

Forestry and Wood UpdateApril 2003 - Volume 3 Number 4

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# COFORD launches its Annual Report 2002

The COFORD Annual Report for 2002 was launched by Mr John Browne, T.D., Minister of State for Forestry, on 28 March 2003, after the COFORD Council meeting at Enniscorthy. Copies will be distributed during the next few weeks, and are available by from info@coford.ie. The report will also be made available on the Internet in the near future.

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# COFORD Seminar: Managing our broadleaf resource to produce quality hardwood timber

COFORD presents the second in a series of two-day events on growing and managing broadleaved trees and utilising hardwood timber in Ireland. The seminar will be held on 10 and 11 April 2003, at the Hotel Kilkenny, College Road, Kilkenny. This follows the very successful event held at Carrick-on-Shannon in October 2002.

The programme for Thursday, 10 April 2003, includes:

* *The national and local broadleaf resource*, by Niall Farrelly, Forest Service.
* *Growing broadleaves – from the grower’s point of view*, by Michael Gabbett, Grower.
* *The UK experience with the production of quality broadleaves, with the main emphasis on continuous cover forestry*, by Dr Peter Savill, Oxford.
* *Broadleaves and their management*, by Michael Bulfin, Teagasc.

After an early lunch, busses will depart for a field visit to the plantation of Mr T. Mullins, at Castlefield, Dungarvan, Co Kilkenny, to view pure stands of sycamore, ash and oak.

The programme for Friday, 11 April 2003, includes:

* *An overview of hardwood utilisation in Ireland*, by Gordon Knaggs, Gordon Knaggs and Associates.
* *Making the grade – appearances matter*, by Kevin Maye, University of Limerick.
* *Processing the hardwood resource*, by Seamus Heaney, Coillte.
* *The joinery sector and its material requirements*, by Pat Phelan, Kingsriver Furniture.

After lunch, busses will depart for a visit to Kingsriver Furniture where Pat Phelan will show the processing of hardwoods from sawlog to fine furniture.

Attendance at the conference (including refreshments and lunches) costs €35 per person. Further information and the registration form can be downloaded from the COFORD website at <http://www.coford.ie/newsandevents/kilkenny.pdf>.

Registration forms should be completed and returned to COFORD. Alternatively, email info@coford.ie or telephone 01-7167700 to secure your place.

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# Broadleaf seminar in Northern Ireland:Managing broadleaves to produce quality hardwood timber

The Northern Ireland Forest Service, in conjunction with COFORD and the Institute of Chartered Foresters, presents a two-day event on growing and managing broadleaved woodland and the measurement, grading and marketing of hardwood timber. The event will be held on 8 and 9 May 2003, at the White Gables Hotel, 14 Dromore Road, Hillsborough, Co Down.

The event is aimed at owners and managers of broadleaved woodland, whether recently planted or close to maturity, who wish to produce good quality timber. A series of woodland site visits will be used to illustrate three separate operations (formative pruning, tending and thinning) and the impact they have on crop quality. Practical guidance will also be given on measuring and grading hardwood timber followed by a visit to a sawmill utilising locally grown broadleaves.

There has been an increasing trend towards planting broadleaves. Over the last ten years, between 1992 and 2002, supported by the Woodland Grant Scheme, the Farm Woodland Scheme and the Farm Woodland Premium Scheme, just over 3,000 ha of predominantly broadleaved woodland have been established by landowners in Northern Ireland. This has increased the total broadleaved woodland area in private ownership to a little over 13,000 ha.

Generally, broadleaved woodland requires greater management inputs, compared with conifers, to achieve optimum quality timber. While there is much information and expertise available on the establishment and management of conifers, there is less practical experience of broadleaved woodland management. COFORD is one organisation which has been supporting research on the early management of broadleaves, and has recently launched a new programme, BroadForm, with the objectives to determine the optimum regime to produce best quality timber, to examine operations to improve quality and to develop guidelines for the production of quality stems.

A limited volume of hardwood timber currently comes on to the market and traditionally homegrown hardwood has found its way into lower value end uses. This event will address aspects of measuring, grading, and marketing hardwood timber and will conclude with a visit to a sawmill utilising locally grown broadleaves.

The programme for Thursday, 8 May, includes:

* Introduction - *Pat Hunter Blair, Forest Service* (Chair for the day).
* The broadleaf resource - *Iain Davies, Forest Service.*
* Formative Pruning of oak/ash woodland belonging to Mr Joseph Gibson, Hillsborough planted in 1999 - *Des Campbell, Forest Service.*
* Tending oak woodland belonging to Mr Vincent Fitzpatrick, Loughinisland planted in 1988 –*Martin O’Hare, Forest Service.*
* Selection and thinning at Hollymount (Forest Service) in poor quality oak planted in 1978 - *John Joe Cassidy, Forest Service.*
* Selection and thinning at Tollymore (Forest Service) in beech/oak woodland planted in 1947 - *John Joe Cassidy, Forest Service.*

Dr Eugene Hendrick (COFORD Director) will chair the day on Friday, 9 May, when the programme be:

* Hardwood timber sales - *Gavin Munro, T & G Norman, Carlisle.*
* Valuing and grading hardwood timber – *Gavin Munro*.
* Measuring, grading and valuing logs at roadside and standing trees at Tollymore (Forest Service) in sycamore/beech woodland planted in about 1900 - *Gavin Munro.*
* Visit Mr Clarke Cunningham’s sawmill at Ballytrim – *Clarke Cunningham, Clarke Cunningham Tree Maintenance Ltd. Killyleagh, Downpatrick.*

Attendance at the event is free, however places are limited and early registration is advised. To register, or for further information, please phone (028) 90524466; or email joan.morrison@dardni.gov.uk. The registration form can be downloaded from <http://www.coford.ie/newsandevents/broadleaf-ni.pdf>

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# Workshop on Wood Waste

Every year Irish business spends €100s million on waste disposal. While wood and timber products account for a relatively small proportion of total waste, in excess of 200,000 tonnes of wood waste is generated annually. The construction and demolition sector alone generates 120,000 tonnes per annum. Increasing landfill fees and a changing legal and regulatory environment relating to the landfilling of recyclable materials are forcing companies to seek alternative outlets for their waste.

On Thursday, 3 April, COFORD will hold a workshop on the *Effective Management of Waste Wood*. The workshop aims to bring together the construction, furniture, waste management and recycling sectors with legislators, local authorities and potential users of wood waste. The objective is to identify barriers to the greater use of recovered wood in the composting and energy generation markets. Other potential uses include wood-polymer composite materials, animal bedding, soil amendments and biofilter medium. When the barriers are identified, strategies can be developed to overcome these and clear the path to the effective management of recovered wood.

Throughout Europe wood waste is used as a source of energy. Biomass is combusted for both heat and electricity generation in most Member States. However, some uncertainty remains about the advisability of using wood recovered from the waste stream. In this respect segregation is vitally important to ensure that treated material is dealt with in an environmentally safe manner.

The objectives of the workshop are:

* to identify barriers to the greater recycling and reuse of wood recoverable from the waste stream;
* to bring together all sections of the supply chain to discuss problems and solutions in an open, interactive forum;
* to develop a work plan to redress current problems in the wood waste chain and develop a strategy to ensure optimum usage of the resource.

The target audience is construction industry representatives, waste management companies, processors of wood waste, users and potential users of wood waste, local authorities and state departments/agencies.

After the welcoming address and outline of objectives by Joe O’Carroll (COFORD), the agenda will include:

* *Current environmental legislation and regulation*
* *Quantification of the problem -* Rory McConnon, Clearpower
* *Current and potential markets -* James Hogan, Clean Technology Centre
* *Growing wood recycling in the UK - a question of value? -* Tom Fourcade, Waste and Recycling Action Programme (WRAP), UK
* *Thermal treatment of wood waste -* Jesper Cramer, dk-Teknik, Denmark
* *Dealing with the waste wood resource – practical case study -*  Nicolas Bailey, Bailey Waste Recycling

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# Establishment of Oak Seedling Seed Orchard in Coillte hardwood nursery site at Rathluirc

The first oak breeding seedling orchard in Ireland has been established at the former Coillte broadleaf nursery site at Rathluirc, Co Cork. This orchard is one of eight established under the auspices of British and Irish Hardwoods Improvement Programme (BIHIP) throughout Britain and Ireland. The other seven orchards are scattered across Britain at Sotterley in Suffolk; Little Wittenham in Oxfordshireshire; Bwlchgwynt, Carmartenshire in Wales; Newton Rigg in Cumbria; Belmont in Kent; Dalkeith in East Lothian, Scotland and Shakenhurst in Worcestershire.

The oak improvement programme commenced in early 1997 with the selection of the best and most superior trees (plus-trees). Primary selections were made in Britain, Ireland, northern France and the Netherlands, as these areas encompass the climatic and geographic conditions similar to that of Britain and Ireland. First selections were based on phenotypic (visible external) characteristics. A total of 246 trees were selected for their straightness, lack of epicormic shoots, apical dominance, lighter branching and superior growth. When wood characteristics such as large early wood vessel size, high numbers of sapwood rings, and features associated with shake in oak were examined, this number was reduced to 110. Of the 110 trees selected, 12 were in Ireland. The method used was to collect seeds from the selected trees (mother trees) and use the progeny to establish breeding seedling orchards. This concept combines a field trial and a seed orchard. Trees that do not perform well will be removed, leaving only the very best for further propagation and seed production.

In oak, the length of time before sexual maturity and the low and infrequent quantities of seed produced can be a problem. After the trees were selected, it was necessary to wait for a seed crop and in 1998 a good acorn crop occurred in the Netherlands and a collection was made from all Dutch plus-trees. However, the acorn crop has generally been poor in all the other countries, and after small and rather sporadic acorn crops, collections were made over three seasons. Because of the difficulty of storing acorns, they were sown soon after collection. All acorns collected were sown at the Forestry Commission Research Agency nursery at Roslin, close to Edinburgh in Scotland, from where the plants were allocated to the field trials.

Early last year a search commenced for suitable sites through out Britain and Ireland. In Ireland the old broadleaf nursery site at Rathluirc was considered suitable. Preparatory work started in spring, with complete stock-proof fencing. The Rathluirc site extends to just over 1 ha, and has 46 single-tree plots (46 families) and is replicated 48 times (48 blocks).The preliminary work on establishing the first generation of oak seedling seed orchards is now complete and, apart from routine maintenance, the main activities will consist of regular assessments to determine the performance of families at the eight different locations and the most promising families on these sites. These regular assessments will result in the eventual culling of the less desirable and poorly performing families from the seed orchards.

COFORD and BIHIP wish to acknowledge the work undertaken by Coillte Nurseries in the provision of a field site at Rathluirc and the work carried out by Pat Doody, Seed Manager, and his staff in site preparation, layout and establishment of the Irish seedling seed orchard.

For further information on the Rathluirc oak seedling seed orchard or on the British and Irish Hardwood Improvement Programme, please contact John Fennessy, Irish Representative BIHIP, at john.fennessy@coford.ie or visit the BIHIP web site [www.bihip.com](http://www.bihip.com)

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# Developing a hardwood plank appearance grading scheme

The Forestry Commission National Office for Scotland has commissioned John Clegg Consulting Ltd, and Ivor Davies, Independent Timber Research Consultant, to develop a visual grading scheme for home-grown hardwood planks. The Forestry Commission, as leading partner, is working towards this development in co-operation with the hardwood processing industry as well as organisations in England (Forestry Commission), Northern Ireland (Northern Ireland Forest Service), Wales (Welsh Timber Forum) and COFORD, in Ireland. The two main objectives are: to ascertain the extent to which the domestic hardwood processing industry needs a visual grading system for planks, and to develop a system, assuming that a need is identified in the industry. The proposed new visual grading system would be simple and easily understood by sawmillers and their customers and would be for the most commonly used hardwood species.

To develop the original proposal, a small working group led by Derek Nelson, Market Development Officer, Forestry Commission, Scotland, met on a number of occasions. Kevin Maye, Wood Technology Centre, University of Limerick, was the Irish representative on this group. John Fennessy is involved with the co-ordination of this development on behalf of COFORD.

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# Wood Pellet Momentum Gathers

The Tipperary Energy Agency has established the Wood Pellet Industry Network to create a wood pellet market in Ireland. The second meeting was held recently in Limerick and the network now consists of over 20 members. The Tipperary Energy Agency has completed an implementation plan for domestic wood pellet heating systems in Ireland with funding from the Altener programme. To date, seven sites have been identified for development as demonstration sites. A further proposal seeks to increase this to 20 sites nationwide. The criteria for site selection are that the site must be accessible for public demonstration; and 60% funding must be provided by the site operator.

Public buildings for which plans are to install either a new heating system, or to replace an existing system, are ideal sites for demonstration purposes. The 40% funding which may be available should cover much of the additional capital cost of the wood pellet system (compared to an oil based-system). In addition to the significant environmental advantages that will accrue in terms of reduced carbon emissions, running costs will be lower once production of wood pellets commences within Ireland.

Aidan Kissane, a student at University of Limerick, under the supervision of Dr Tony Kay, has retrofitted an oil-fired domestic central heating boiler with a pellet burner to analyse efficiency, emissions and fuel usage. The project is nearing completion. The conversion kit, Pellx, is designed for replacing a type of oil boiler commonly found in Scandanavia.

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# EUFORGEN Meeting of theTemperate Oaks and Beech Network

The first EUFORGEN Temperate Oaks and Beech Network, formerly known as the Social Broadleaves Network, is scheduled to take place at Zemplinska Sirava, Kamenec, Slovakia, from 21 to 23 June 2003. Representatives from over 30 countries will attend. Several important issues on the conservation and management of European oak and beech forest genetic resources will be discussed. Each representative will present a country report update. John Fennessy (COFORD) is the representative for Ireland.

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# Carbon CornerCarbon accounting – biomass expansion factor and carbon content

The approach that is being adopted in Ireland to estimate forest carbon stocks and stock change relies on the use of biomass expansion factors, wood density and carbon content to convert commercial wood volume to carbon stocks and increment. Using this so-called forest inventory approach, areas by species and volume can be converted to corresponding carbon stocks and increment. This is to allow the calculation of the amount of removal units (one RMU is equal to 1 tonne of carbon dioxide) that Ireland can use in meeting its greenhouse gas reduction commitments under the Kyoto Protocol. Worldwide the forest inventory approach is the most commonly used method to calculate forest sinks. Among the alternatives that do exist, the most promising is the use of actual measurements of carbon uptake in forests.

Such measurements centre around the use of a technique called eddy covariance. Essentially what this does is convert carbon dioxide concentrations over the forest canopy into uptake by the trees. Measurements are collected over a period of months or years and are summed to get monthly and/or yearly totals. The COFORD-funded CARBiFOR project is measuring uptake in such a fashion in a young plantation in Co Laois. One of the drawbacks of this method is that it can only be used to estimate stock changes for small areas - there are potentially large and sometimes unquantifiable errors if estimates are scaled up to a regional or country level.

Nevertheless, results from this work are now beginning to be extremely useful in providing validation points for the inventory-based approach.

CARBiFOR is also determining biomass expansion factors across a range of age classes by quantifying carbon stocks at different ages. These will feed directly into the national accounting framework.

Biomass expansion factor has recently been defined as: ‘a generic term for a multiplication factor, which expands growing stock volume of a tree, stand or forest to account for non merchantable biomass components of a forest ecosystem’. Previous Carbon Corners (Volume 1, Issues 3 & 6) pointed out that the biomass expansion factor then in use (2001) for national carbon accounting was a first approximation, at the lowest point of the probable range, based on the information then available.

Using the new information that has come from CARBiFOR, and from the International Panel on Climate Change (IPCC) good practice guidance process, we have adopted a new biomass expansion factor and carbon content to use in national accounting. The biomass expansion factor is now 1.9 t/t, that is, one tonne of merchantable wood is equivalent to 1.9 tonnes of merchantable wood, *plus* branches, leaves and roots. The carbon content has been increased from 40 to 50% in line with IPCC values. Again the biomass expansion factor is conservative and may be revised as more information becomes available from CARBiFOR, the IPCC process and from forest inventory data.

The current accounting model can be stated in simple terms as:

*Carbon increment per ha per annum =*

*Current annual volume increment m3/ha/year x basic density x biomass expansion factor x carbon content x discount to allow for open spaces (roads, rides, biodiversity areas)*

*Example Sitka spruce crop with a current annual increment of 8.0 m3/ha/year*

*8.0 m3/ha/year x 0.35 t/m3 x 1.9 t/t x 0/5 t C/t dry matter x 0.85 planted area/gross area*

*= 2.3 t C/ha/year*

*= 8.3 t CO2/ha/year*

Revised estimates of the forest carbon sink, based on the new factors, will be issued shortly as part of the review of the National Climate Change Strategy. These will be indicative data, and the amount of carbon that will be stored in eligible forests will probably be in excess of the estimate. Emissions from soils resulting from disturbance associated with afforestation and losses from the natural decay of the existing vegetation will also be taken into account. Final estimates will be ready by 2006, supported by documented and published results from CARBiFOR, and the national forest inventory.

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# Tackling Pollution in Inland and Coastal Waters

The Sherkin Island Marine Station 19th Annual Environmental Conference ***Tackling Pollution in Inland and Coastal Waters*** is being held at the Carrigaline Court Hotel, Carrigaline, Co Cork, on 1 and 2 May 2003. The programme includes the following presentations:

* *The Legal Obligations for Water Pollution Control in the US* **-** Ms Kathleen Callahan,
Assistant Regional Administrator for New York Response and Recovery Operations, US EPA, Region II, New York, USA.
* *The EPA's Role in Protecting Waters* **-** Mr Padraic Larkin*,* Director, EPA, Wexford, Ireland.
* *Lake Pollution in New England, USA* - Prof. Peter Siver, Professor of Botany, Connecticut College, Connecticut, USA.
* *Advanced Treatment of Waste Water Prior to Discharge to the Sea -* Mr Michael Ludwig,Ecologist, National Marine Fisheries Service, Milford, CT, USA.
* *The Effects of Pollution in Freshwater Fish Stocks -* Mr Trevor Champ, Central Fisheries Board, Dublin, Ireland.
* *The Farm as a Source of Pesticide Pollution and Potential Management Options - Mr Paul Fogg,* Research Scientist, Cranfield Centre for EcoChemistry, Cranfield University, Derby, UK.
* *Storm Water: Problems and Technical Solutions -* Prof. Adrian Saul, Professor of Water Engineering, The University of Sheffield, Sheffield, UK.
* *Ireland and the EU Water Framework Directive -* Mr John Sadlier, Principal, Water Quality, Department of the Environment and Local Government, Dublin, Ireland.
* *Unsewered Areas: the Problems with Onsite Water Waste from One-off Houses - Mr Donal Daly,* Head of Section, Groundwater Section, Geological Survey of Ireland, Dublin, Ireland.
* *Pollution of Swedish Lakes and Rivers* – speaker to be announced.
* *Cork County Council's Approach to the Problem of Water Pollution -* Ms Jacinta Reynolds, Senior Scientist, Environment Section, Cork County Council, County Hall, Cork, Ireland.
* *Intermittent Pollution - Can Organisms Cope?* - Prof. John Solbé, JF Solbé - Environmental, Denbighshire, UK.

For further information about this conference email sherkinmarine@eircom.net or visit <http://homepage.eircom.net/~sherkinmarine>

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# ICF National ConferenceAn Industry Reborn: the UK’s new forests

The Institute of Chartered Foresters will be holding its national conference on 3 and 4 April 2003 at Heriot-Watt University near Edinburgh. The topics range from silviculture, modern systems of plantation management, the ecology of the new forests, inventory, the latest in GIS, marketing and selling wood products and dealing with international competition.

Associated with the meeting, the Forestry Commission’s Northern Research Station will be holding an open event at the University to update delegates on the latest research in tree breeding, windthrow, establishment, pest management and plantation ecology.

Presentations will include:

* UK forestry in the 20th century
* New forests, new landscapes: the contribution of the new forests in the UK landscape
* Meeting the demands of modern construction
* The UK sawmilling industry – looking forward
* UK forestry and the domestic paper industry
* The ecology of Sitka spruce in its native habitat
* Biodiversity in the UK’s new forests
* Building on nature: the UK tree improvement programme
* The UK forest inventory
* Certification and the new forests
* What does consumerism mean for forestry?
* Shooting and wildlife management in sustainable forestry
* Forestry in the rural economy
* Forest industries in the national economy: the Scottish forest industry cluster
* The market? What market?

For more information, click on [www.charteredforesters.org](http://www.charteredforesters.org) or email icf@charteredforests.org

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# 200 years – Past and future forest research

The Faculty of Forestry, Swedish University of Agricultural Sciences, celebrates the 100th anniversary of forest science in Sweden with a symposium and excursion from 11 to 13 June 2003 at Mora and Uppsala, Sweden. The excursion in central Sweden will show the importance of research during the past century for the development and management of today’s forests. The conference will highlight global perspectives for forest research requirements during the coming century. Presentations at the conference include:

**Social and economic aspects:**
*Forest land use and recreation:* Professor Niels Elers Koch, Danish Forest and Landscape Research Institute, Denmark.
*Trends for use of forest resources:* Dr. Risto Seppälä, Finnish Forest Research Institute (Metla), Finland.

**Environmental demands:**
*The importance of forests in a changing climate:* Professor Melvin G. R. Cannell, Institute of Terrestrial Ecology, Scotland.
*Management of boreal forest biodiversity:* Professor Daniel Simberloff, Dept of Ecology and Evolutionary Biology, University of Tennessee, USA.

**Development and utilisation of forest resources:***Thoughts on innovations, developments and challenges in the forest products sector:* Professor Tom Lindström, Dept of Pulp and Paper Chemistry and Technology, KTH, Royal Institute of Technology, Sweden.
*Tree biotechnology:* Professor Göran Sandberg, Dept of Forest Genetics and Plant Physiology, SLU, Sweden.

For more information, contact skog200@slu.se, or click on <http://www-conference.slu.se/skog200/>

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# Wooden walls and Scottish weather – can they live together?

More timber walls appearing on buildings in Scotland could be the result of a research project just launched by building and timber experts from Scotland, Norway, Iceland and the Faroe Islands.
And the timber could be grown in Scotland, because one of the objectives of the three-year, European Union-funded project will be to explore the potential for using more Scottish timber on the outside walls of buildings.

The project, entitled *External Timber Cladding in Maritime Conditions*, is part-funded by the EU's Northern Periphery Programme, and in Scotland it will look at whether the expanding production of Sitka spruce timber is suitable.

The project will be led by Highland Council, and will investigate the widespread and satisfactory use of timber cladding in the partner countries of Norway, Iceland and the Faroes. It will promote best practice in design and detailing to safeguard against moisture problems, and demonstrate the effectiveness of timber for long-term external use and improved building performance. It is hoped that this will stimulate the demand for locally grown timber, which will have positive spin-offs in terms of promoting sustainable development.

The project will support the Council's efforts, through planning policy guidance for sustainable development, to promote energy efficiency and the use of locally sourced materials such as timber. The establishment of rigorously tested design detailing should encourage a greater confidence in the use of external softwood timber cladding by the construction industry.

Further information is available from Bob Shannon, Highland Council, email: bob.shannon@highland.gov.uk; project technical consultant Ivor Davies, email: ivor@greenporch.demon.co.uk; or Derek Nelson, Forestry Commission, email: derek.nelson@forestry.gsi.gov.uk

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# FAO Report:State of the World’s Forests 2003

The FAO State of the World's Forests 2003 report is now available on the FAO web site at <http://www.fao.org/forestry/index.jsp>. Click on the link to SOFO 2003.

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# BRE Design Guide

Source: TTJ (The Timber Industry Magazine) 22 February 1 March 2003, page 5, [www.ttjonline.com](http://www.ttjonline.com)

The results – and the lessons learned – from the unique TF2000 project have been published by BRE. The report ***Multi-storey timber frame buildings – a design guide*** details design and best practice guidance based on the project which involved the construction and investigation at BRE Cardington of the world’s first six-storey timber frame building using the platform frame technique. Copies of the report are available from the BRE Bookshop at [www.brebookshop.com](http://www.brebookshop.com).

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