult males for the first time in Ireland.

*For further information contact Dr Sandra Irwin (s.irwin@ucc.ie) and Prof. John O’Halloran (j.ohalloran@ucc.ie)*

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# Carbon Corner

## Buying carbon

Al Gore’s movie, a host of documentaries and news stories, and the new change.ie campaign are succeeding in raising awareness of climate change among the public at large. One of the key messages of *An Inconvenient Truth* and the national campaign is that as well as governments and business taking responsibility for reducing emissions, individuals also need to find ways to reduce their carbon footprint.

For companies and individuals who find it difficult to reduce emissions there is the possibility to offset them by purchasing reductions made elsewhere. These offsets are voluntary in nature (commonly called VERs – voluntary emission reductions). Using forestry as an offset for the VER market is a perfectly acceptable, and indeed desirable and cost effective way of reducing greenhouse gas emission, given the many economic and social benefits that forests provide. A number of key principles need, however, to be borne in mind to ensure that the climate as well as the project developed is benefiting from the offset investment.

First is additionality. The carbon reduction should only be used where the offset finance enables new savings to be made. In order words, if the carbon saving would have been made in any event, it is clearly better from the climate perspective to spend money on new or additional reductions. A second, related issue is the need to avoid double counting. If the forest carbon saving is part of a national Kyoto compliance system, then it is already being counted against emissions. If this saving is used again as a VER, it simply means that one tonne of carbon saving is being used to ‘offset’ two (or more) tonnes of emissions. The same issue applies of course to VERs themselves - the one tonne of carbon saving should only be used once to offset one tonne of emissions. Once it has been used as an offset the carbon saving needs to debited off the project registry.

This last point brings up the critical need for independent verification, transparency and certification of carbon savings in forestry projects. Projects should maintain a registry of issuance and cancellation of carbon savings. If not, how can offset purchasers be sure they are really making a difference in terms of climate change?

Those involved in forestry offset projects have also to consider how to deal with temporary reductions in the carbon stocks in the forest through harvest, or through more permanent changes in stocks caused by fire or other disturbance. These issues can be dealt with by maintaining a buffer of carbon savings and by taking account of harvest levels in the amount of offsets that are issued.

Leakage is another important principle that needs to be borne in mind in forestry offsetting. For example, if the level of roundwood harvest is reduced and the carbon savings are used as an offset, leakage will occur if the harvesting level increases elsewhere.

If and when the principles outlined are followed in forestry offset projects the purchaser has a far better assurance that he or she is making the right decision and is making a real contribution to combating climate change.

Useful guidance on the issues around offsetting is available at the UK Department of Environment of Environment, Food and Rural Affairs site (<http://www.defra.gov.uk/environment/climatechange/uk/carbonoffset>).

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# Hardwood Matters

COFORD produces *Hardwood Matters*, the catalogue for advertising hardwood timber, twice yearly. Published in hard copy and available on the website, it attracts a wide and growing audience in the forestry and timber processing sectors. Those in the business of selling or buying hardwoods can avail of the service, free-of-charge, by contacting COFORD. *Hardwood Matters* is also carried on TIMBERWeb, the global timber eMarket, [www.timberweb.com](http://www.timberweb.com). Material for inclusion in the next issue should reach the COFORD office by 15 June 2008. For further information contact John Fennessy at 01 2130725 or email: john.fennessy@coford.ie

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# BIHIP update

The spring 2008 meetings of the BIHIP Management Committee and some of the BIHIP species groups will take place at the Duchy of Cornwall’s Office in Dewsall, close to Hereford, on Thursday 1 May 2008. Representatives from Britain and Ireland are attending the meeting and a full report on proceedings will be published in the June Newsletter. For further information contact John Fennessy at 01 2130725 or email: john.fennessy@coford.ie

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# Other News

# InnovaWood News

The regular supplement from InnovaWood ([click here to download](http://www.coford.ie/iopen24/pub/pub/iwscoford_newsletter_may08.pdf)) contains information about:

* *Events, conference and courses:*
	+ Events in brief
	+ Growing towards the future – Joint innovation for successful forest-based business in Europe
	+ FTP brokerage event
* *Calls for proposals*
	+ Marie Curie Initial Training Networks
	+ Other calls
* *Innovative and sustainable forest-based industries in the EU*
* *Potential areas of forestry and forest-related research under FP7*

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# Students seek work experience in the forestry sector

Every year the InnovaWood Secretariat receives numerous requests from international students of forestry and forestry-related subjects for help finding enterprises and organisations in Ireland where they can undertake a two to three month work experience placement. These placements are often a core part of student curricula and represent a vital contribution to ensuring that graduates are better skilled and more highly qualified upon completion of their studies, and that they are equipped to quickly adapt to a working environment.

By providing work experience opportunities to students, firms are able to actively contribute to graduate quality, and in doing so may even find prospective future employees.

If you feel your organisation is in a position to offer valuable experience to international students, and in turn profiting from their time, energy and enthusiasm, then please contact InnovaWood for more information. Email: office@innovawood.com

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# Towards zero carbon - the role of timber frame

The Irish Timber Frame Manufacturers’ Association has organised a seminar entitled *Towards zero carbon – the role of timber frame* which will take place on Wednesday 21 May 2008 in the Radisson SAS Hotel, Dublin Airport.

The forthcoming changes to Part L of the building regulations mean that all new dwellings started after 1 July next will need to be 40% more energy efficient. The new regulations include the requirement to limit the amount of energy needed for the operation of the dwelling and to limit associated CO2 emissions. Furthermore it is intended that standards will be tightened even further in 2010 with the aim of achieving zero carbon emissions at the earliest date practicable.

This half day seminar will examine how timber frame as a method of construction will play its part in meeting the new standards. It will be of particular interest to architects, engineers, local authorities, builders, developers, timber fame manufacturers and anyone with an interest in modern methods of construction.

Speakers at the seminar will include Joseph Little, an architect specialising in low energy, low carbon and future-proof design; Bobby Gilbert, a chartered engineer who recently developed 'Carbon Mixer', a software carbon assessment tool already adopted by many UK local authorities and consultants; and Bill Quigley of NuTech Renewables.

Seminar cost is €130 per person. For bookings or further information contact Philip Mahony of the Irish Timber Frame Manufacturers Association at 01 659 9429 or email: philip@itfma.ie

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# Energy efficiency: A dysfunctional market – challenges and opportunities

A major European construction conference will take place on 20 June 2008 at Dublin Castle, hosted by the Construction Industry Federation. Further information can be found at www.fiec.org

In 2008 FIEC (European Construction Industry Federation) is holding its annual congress in Dublin for the first time. The centerpiece of the congress is a major European Construction Conference on *Energy Efficiency: A Dysfunctional Market – Challenges & Opportunities.* This is Europe’s leading construction conference, which brings together leading experts from all strands of the European construction industry. Policy-makers at both EU and national level are increasingly focusing on the construction industry’s role in achieving reductions in greenhouse gas emissions as a means of meeting targets set down in the Kyoto Protocol. In Ireland, the impacts of recent regulatory changes are already being felt, and the Programme for Government commits to further changes.

The increasing focus on greater energy efficiency brings both challenges and opportunities for the industry and these are addressed in a detailed and forward looking manner by the upcoming FIEC Conference.

The title of the conference captures the complexities of the issues facing the industry. The conference will appeal to a wide spectrum of interests from within the construction industry and promises to inform as well as to challenge.

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# Sustainability of biomass: Achieving targets – maximising benefits

A conference addressing sustainability of biomass in the context of the renewable energy targets as detailed in the Irish energy white paper will take place on Friday 9 May 2008 at SEI, Glasnevin, Dublin. With the theme *Achieving targets – maximising benefits*, the event is being organised jointly by IEA Bioenergy Task 29, Sustainable Energy Ireland and Tipperary Institute. The conference is primarily aimed at those involved in policy and the development of bioenergy.

IEA Bioenergy helps promote the use of environmentally sound and cost-competitive bioenergy on a sustainable basis. The aim of Task 29 is to achieve a better understanding of the social and economic drivers, and impacts of establishing bioenergy markets at the local, regional, national and international level. More details on the work that Task 29 carries out is available at http://www.task29.net

This conference will investigate ways in which the targets set out by the Irish Energy White Paper published in 2007 can be achieved while maximising benefits and ensuring a commitment to local, national and international sustainability. Questions which will be raised include:

• How can we maximise the benefits of bioenergy, while minimising the downsides?

• What are the carbon and biodiversity impacts of converting Irish grassland to energy crops?

• What is the best way of using indigenous wood energy resources?

• Does Ireland need to develop national sustainability criteria and certification systems for bioenergy?

• How do we move these issues forward?

To reserve a place, contact Clifford Guest, Tipperary Institute, Thurles, Co Tipperary, Ireland. Email: cguest@tippinst.ie. The event is free of charge.

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# Strategic Integrated Research in Timber - 2008 annual conference

The British commercial timber industry considers itself unique as it is primarily based on Sitka spruce. Furthermore, the climatic and soil conditions in Britain are such that the properties of Sitka spruce timber differ from those in other parts of the world where the species is grown, apart from Ireland. However, the provenances that are generally used are different, with Queen Charlotte Islands seed sources mainly used in Scotland, while Washington sources are generally used in Ireland. As a result of this uniqueness, innovative research is required to address some of the key questions about the quality of locally-grown Sitka spruce timber.

The Strategic Integrated Research in Timber (SIRT) is a collaborative initiative between the Centre for Timber Engineering at Napier University, the Department of Analytical and Environmental Chemistry at the University of Glasgow and the Silviculture and Timber Properties Branch at Forest Research. The project was started through a £1.2 million Strategic Research Development Grant from the Scottish Funding Council. Additional investment has also been made by the three institutions involved in this work.

The primary focus of SIRT is to identify the extent and key causes of variation in the wood properties of Sitka spruce which affect its use as a structural timber. In this context, the key properties are dimensional stability, modulus of elasticity and modulus of rupture. These properties, in turn, are affected by factors such as wood density, microfibril angle and knots. Therefore, in order to understand the mechanical behavior of wood it is necessary to have knowledge about its properties at scales ranging from several nanometers up to tens of metres. Through the complementary skills of the institutions involved in the SIRT project, it has been possible to study properties of wood at scales ranging from the whole-tree, to sawn battens right down to individual wood cells and their sub-cell ultrastructure. The integration of this knowledge makes it possible to use the results obtained at one scale to explain phenomena observed at another (generally larger) scale.

The overall objectives of SIRT are:

* to build an integrated research capability in the fields of wood properties and timber engineering by undertaking long-term fundamental research and to develop an immediate response to industry needs and concerns.
* to provide Scotland with an international presence in wood research and to develop a reputation for expertise related to Sitka spruce wood.
* to improve the utilization of UK-grown Sitka spruce, thereby creating a more competitive and profitable forest products industry.

The project team is also focusing on the development of new analytical techniques to assess wood quality. These include static NMR measurements of standing trees, surface ATR-FTIR of solid wood pieces to determine the microfibril angle and immuno-labelling of wood to predict the dimensional stability of timber. The study team has also focused on evaluating the use of acoustic tools for segregating higher quality material from poorer quality material at different points in the forestry value chain (e.g. standing trees, logs and battens). Once the work programme has been completed it will be possible to select the variables that are the most important in determining construction finished quality.

In mid-May Dr John Moore, Principle Research Fellow at the Centre for Timber Engineering of Napier University, and a colleague, Shaun Mochan at Forest Research are planning to visit COFORD to present a report on developments in conifer timber technology and to explore possibilities for future co-operative programmes. For further information email: john.fennessy@coford.ie

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# COST Strategic Workshop: Improving energy efficiency in papermaking

COST will organise a Strategic Workshop on *Improving Energy Efficiency in Papermaking* focusing on the identification of the technical challenges of energy saving in papermaking. Improving energy utilisation, reducing carbon emissions as well as finding innovative energy solution are identified as key questions for the future and dealt in keynotes and working groups. The event will take place from 9 to 11 June 2008 in Hoofddor, The Netherlands (near the Amsterdam Airport). The objective of the workshop is to provide rationales and guidelines for paper-making related research agendas and funding agencies. The workshop is aiming at the development of a research agenda by trying to find solution for the following questions:

* what can be done immediately and without major investments?
* how can the installation of BATs (or state-of-the-art technology) help to improve the overall energy efficiency of a mill?
* how can today’s visions be turned into solutions and BATs of the future?

For further information, see www.cost-ieep.net or email: harald.grossmann@tu-dresden.de or a.hooimeijer@kcpk.nl.

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# Bioenergy research positions in Norway

Hedmark University College, Norway, has just started a project aimed at developing competence within the field of Bioenergy. The project is linked to the Faculties in Rena and Evenstad. The Faculty in Rena will be responsible for education and research connected to the economics of bioenergy. The Faculty in Evenstad will focus on wood industry, wood-energy supplies, and logistic challenges all through the value chain of wood-based bioenergy production. The college is looking for suitable candidates to fill three research positions in their bioenergy project:

* PhD in bioenergy connected to forestry or environmental sciences
* PhD in bioenergy connected to the economic sciences
* Researcher in bioenergy.

Information about the University College or the Faculties may be found at http://www.hihm.no.

Applications should be submitted electronically on the college website: www.hihm.no/ledigstilling.

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# Biomass-to-Liquid biofuel plant opens in Germany

*From an article published on Fordaq: 24/04/2008*

In April 2008, the world’s reportedly first commercial biomass-to-liquid (BtL) plant opened in Freiberg, Saxony in Eastern Germany. The parent company, Choren Industries GmbH, projects that it will take 8 to 12 months for the plant to reach its full annual capacity of 18 million litres. The plant will run on forest residue wood and waste timber. At full capacity it will use 65,000 MT of wood dry matter as feedstock. Investment costs amounted to €100 million, including a €35 million subsidy from the state of Saxony.

While BtL can be produced from cellulosic material, it is distinctly different from cellulosic ethanol, another second generation biofuel. BtL is a second generation biofuel that is produced from biomass. Unlike first generation biofuels such as bioethanol or biodiesel, BtL production uses the whole plant, while biodiesel and bioethanol currently only use parts of the plant. This results in a smaller area requirement for the same amount of energy compared to biodiesel or bioethanol.

Future economic viability of BtL production will depend on feedstock costs, logistic costs to move the biomass to the facility, prices for competing products such as fossil fuels, future technical progress and reduction of conversion costs, and government support, for example in the form of tax incentives or mandate.

While the opening of the Freiberg plant is a milestone, BtL is still in its infancy and there is still a long way to go for large scale production of BtL in Germany. Because of its technical specification BtL is popular with car manufacturers and mineral oil companies, which are more likely to support the use of BtL then cellulosic ethanol for example.

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