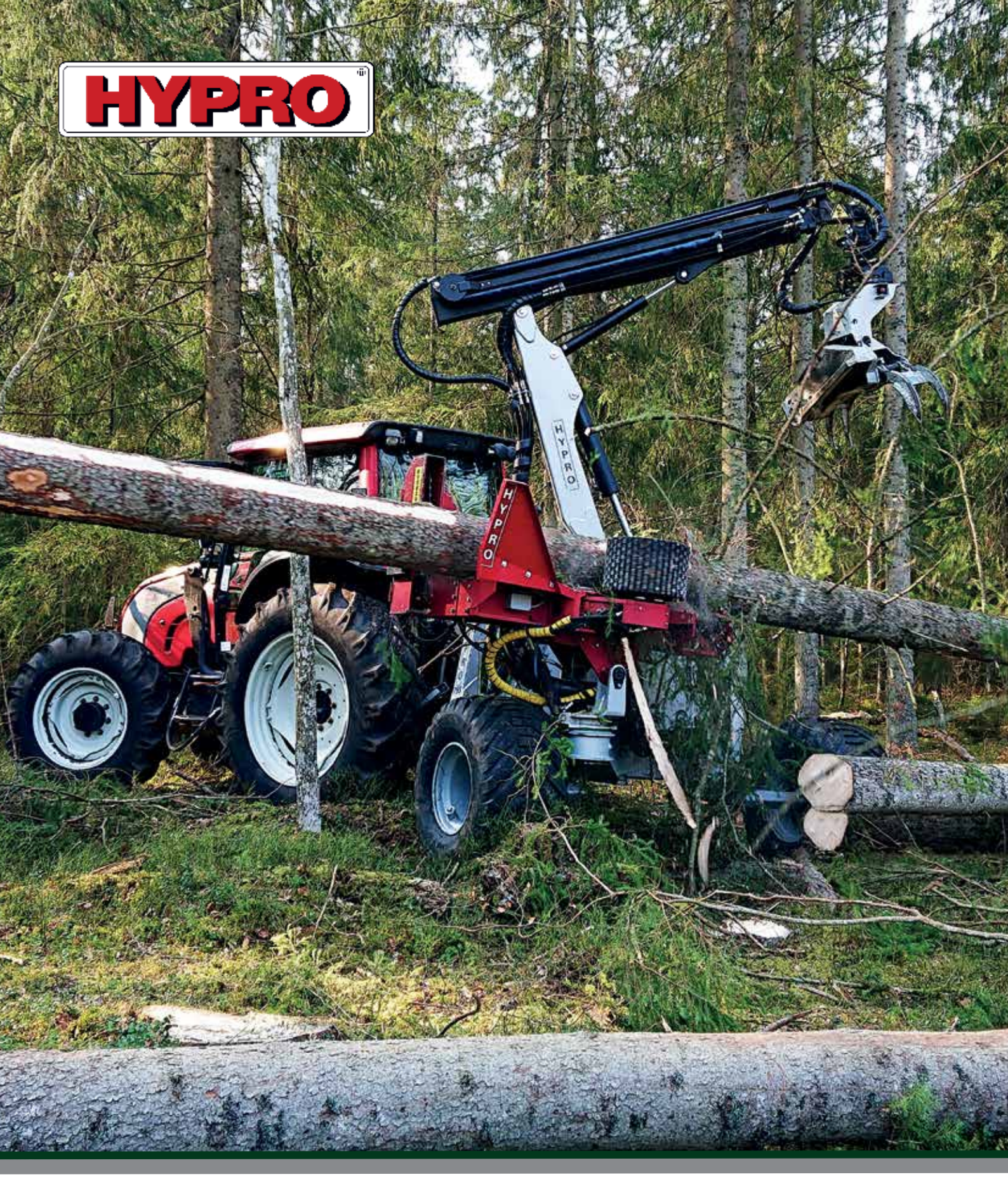
FORESTRY & TIMBER NEWS

December 2020 Issue 102

SPECIAL FOCUS

Wood science & timber treatment



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Confor
Promoting forestry and wood

Confor is a membership organisation that promotes sustainable forestry and wood-using businesses. Confor members receive *Forestry and Timber News* for free as part of their membership. For more information on membership, visit **www.confor.org.uk/join-us**

Past issues and articles can be accessed online at **www.confor.org.uk/news/ftn-magazine**

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Published by Countrywide Publications, Fountain Way, Reydon, Suffolk IP18 6SZ on behalf of Confor.

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Printed by Micropress Printers Ltd

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Dan Ridley-Ellis studies the characteristics of homegrown timber species at Edinburgh Napiers University. Read more on page 38.

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Here's to 2021

STUART GOODALL CHIEF EXECUTIVE, CONFOR

I'm sure like me you are crossing everything in the hope that the recently announced vaccinations are proven safe to administer, and that a full programme of vaccination can begin, perhaps even before Christmas.

The effects of the Covid-19 virus have been truly awful and the repercussions, including economic, will be felt for many years to come.

At the same time, the threat of damaging climate change remains and as each year passes, we see calls for greater and speedier action as most countries fall behind in the effort required to meet their targets.

These major issues intersect in governments' stated desire to see a Green Recovery and to Build Back Better, two things that trees and timber can deliver, especially given the increasingly widespread acceptance that we need to remove carbon from the atmosphere, not just reduce emissions.

Confor is feeding into Green Recovery plans across the UK, highlighting the unique role that forests can play in locking up carbon, creating jobs and economic growth, and benefiting wildlife (read more on pages 6 – 8). This is attracting real interest and we aim to capture more support in the coming months to help develop the sector and tackle challenges like skills and recruitment and productivity, as well as grow markets and support sustainable management of woods and forests.

This year, I've been struck by the growth in businesses trading in carbon and tree planting, spurred on by the increasing number of companies looking for ways to offset carbon (read more on carbon on pages 61 and 62). The prices paid for forests is at unprecedented levels, with Fenning Welstead speculating about Natural Capital values in his article on pages 25/27.

We are fortunate that forestry and wood products provide an effective solution to so many of society's current challenges. A positive note on which to look forward to next year.

As this is the final FTN of 2020, I'd like to take the opportunity to thank Members for their continued support of Confor and to wish you a safe and restful festive period.

Wood buildings keeping carbon out of the air

Andy Leitch , Sam Hart and **Stef Kaiser look** at how channeling more wood into construction can contribute to a Green Recovery by storing wood carbon in long-life products and replacing carbon-intensive materials.

This article follows up on the Green Recovery roadmap and focuses on potential opportunities to significantly increase the amount of homegrown wood-fibre used in long-life construction products. Increased tree planting has been identified as an efficient and low-cost way of sequestering carbon and, therefore, contribute to climate change mitigation – but only temporarily. Once trees are felled, it is paramount to ensure that the carbon captured by trees remains stored in wood products as long as possible. Channelling more wood fibre into the construction sector is a realistic opportunity to achieve this and, at the same time, reduce emissions and resource use by replacing more CO_2-intensive construction materials.

The construction sector - a green opportunity

The construction industry in the UK is one of the largest consumers of materials, whilst simultaneously producing more waste than any other sector. The importance of sustainability in construction is now at the forefront of change due to the declared climate and nature emergency, net zero carbon ambitions and pressure on finite natural resources.

The increased use of wood in construction has been identified as one simple and largely cost-free way of capturing carbon. This is a message that has been taken up by the Committee on Climate Change and is echoed in the Scottish Government Climate Change action plan and the UK Government 25-year Environment plan, which has led to recent positive discussions between Confor and Defra on developing a roadmap to achieving this goal.

Timber is ideally suited to Modern Methods of Construction (MMC) – mainly offsite construction - providing tried and trusted timber frame and engineered timber technology, capacity, thermal efficiency and unmatched sustainability. It's a solution widely used in Scotland, where around 85% of new homes are built in timber, compared to less than 20% in England.

There is, therefore, a huge potential not only to use more of the existing timber elements in UK construction, but also to develop new ways of using woodfibre in MMC.

Which material are we supplying to the construction sector?

Currently, UK construction demands softwood, whitewood sawn timber to which British spruce is ideally suited. The other main wood-based product used in construction is panel board (particle and fibreboard). The main products currently produced from homegrown wood fibre for construction purposes are C16-graded and ungraded sawnwood, and wood panel board such as OSB, MDF and chipboard. These products compete with imports in a competitive market.

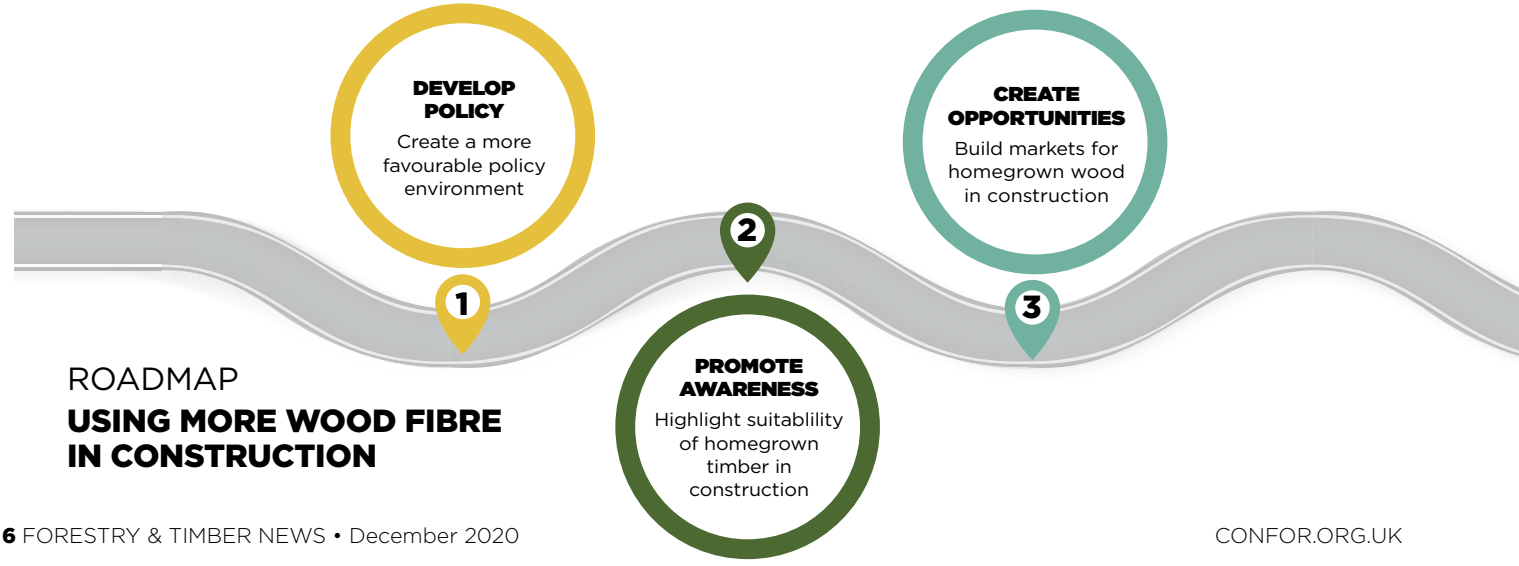
2019 UK production of main products
3.5m m^3 of sawnwood
3.2m m^3 of wood-based panels

Comparable imported timber volume
7.0m m^3 of sawnwood
3.7m m^3 of wood-based panels

If the UK is to achieve its ambitions of reducing reliance on wood-based imports and increase the level of carbon stored in construction, it is paramount that the evolving woodland creations strategies acknowledges the importance of productive species to achieve this goal.

To a lesser scale, but increasing, there is also production of engineered products such as I-Joists and specialist products such as cladding, purlins, large dimension beams and other niche products.

It should be noted that only around 35% of homegrown sawnwood is directed to the construction market, the remainder supplies the fencing and packaging markets.



ROADMAP
USING MORE WOOD FIBRE IN CONSTRUCTION

1 Create a more favourable policy environment

The industry has to work with governments to implement policies that favour and facilitate the widespread use of wood products in the UK construction sector.

In addition to the ambitions of the UK Government's climate change ambitions, three existing policies, if aligned, have the potential to effect change: the goal of increasing building to a target of 300,000 homes a year by the mid-2020s; Brexit; and the 2050 Net Zero CO_2 emissions law. Whilst these might help move the agenda forward, they are unlikely to deliver transformational change without additional government intervention through more direct policies to mandate greater use of natural materials within the construction industry.

Therefore, to accelerate the widespread adoption of safe wood-based construction products and systems we need to leverage the compelling research evidence, in addition to ongoing project outputs, to support the implementation of policies similar to those undertaken in other parts of the world such as France earlier this year, where the state announced that 50% of all publicly procured buildings must be constructed from timber or other natural materials by 2022.

The adoption of such policies would certainly increase demand for wood products and could incentivise further innovation in new wood products and systems, which in turn could increase manufacturing and associated jobs in the UK.

What needs to be achieved

1. The acknowledgement within public procurement policies for construction of the climate change benefit of using sustainable natural materials such as wood fibre as long-life products of carbon storage and substitution of higher embodied carbon materials.

2. The introduction of favourable tax treatments for the appropriate use of sustainable natural materials in all construction such as wood fibre for long-life construction products.

3. Creation and introduction of local authority planning policies encouraging the use of wood in construction and internal fittings, such as that adopted recently by Powys County Council

4. Building regulations to account fairly for all relevant evidence of the safe use of sustainable wood products in construction.

2 Promote awareness of timber as a sustainable construction material and the suitability of homegrown timber

A key barrier to the increased use of homegrown timber in construction is the lack of understanding of the true structural properties of British timber and the opportunities for its use in construction as a product and/or component of a systems such as offsite construction.

We must continue to build on the good work done to change perceptions towards timber, in particular homegrown timber, being the 'default' construction material of choice, and to offer relevant and accessible resources for students, architects, specifiers and the public to understand and specify timber as a material. However, we must not neglect the fact that huge amounts of carbon are already stored in buildings in the form of other wood products, not just sawnwood.

What needs to be done

1. Continue campaigns promoting timber as the construction material of choice

CASE STUDY
Wood for Good

Confor co-owns Wood for Good which is the UK timber industry's campaign to promote the use of wood in design and construction. The campaign's main objective is to make wood a first-choice material for specifiers and designers by demonstrating the versatility of wood as a building material and modern engineering methods expand possibilities for its application beyond traditional uses.
www.woodforgood.com

2. Leverage recent research outputs to evidence the suitability of homegrown timber and wood-based products for different construction applications and raise awareness among construction professionals

Significant research has been carried out and continues into the characteristics of home-grown timber species with a view to informing added value use of that material whether as a construction material or other higher value products. Read more about the findings of some of this research done by Edinburgh Napier University and others and how it has informed product development on pages 38 and 40.

Confor and other private sector partners continue to support the valued work at Edinburgh Napier University and others, such as SIRT, to increase opportunities to maximise the value in economic and environmental terms of home grown wood-based products. >>

ROADMAP **USING MORE WOOD FIBRE IN CONSTRUCTION**

>>

3. Make it easier for construction professionals to specify wood

It is extremely important to ensure that those who make key decisions in the construction process about the choice of materials have all the relevant information readily available. In today's world, this means having relevant wood-product related engineering calculations in digital format and integrated into commonly used engineering software. A small amount of work on this has been completed by Edinburgh Napier University, but much more is required to ensure these calcs are at the fingertips of engineers and other construction professionals.

CASE STUDY
CLICKdesign

This transnational project is developing a performance-based specification protocol to enable a software tool for architects, specifiers and the public to embed service life performance specification for wood. This will help increase market confidence with users for selecting wood as a reliable product and enhance an optimised performance of timber in the built environment.

www.bregroup.com/services/research/clickdesign/

3 Opportunities to increase homegrown wood fibre into longer life and potentially multiple life construction products.

Our sector has the potential to channel more of the wood fibre produced into products that keep carbon locked up for longer.

Recent research has identified potential opportunities for increasing the use of wood in construction in both new build and retrofit projects, and opportunities for potential substitution of imported products through new manufacturing activity utilising homegrown fibre.

EXAMPLE
Mass timber

Mass timber, such as CLT, glulam and others, is an opportunity to store even more carbon in high-rise buildings, as it replaces concrete and other materials in weight-bearing structures.

Over the last five years, research has established the feasibility of a UK mass timber manufacturing facility, something that is yet to be developed at scale in the UK, despite increased interest over recent years. This facility would have the potential to supply the UK with mass timber structural elements that, when specified, are currently imported from Europe. More on page 40.

EXAMPLE
Wood fibre insulation

Through the Scottish Forest and Timber Technologies Industry Leadership Group a project is currently being scoped to explore the viability and commercialisation of homegrown wood fibre insulation products. If successful, this could further increase the potential to store even more carbon through wood-based products in new build and retrofit markets. One of the aims of this project will be to bring together the various parties across the UK that have already shown an interest and/or carried out some research in this product to minimise duplication of work.

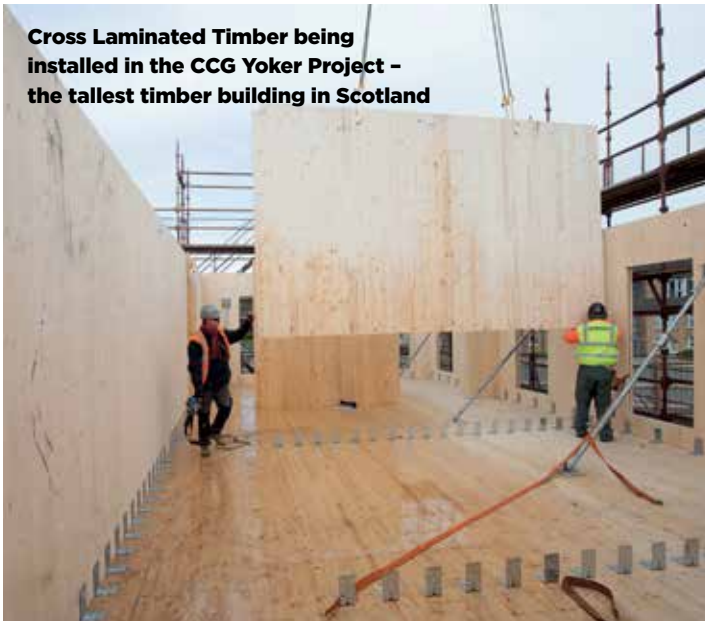
Opportunities for wood-based products in construction

Increase in the use of wood-rich construction for new build and retrofit across all UK market segments (housing, commercial and public sector building, and infrastructure):

- Engineered timber products, such as solid laminate engineered wood (CLT and glulam), wood panel board products, I-Joists, wood fibre insulation and timber cladding where appropriate.
- Offsite manufacturing: enhanced panelised, volumetric and hybrid systems.

New manufacturing of wood-rich products currently imported:

- Solid laminate engineered wood such as cross laminated timber (CLT) and nail or dowel laminated timber (NLT or DLT).
- Increased manufacture of industrialised timber technologies and enhanced offsite timber construction.
- New or enhanced wood panel-based products.
- Wood fibre insulation.
- Panel-based retrofit products.
- Timber facades and cladding.
- Modified timber products (durability or fire protection).



Cross Laminated Timber being installed in the CCG Yoker Project – the tallest timber building in Scotland

What to look forward to in 2021

Much of Confor's work in 2020 was defined by Covid-19. Supporting the industry through lockdown clearly hadn't been part of the Plan for 2020, but it was an important role and, if the widespread feedback we received is anything to go by, a role that was valued by Members. Some planned activities had to be postponed, but a lot was still delivered as we highlighted in the last issue of FTN.

COP26 golden opportunity to promote our sector

Turning to 2021, there's a lot to be positive about and to look forward to. COP26, where the countries of the world are expected to agree tougher targets on greenhouse gas emission reductions, will take place in Glasgow in November. Whatever the format, there will be an exciting opportunity to raise the profile of trees and timber in the fight against climate change and hopefully to get governments in the UK to 'up their game' in tree planting, woodland management and using more wood.

Celebrating sustainability credentials of wood

In 2021, our promotion campaign, Wood for Good, will build on the successful launch of its Wood CO_2ts less campaign last summer, targeting decision-makers in the construction sector, as well as environmental groups and the public. The Wood CO_2ts less message on the carbon benefits of timber and forestry complements Confor's Green Recovery messaging, which will remain a thread across FTN and other communications channels during 2021.

Industry leadership groups

We're also excited about the work that we can do with existing and emerging public/private industry groups. Scotland has taken a lead, with Wales and England now following. These 'industry leadership groups' can be a forum for Confor to secure public support and occasionally funding to tackle key industry issues, including skills and recruitment, increasing the use of wood and innovation.

Future wood supply

Future wood fibre availability remains a key issue, supporting investment and growth in the sector, and of course we have an important role in helping woodland owners and managers, as well as harvesters and millers, deal with new regulation and arising issues like the removal of the right to use red diesel – something we fought against successfully in the forest, but now the attention has turned to the mills.

Member support

We are currently recruiting a new technical officer with the aim of strengthening Member support and communication. Some of this work is already underway – we recently launched an online member's portal where members can view the latest e-newsletters and FTN issue (e-version), pay renewal fees and – in the future - edit their personal information. We will be building on this new feature in 2021, along with a range of over member-focused activities because, at the end of the day, we exist because of you.

ACCESSING THE CONFOR MEMBERS' AREA

1. Go to website Visit **www.confor.org.uk** and click on members' area button in the top right corner.

2. Register once If it is your first time visiting, you'll be asked to register. Have your membership number ready. You can find your number on renewals letters or emails you have received from Confor. Make sure to include all eight digits, including the 0s at the start.

3. Login and access You can now log in and view the links to renewals, FTN / enewsletter and more.

4. Technical issues? Contact stefanie.kaiser@confor.org.uk

EVENTS IN 2021

We will continue to review current Covid government and regional guidelines with the chairs of our committees and wider membership to determine when it would be practicable and safe to recommence face to face meetings. It is our intention that a proportion of these meetings will continue to be virtual to minimise travel and maximise attendance from our membership.

In England, we will plan to run face to face meetings for our spring round of regional meetings if Government guidance allows.

KEY EVENTS IN 2021

Confor dinner & awards: 25 May (provisional)
Royal Highland Show forestry day: 18 June
Royal Welsh Show: 9-2 July
Timber Transport conference: 3 September
APF: 23 – 25 September

SCOTTISH FORESTRY AND TIMBER TECHNOLOGIES (SFTT) EVENTS

North Scotland: 10 March
South Scotland: 17 March
Central Scotland: 24 March

UPCOMING ENGLAND MEMBERS WEBINARS

Tree breeding for improved quality and yields webinar: 14 December
Alternative species webinar: date to be defined (early 2021)
Safety, Technical and Compliance Group: date to be defined (early 2021)

CONFOR WELCOMES NEW MEMBERS

Lucy Wiltshire, Plymouth
Peter Whitfield, Fife
Creel Consulting, Inverness
Eco Tree, Denmark
Future Trees Trust, Gloucestershire
Macfor LLP, Llanbrynmair Forest, Perthshire
Premier Plant Producers Ltd, East Yorkshire
Stoughton Tree Care Ltd, Surrey
Swallowfield Smallholding Ltd, Inverness-shire
Tri-Pack Packaging Systems Limited, Lincolnshire
Wood Protection Association Ltd, West Yorkshire

Confor sponsors new Forest and Woodland Award

Nature of Scotland Awards

Now in their ninth year, the RSPB's Nature of Scotland Awards, co-sponsored by NatureScot, recognise excellence, innovation and outstanding achievement in nature conservation. The awards are open to businesses, public sector organisations, research institutions, community groups and individuals. In a year with record numbers of nominations, the inspirational people, projects and organisations going through to the next stage of the awards programme were announced on RSPB Scotland's social media pages and the winners' achievements were celebrated at the first virtual Awards Ceremony on 25th November.

Confor is proud to sponsor the Forest and Woodland Award, a new award category launched this year. Our trees, woodlands and forests play a vital role in providing nature-based solutions to the climate and biodiversity emergencies. They store carbon, are homes to wildlife, provide timber, inspire art and are great places for recreation. This award celebrates our sustainable forestry and woodland champions, and applications from individuals, businesses, communities or organisations who are creating and/or managing woodlands were encouraged.

The award looked for people going above and beyond standard practice, who were placing nature and wildlife at the heart of their activities. The RSPB reached out to wildlife-friendly foresters, communities making the most of their local woodlands and farmers and other land managers who were exploring innovative new approaches which bring benefits for wildlife and people. Applicants with forests and woodlands of all types and scales were considered, from small woodlands or urban planting schemes through to landscape-scale projects.

Confor chief executive Stuart Goodall said: "We're very pleased to be supporting the Nature of Scotland Awards. All types of forest managed against the UK Forest Standard provide benefits for nature, but this is often poorly appreciated or understood. These Awards are an opportunity to encourage woodland owners to promote the good they do."

WINNER

Targeted Trees on Tweed

The winner of the 2020 Forest and Woodland Awards is **Hitting the Spot - Targeted Trees on Tweed**. Working across 5000km² of the Tweed Catchment and with more than 250 land managers and communities, Tweed Forum has facilitated the planting of over one million native broadleaved trees. The core aim has been to carry out targeted planting that delivers multiple benefits including enhancing biodiversity, improving water quality, reducing flooding and storing carbon.
https://tweedforum.org/

HIGHLY COMMENDED

Ben Lawers restoration project

The Nature of Scotland Awards judges also awarded a highly commended mention to **Ben Lawers treeline woodland and scrub restoration project**. The National Trust for Scotland has been returning threatened woodland habitats to its Ben Lawers National Nature Reserve. Pioneering active restoration has secured populations of rare mountain willow scrub with associated natural plant communities regenerating alongside them. They provide habitats for many invertebrates, many also rare, and birds.
www.nts.org.uk/visit/places/ben-lawers

BREXIT **Are you ready for 1 January 2021?**

Labour

If you are planning to recruit from overseas from 1 January you will need to register as a licensed visa sponsor.

You may not be able to legally hire people from outside the UK if you do not have a licence. New employees from outside the UK will also need to meet new job, salary and language requirements. Irish citizens and those eligible under the EU Settlement Scheme are not affected. EU citizens currently living in the UK have until 30 June 2021 to apply under the Settlement Scheme.

Imports and Exports

Expect delays at ports as new Customs procedures kick in - check the new rules on importing and exporting goods between EU and Great Britain from 1 January. Moving goods into, out of, or through Northern Ireland will be governed by the Northern Ireland Protocol.

- **Tariffs:** The UK is replacing the EU Common External Tariff with the UK Global Tariff (UKGT)
- **Wood packaging material:** From 1 January 2021, it will be a legal requirement for all wood packaging material moving in both directions between UK and the EU to be compliant with a treatment and mark as specified in the International Standard for Phytosanitary measures No 15 (ISPM15). More info at **www.timcon.org**
- **Pallets:** Heat-treated wooden components will be temporarily allowed for the repair of wooden pallets and packaging, so long as you are registered with The UK wood packaging material marking programme (UKWPMMP).

More info at **www.timcon.org**

Plant passports

There will be changes to the layout of plant passports from January and goods moving into or through Northern Ireland will require phytosanitary certificates. See more detail on page

COVID-19 **Working during the second wave**

The second wave of Covid-19 has prompted governments across the UK to introduce new controls to reduce transmission of the virus. These controls vary between country and within each country.

So far, there is a critical difference between the response to this wave and the initial outbreak in that governments are seeking to maintain economic activity beyond essential products and services.

This means that government rules in the countries, even where the restrictions are greatest, still provide for people to travel for business - where that work cannot be done from home.

In case any Confor Member or employee is challenged about travelling for work, we have updated our letters of comfort which explain why you are working. We also still have videos that explain the benefits that our sector provide for society and in responding to the pandemic.

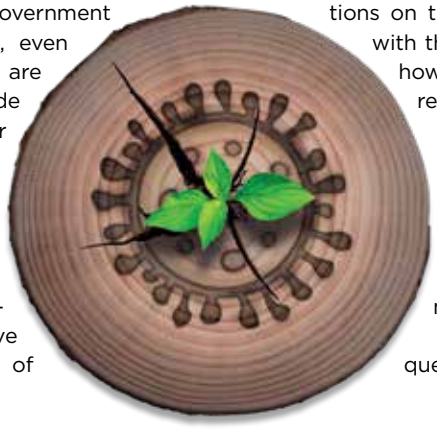
These letters and videos, and a lot more information are on our website at **www.confor.org.uk/covid-19/**

Confor remains in contact with the administrations across the UK, both to understand any impact of the changes to restrictions on the sector and to liaise with the forestry agencies on how they are themselves responding.

We also work with FISA to update and promote safe working guidance in the context of Covid-19 and have prepared generic mill guidance.

If you have any further questions about Covid-19 do get in touch with us at- and remember to ensure we have your email address so that you can receive our Member updates on Covid-19 and the regular Enews.

Most Confor staff continue to work from home, so please be patient if our main telephone line isn't always staffed. Leave us a message and we'll get back to you as soon as we can.



ONGOING NEWS UPDATES

For ongoing updates please refer to our fortnightly Confor member updates. The latest e-newsletters will now be made available in the new Members Area on **www.confor.org.uk.**
Note: you will have to register with your membership number and log in to access the area.

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Plant passport update for wood, wood products and bark

The UK left the EU in January 2020 and is currently in the transition period, which is coming to an end on 31 December 2020. From 1 January 2021 the UK and EU will embark on a new relationship. In addition, we recognise that businesses have been responding to an unprecedented pandemic. Whilst many businesses would have been preparing for EU Exit since last year, we recognise the impact the Covid-19 situation will have had on their ability to prepare and plan. Our new relationship will involve a series of changes and opportunities for businesses. Many of these changes will be required regardless of the agreement we reach with the EU on our future trade relationship as the UK will be leaving the single market and customs union. With this in mind, the forestry industry needs to be prepared for plant passport changes as explained below.

The Plant Health Regulation became applicable in the UK from 14 December 2019, however, from 1 January 2021 the UK plant passport regime will change.

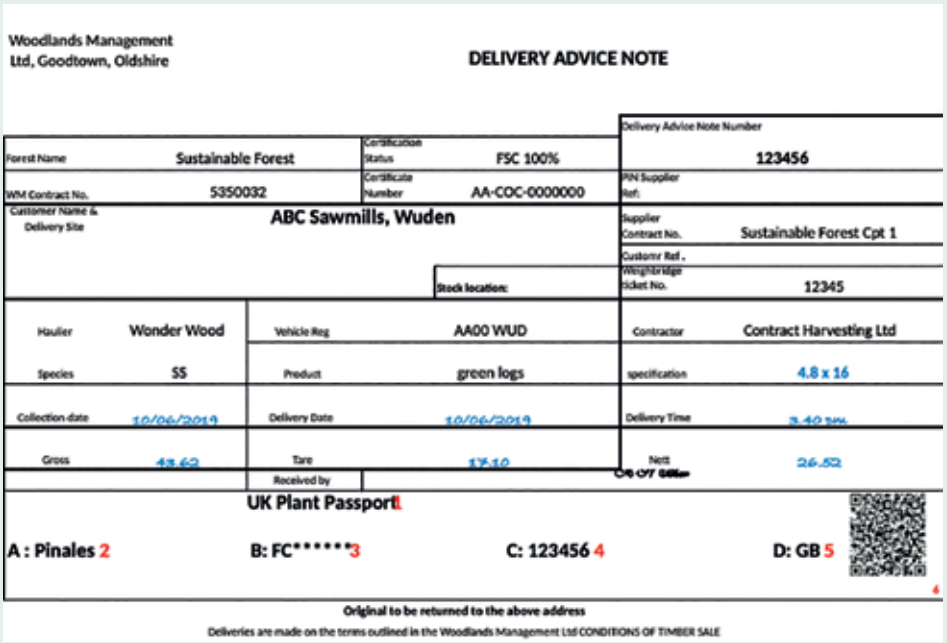
Further details on plant passports for the timber and forestry sector are described in a plant passport overview which can be obtained from the Forestry Commission: **plant.health@forestrycommission.gov.uk**

WHAT WILL CHANGE?

The main changes from 1 January 2021

- GB will use a UK plant passport format and not an EU plant passport format
- GB will not use plant passports with a Protected Zone designation
- Phytosanitary certificates will be required for the conifer export trade from the Pest Free Area in west Scotland to Northern Ireland and the Republic of Ireland.

Above: Format of a standard standalone UK plant passport for conifer material with bark



Right: Standard UK plant passport for conifer material with bark incorporated into a delivery advice note

1. The UK plant passport does not have a flag and uses the title UK Plant Passport.
2. Pinales can still be used for all conifers, Castanea is used for sweet chestnut, Platanus is used for plane, Juglans is used for walnut and Pterocarya is used for wingnut.
3. 'GB' is no longer used in registration numbers and for professional operators registered and authorised by the Forestry Commission the identifier FC will be used before your 6-figure registration number.
4. A traceability code is still required and delivery advice note numbers can be used.
5. The two-letter code GB remains in use.
6. As an example, but not necessary at present, a QR code is shown which can support the trial of electronic passports which are not permitted at present.

DOCUMENTATION

Official documents for phytosanitary control from January 2021:

1. For movements out of the Pest Free Area (PFA) in Scotland, to Northern Ireland, a phytosanitary certificate will be used and not an EU or UK plant passport.

2. For movements out of the Pest Free Area (PFA) in Scotland, to the Republic of Ireland, a phytosanitary certificate will be used.

3. For movements within and out of the PFA in Scotland, to locations within GB, a standard (non PFA) UK plant passport will be used.

4. For all movements within GB, a standard (non PFA) UK plant passport will be used. This will apply for conifers and also sweet chestnut. In the EU plant health regime, GB had Protected Zone status for specific pests associated with these tree species.

5. For all movements within GB, a standard (non PFA) UK plant passport will be used for Platanus (plane), Juglans (walnut) and Pterocarya (wingnut).

6. Phytosanitary control arrangements related to the movement of material from Northern Ireland to GB and from GB to Isle of Man, Jersey and Guernsey will be confirmed as soon as possible.

York crowned Britain's best Christmas Tree grower

York Christmas Trees has been crowned Champion Christmas Tree Grower of the Year and will now have the prestige of providing the Christmas tree outside 10 Downing Street in December. Organised by the British Christmas Tree Growers Association (BCTGA), the annual competition has been running since 1999 but this is the first time it has been judged by celebrities as due to Covid19 restrictions all the growers could not get together as usual.

York Christmas Trees' Oliver Combe *(pictured above with his family)* said: "We are a small local family business who have been growing trees for over 20 years. We are overwhelmed to have won the title of champion grower for 2020, it is a huge accolade!

Tubex programme ensures responsible disposal of tree shelters

Now available to all Tubex users, The Tubex Collection & Recycling Programme – developed and operated by Tubex, in collaboration with key distributors – offers a simple process for the safe and efficient recycling of Tubex's tree shelters.

Under the scheme, when purchasing Tubex tree shelters, users can request to join the programme. At the same time, they will be able to order bulk sacks for storing the shelters once removed, ready for them to be collected and transferred by the company to be recycled at one of Berry Group's recycling facilities.

There, the tree shelters will be washed and recycled into Polypropylene (PP) pellets. The material will be re-used by Berry Global to manufacture new tree shelters or in other businesses within the Group.

It is the latest environmental commitment by Tubex, whose production facility has achieved zero waste to landfill since 2019. It is hoped the new initiative will not only enhance this commitment to zero landfill, but also create a circular economy for Tubex's tree shelters, where materials never become waste.

The company already operates a low-emission manufacturing process, that produces just 0.44kg of carbon emissions per tree shelter produced. This is particularly pertinent, given that each tree planted has the potential to capture 2900KG of CO_2.

The programme is an important milestone towards Tubex's sustainability objectives. The company's standard tree shelters are currently manufactured using recycled polymer, and Tubex's netting range is produced with 85% recycled polymer.

BSW acquires Dick Brothers Forestry

The BSW Group has acquired Dick Brothers Forestry Ltd, the UK's largest timber harvesting company.

Established over 25 years ago and headquartered in the Scottish Borders, the business boasts state-of-the-art forestry equipment and market leading capabilities to harvest some of the largest and most complex forests in the UK.

Dick Brothers represents a cornerstone acquisition for the BSW Group, strengthening its vertical integration of the timber supply chain and securing in-house harvesting capabilities for its forestry and harvesting management division Tilhill.

Davy Dick, managing director of Dick Brothers, said: "We are delighted to be joining the BSW family. While it is very much business as usual, we are excited to be working with the BSW team to continue the growth of the business and enhance the services we can bring our customers. We would also like to thank our previous owners, Faro Capital, for their support and investment in the business over recent years."

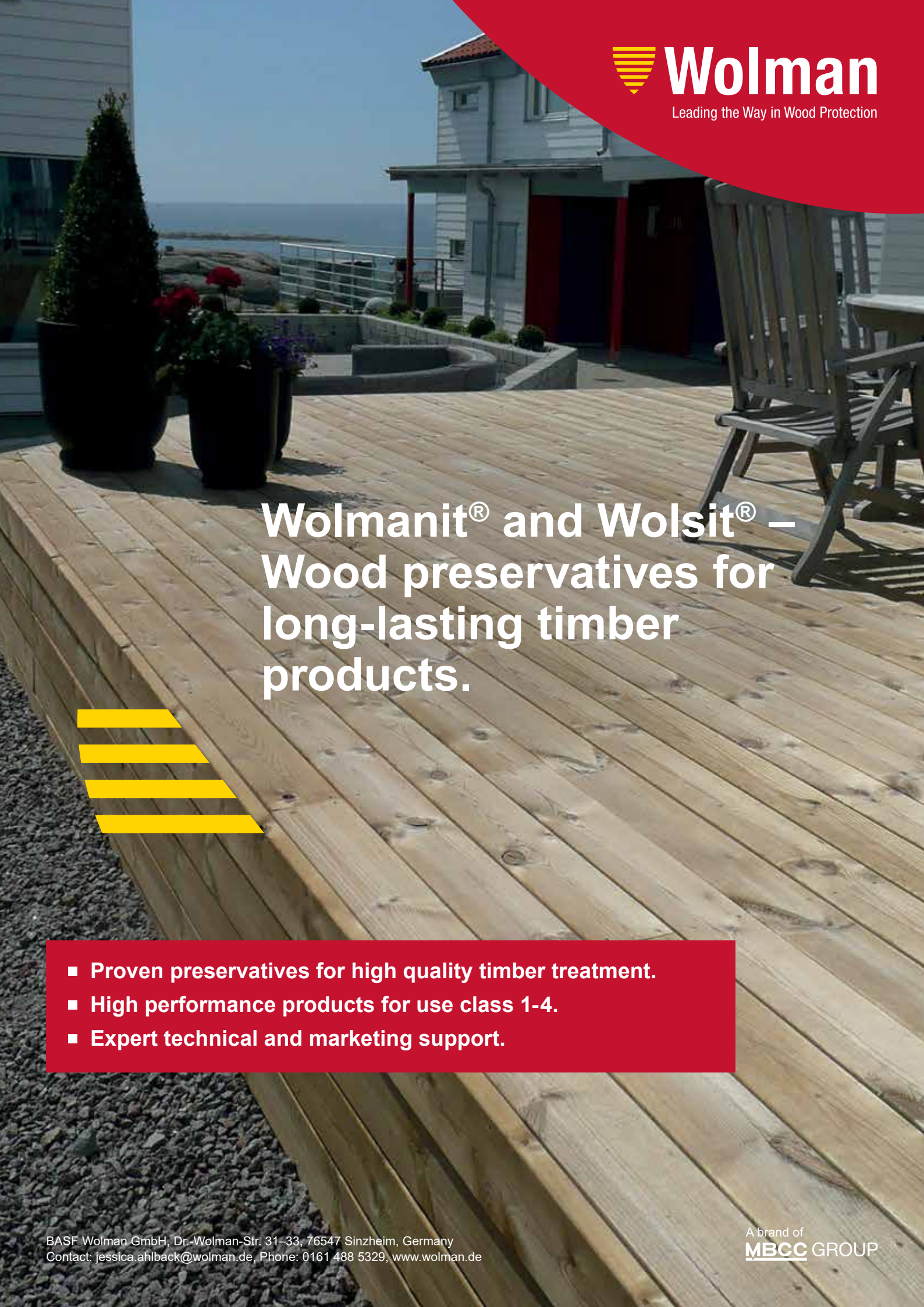
Tony Hackney, CEO of BSW, commented: "The acquisition enables BSW to become a streamlined stump to sawmill operation, utilising the experience of Dick Brothers to develop smart solutions to timber breakout from the forest and match to sawmill and ultimately customer demands.

"While operations at Dick Brothers and BSW will remain largely the same, there will be a number of areas for our businesses to support each other. We look forward to working with the Dick family to grow the business as part of the wider BSW Group."

West Fraser to acquire Norbord

West Fraser Timber Co. Ltd. and Norbord Inc. announced on 19 November that they have entered into a strategic business combination pursuant to which West Fraser, a leading North American diversified wood products company will acquire all of the outstanding common shares of Norbord, the world's largest OSB producer, in an all-stock transaction valued at approximately C$4.0 billion (US $3.1 billion). Following closing, the combined company will operate as West Fraser.

Find the full news story here:
www.norbord.com/news



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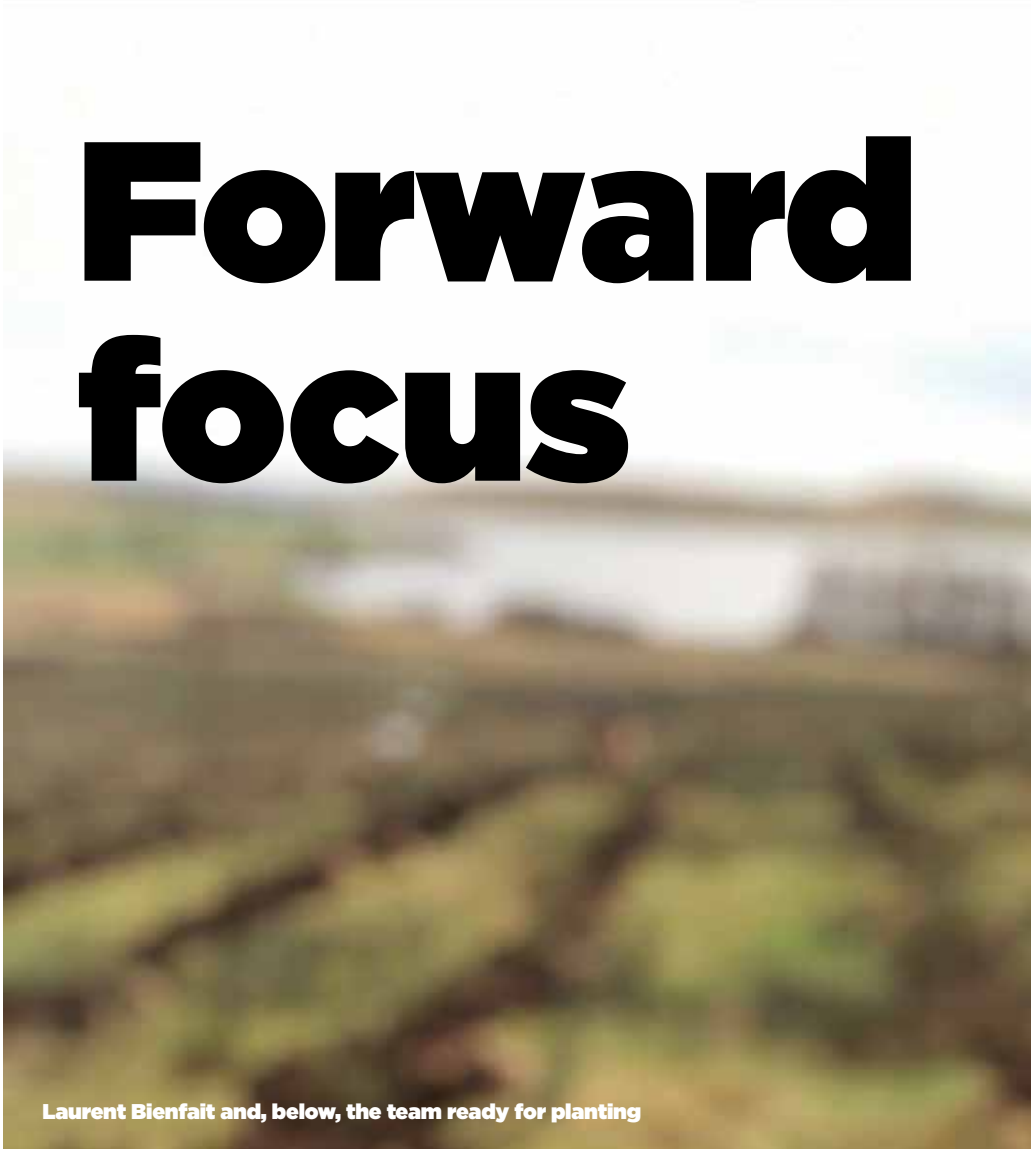
Forward focus

Stef Kaiser talks to Laurent Bienfait, a key figure in Scottish woodland creation and an advocate of investing in people and quality



Laurent Bienfait and, below, the team ready for planting

Laurent started as a sole trader back in 1989, when Laurent Bienfait Harvesting offered a mix of planting and harvesting services, with a focus on skyline harvesting for thinnings. The year 2000 saw the start of a harvesting boom and a golden opportunity for Laurent to expand the business, investing heavily in machinery. Activity was concentrated on the West Coast of Scotland and a lot of timber was shifted via maritime routes to the Irish processors. Business was going well.

But then one day, everything collapsed. Laurent remembers that fateful Friday afternoon in early Spring 2009, when he received a phonecall that would change everything. "On that 'Black Friday', both Glennons and Balcas totally cut us down. I first thought, 'there won't be any Irish timber orders next week'. But the following week, the situation became clear – there was no more import of Scottish timber from Ireland. It was over for my harvesting business."

Laurent needed to change the direction of his business and felt that the next opportunity would lie in woodland creation. Planting was also more in line with his preference for managing people, rather than machinery. The obstacle at the time was that he had taken up substantial loans to purchase his harvesting machinery; but by applying boat loads of entpreneurial skills and foresight, creativity and hard work, he managed to liquidate his machinery fleet and, together with David Farrow, create Laurent Bienfait Woodland Services Ltd (LBWS) in 2009. The new company focused on planting, woodland maintenance and the eradication of rhododendron, and has, despite an extremly difficult start, flourished ever since – thanks to a woodland creation boom that exceeded Laurent's early vision. Today, LBWS aims to keep a market share of aproximately 10%, with 10 million trees planted last year.

Promoting a brand of forestry well done

But for Laurent, when talking about his business, what matters most is not scale, but quality. He promotes a company 'brand' that has quality service, diversity, reliability and effiency at its core. Maintaining strong client relationships and applying long-term thinking are central to his team's working philosophy.

"We do sometimes come across woodland creations where a lot of mistakes have been made. We as contractors pride ourselves of having a well informed team that can critically think on the job and be in constant dialogue with the forest management company to ensure the job is being done in the best possible way. This is how we are going to sell forestry - by not making mistakes."

LBWS are keen not to be associated with one kind of forestry, such as commercial sitka plantations. Last year, they completed 22 woodland creation projects that varied in scale from one million trees to 22,000 trees. "We can cater for all kinds of woodland creations, big or small – from broad leaved schemes with a focus on conservation, to planting mountain species, to commercial restocks. The small-scale agroforestry projects are, by comparison, more labour intensive and less profitable for us; however, creating a good woodland that we can see appear in the landscape over the next years – that in itself is a strong incentive and motivation for us."

Investing in people

"My business is a success because I can count on a team of reliable, dedicated and devoted people, such as my forestry management assistant, Indre Trunce (far left in picture on the left), who was very instrumental in how the business developed and grew."

In the field, Laurent has a backbone of 11 key foremen backed up by another 40 people, and he believes in the benefit of providing job security for his workers:. "Employing workers long-term results in labour continuity and translates to a better trained and committed workforce."

He believes that the forestry sector needs to stop its approach of hiring seasonal workers. This summer, he clocked 2330 man days of maintenance and is convinced that in woodland creation there is enough year-round maintenance work to justify a move towards better, longer-term contracts for workers. "Forestry can't continue to work 'on the cheap and cutting corners' – it's not good for our image and it's not good if we want to secure a future workforce."

Ensuring a quality workforce post-Brexit

Traditionally, parts of the forestry sector have heavily relied on migrant labour – this might now have to change. With Brexit fast approaching, we might face a gap in supply of EU workforce for labour-intensive operations such as woodland planting.

Retaining the long-standing existing workforce won't be the main problem, although Laurent has seen that approval times for settled or pre-settled status applications have been inconsistent within his work team. The challenge will be to hire new staff from January onwards. The new points-based immigration system will put lower-skilled workers at a disadvantage, and many prospective planters might not qualify for reasons such as poor English skills.

There are some desperate options to secure new staff for 2021 before the gate shuts: "I could secure 20 flight tickets for the 30 December and bring interested workers in before the end of the year – this would allow them to apply for pre-settled status. But is our work offer interesting enough to get them to commit at such short notice, amidst corona and the seasonal holidays? In addition, I might not have a need for these extra workers until later in spring." At this point, Laurent reiterates the importance of offering good employment packages and contracts to attract much needed foreign labour: "The labour market in Europe is very strong at the moment – in many countries, there is a lot of demand for labourers. A three-months seasonal contract in the UK wouldn't be competitive for them.

With increasing unemployment due to Covide-19, it seems a no-brainer to fill the foreign labour gap with local workers. But a prospective domestic workforce, with little wood culture running in their blood and a good benefits system to fall back on, might find it hard to muster up the same motivation and work ethic as their seasoned Eastern European counterparts. Laurent remembers that on numerous occasions, he tried to engage workers from the surrounding areas, but says that most of them lost interest fairly quickly. "So far, I only have one Scottish contractor who has stayed with us after going through all the initial training. It remains to be seen if, as a result of Covid-19, there will be an increased regional pool of workers who don't shy away from physical labour and crave a move to more outdoors-based work."

"Next year, we'll have to be inventive and build uncertainty into our business model. When quoting for a tender, we'll have to give a quote with the added clause 'subject to labour availability'. And it will be the same for other business in the landuse sector.

Laurent Bienfait Woodland Services Ltd. would like to thank Confor's Jamie Farquar for his help in driving the Industry forward.

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Can co-opetition stimulate forestry establishment in lowland Britain?

Justin Mumford of Lockhart Garratt introduces the Forest Canopy Foundation and a new collaborative approach to promoting woodland creation

With only 12% of land in the UK covered in woodland (against European averages of 34%), with reports of 50% of UK woodlands undermanaged and neglected, balanced against imports of £8.3 billion worth of wood products, it would be fair to say that our home forestry industry is underperforming!

The English government has shared ambitious targets of planting 30,000 ha by 2025 but considering the totals over the last two planting seasons of approximately 1000ha and 2300ha planted respectively, we would acknowledge that this is a highly ambitious target.

The reasons for failure to plant are well reported and cover uncertainty over Brexit, the loss of land value with planting, loss of farming income and loss of flexibility. In short, all of this adds up to the same conclusion: the grant system is not powerful enough to induce landowners to change land use in such a permanent way.

We know that currently, the team at DEFRA are working hard to deliver the future ELMS which will re-energise broader land use and enhance natural capital benefits. This, coupled with carbon outputs and inevitably increasing carbon values, will offer a promising future to the forestry sector.

There has been much concern and reporting of the limitations of coniferous forest, although well recognised for carbon sequestration, conifers are considered more limited for biodiversity. The very real benefits to the climate of planting coniferous forest need to be pushed to the top of the agenda and commercial forestry must take its rightful place in tackling climate change – TREES are nature's solution to CARBON CAPTURE.

The Forest Canopy Foundation

The private sector has come together during the Covid lockdown to form the Forest Canopy Foundation (FCF). This not-for-profit organisation is passionate about changing the outcomes of woodland creation in Lowland UK starting in England. Including well established firms, Lockhart Garratt, Pryor and Rickett, Nicholsons, Abbey Forestry, Penfold and Pennine, the Foundation will pioneer a new way of working - co-opetition.

Independent private forestry companies working together for a common good, the FCF aims to not only deliver exemplary forestry but harness natural capital benefits and a robust research and development portfolio.

Research into soil carbon sequestration, improved non-plastic guarding, vital squirrel control to get best silvicultural outcomes and species for the future considering climate change, are all areas of R&D that are vital for the success of the future forestry industry.

We are all critically aware of the volatile carbon market; confusion, lack of transparency, risk aversion are all considerations in creating a smoke and mirrors atmosphere to the value of woodland carbon in the UK. The Forest Canopy Foundation are working hard with the Woodland Carbon Code and CS exchange for a pioneering measuring tool to better value carbon as it sequesters in woodlands. We foresee a future where accurate carbon readings will empower a fair carbon market.

The FCF are working hard with partners including the National Trust, the Country Landowners Association, Pollination Group, (a think tank who advise government at policy level), Oxford University and many other organisations. These collaborations will ensure that future funding and specification are fit for purpose to bring about the very real change required for planting at scale, to not only meet Government deadlines, but to most importantly avert the climate crisis.

The Forest Canopy Foundation is the professional response to meet woodland creation targets by 2025.

The project represents innovation and ambitious blue sky thinking and we feel it's exactly what the forestry industry needs to realise the positive future that we know is essential to the climate.

With values of transparency, reliability, vision, effectiveness and professionalism, our aim is to plant and maintain well-planned quality Woodlands in England to mitigate climate change and add natural capital to our natural resource, we feel energised to make a difference....why not join us?

GET INVOLVED

We are calling out to all independent forestry companies to become one of our accredited delivery partners.
Get in touch!
http://forestcanopyfoundation.co.uk/
info@forestcanopyfoundation.co.uk

All delivery partners are independently verified by Grown in Britain and all schemes offered up for carbon and natural capital benefits will be audited against our Grown in Britain / Forest Canopy Foundation metrics.

Forestry marks a record year

FORESTRY
MARKET REPORT
Bruce Richardson
Tilhill

With the launch on 25 November of the Annual UK Forest Market Report produced by Tilhill and John Clegg & Co we had an opportunity to see how the market for commercial forestry fared in this difficult year.

The emergent answer was "astonishingly"! Total recorded sales over the period topped £200mn for the first time, a most significant increase from last year's £126mn. Initial concerns that the market would slow during the first lockdown were soon dispelled with a steady stream of properties coming to market. In total we recorded 61 forest property transactions representing some 12,500 stocked hectares, an increase of 14% on 2019. The average unit price of forestry sold in the UK in 2020 was just under £16,000 per stocked ha, again, the highest unit value we have seen in our 23 years of producing the report.

Scotland provided the largest share of the commercial forestry market at 69%. England saw a quiet market in 2020 with only 5% of the total market, and only one substantial property brought to market. Wales produced a much larger than normal share of the market at 25% due to the sale of one very large property.

Encouragingly, the market offered properties in a range of prices providing opportunities suitable for a variety of investor types. At the larger end of the scale 10 properties sold at above £5mn, while at the smaller end 11 properties sold below £500,000. 25 of the 61 properties sold in the sweet spot for private investors of between £500,000 and £1,500,000.

The most interesting feature of this year's analysis is the level of interest shown in younger forestry. A number of very high-quality properties sold at around 10-15 years of age and attracted average prices of around £28,000 per stocked ha. This is well above prices paid for forestry much closer to harvesting age. This feels counter-intuitive but shows that the combination of top quality restock – full and half sibling material – together with a convenient location, proven haulage links and internal infrastructure, commands top dollar with investors. These prices demonstrate investor confidence in the long-term future of the market, and of future demand for quality timber.

The most interesting feature of this year's analysis is the level of interest shown in younger forestry.

New planting has remained relatively flat this year at around 13,300ha. The lion's share was in Scotland, but it was encouraging to see an upswing in land planted in England. 2020 has seen considerably less suitable land come to market and we expect this to be reflected in planting figures in future years.

Planting for carbon has been attracting a great deal of publicity and has generated interest from new investors with carbon and wider environment, social and governance (ESG) objectives. These investors will, in time, lead the charge in planting substantial, multi-purpose, mixed woodlands. What is surprising is the scale of ambition of some of these investors – many thousands of hectares.

The woodland carbon market is rapidly maturing, and the launch of the carbon guarantee scheme in England is setting a floor price for woodland carbon, which we hope will be emulated across the UK in due course. The introduction of the Peatland Carbon Code will complement woodland creation on some sites, allowing a positive use through peat restoration of land that otherwise is of little interest. We have created a new business team within Tilhill, CarbonStore, to help develop these ideas into reality for investors.

The Natural Capital potential of forestry is being examined more carefully, with several exercises underway to value forestry on a natural capital basis. This has been led for several years by ground-breaking work on the public forest estate in England but is being taken up by private owners. Perhaps anticipation of future payments for 'public goods' is helping drive prices upwards?

Smaller, mixed woodlands are always popular although prices have been much steadier than for commercial forestry. The market slowed markedly at the beginning of Lockdown 1 but moved ahead strongly once people could get out and see the woods. The mixed nature of these woods together with varied investor objectives means this is a much less heterogenous market.

In conclusion, despite the problems with the COVID-19 related restrictions, the UK forestry market has performed robustly through 2020 producing record results in both scale and unit prices. The level of interest in younger forestry demonstrates a healthy long-term confidence in the productive capacity of our forest estate. Investors, old and new, bring different perspectives into forestry investment, making life interesting and challenging for their forest managers.

Further details of our market analysis are available on request from Tilhill, **enquiries@tilhill.com** *or John Clegg & Co.* **www.tilhill.com**

Exceptional demand starting to stabilise

TIMBER AUCTIONS MARKET REPORT
Oliver Combe
Timber Auctions

The global situation

After an unprecedented spike of timber prices on the global market during autumn 2020 there are now signs that the market is stabilising. The pattern of recovering global demand outstripping restricted supply is starting to ease but only due to a seasonal slowdown in demand. The primary global markets of the USA, China and Asia remain busy and are still drawing timber from Europe and the rest of the world. China in particular continues to draw large volumes of both sawn and round timber from central Europe which has actually lead to log prices increasing by EUR 10–15 / m^3 during October.

The US softwood lumber market prices are reported weekly so the price trends are very transparent. Although prices have fallen by around $300 over the last three weeks they remain well above the previous high prices of spring 2018 and nearly double that of a year ago.

So, although the overall trends are downwards the current price levels are still at record levels.

The Western Spruce Pine Fir 2 x 4 chart below shows the price trends the American equivalent of European kiln-dried 47 x 100 planed all round carcassing material such as would be produced from UK spruce sawlogs.

This is a really interesting stage of the market as although demand has slightly eased production has been really struggling to keep up with demand for the last six months and the prices have soared on the back of product shortages.

Even if demand continues to ease it is unlikely that production will increase enough to allow a build up of stock before demand starts to increase seasonally in the spring so there is a strong possibility that prices will stabilise at current levels.

UK softwood scene

UK timber producers have had an exceptional second half of the year with strong demand and rising prices for their products. Many mills are on extended lead times as they try to keep up with customer orders, even now, in the middle of November, order levels are similar to production levels so the backlog of orders is not yet being worked through.

Both sawmills and board mills have had strong demand and have been working at or near full capacity yet have been struggling to produce enough to keep up with incoming order levels.

Mills are working hard to try and increase stocks to a more workable level and are actually hoping for a slowdown in order levels so they can complete back orders and try and get a workable spread of stock on the ground for the anticipated upturn in demand in the spring.

Whilst the fencing season has now started to tail off after and exceptional autumn the carcassing market is now very strong.

This strong activity for finished products has translated into very strong demand for sawlogs and pallet wood from the forest, although demand for small round wood has not been as strong due to the high volumes of sawmill co-products currently available.

There are however, signs that the oversupply of small round wood and fuel wood is easing and as the seasonal demand for biomass increases and harvesting levels decrease we should see increasing demand for all grades of small round wood.

Demand for standing parcels with good sawlog content has been excellent with very strong prices being realised throughout the second half of 2020. Prices in October and November are now at levels similar to the previous peak in November 2018.

Again, the two factors driving this are strong demand and restricted supply of standing timber to the market as there appears to have been less wood brought to market in the last six months than usual.

The million dollar question is whether we are experiencing a price spike or whether this is part of a prolonged trend of demand putting pressure on supply levels.

UK hardwood scene

The UK domestic hardwood market has lagged behind the softwood market as demand has been steady throughout 2020, although as we now enter the main felling period there are similar challenges of matching planned felling programmes with market demand.

Some disparities are now emerging with what is available on the market and what the market is looking for currently

The felling of diseased ash has really got going this autumn, fortunately the export demand for ash, beech and poplar sawlogs has held up remarkably well through the Covid crisis and as provided a valuable outlet for the better material produced.

Madison's Weekly Softwood Lumber Movers & Shakers
October 30, 2020 — www.madisonsreport.com

Prices are US Dollars per 1,000 fbm (net FOB sawmill) unless noted *	This Week	Last Week	Change $	Change %	Trend	Month Ago	Change $	Change %	Trend	Year Ago	Change $	Change %	Trend
WSPF KD High Line 2x4	700	740	-40	-5.4%	▼	1,042	-342	-32.8%	▼				
WSPF KD 2x4 R/L #2&Btr	660	700	-40	-5.7%	▼	960	-300	-31.3%	▼	396	+264	+67%	▲
WSPF KD 2x6 R/L #2&Btr	570	650	-80	-12.3%	▼	948	-378	-39.9%	▼	382	+188	+49%	▲
SYP East KD 2x4 R/L #2&Btr	825	935	-110	-11.8%	▼	1,025	-200	-19.5%	▼	410	+415	+101%	▲
SYP East KD 2x6 R/L #2&Btr	390	440	-50	-11.4%	▼	860	-470	-54.7%	▼	300	+90	+30%	▲
SYP Central KD 2x4 R/L #2&Btr	845	940	-95	-10.1%	▼	980	-135	-13.8%	▼				
SYP West KD 2x4 R/L #2&Btr	851	928	-77	-8.3%	▼	986	-135	-13.7%	▼	385	+466	+121%	▲
ESPF KD 2x4 R/L #2&Btr	640	760	-120	-15.8%	▼	1,005	-365	-36.3%	▼	470	+170	+36%	▲
WSPF KD 2x4 PET Stud	570	670	-100	-14.9%	▼	900	-330	-36.7%	▼	276	+294	+107%	▲
WSPF KD 2x6 PET Stud	450	540	-90	-16.7%	▼	650	-200	-30.8%	▼	268	+182	+68%	▲
Douglas Fir Green R/L 2x4	665	695	-30	-4.3%	▼	920	-255	-27.7%	▼	395	+270	+68%	▲
Douglas Fir Green R/L 2x10	690	720	-30	-4.2%	▼	820	-130	-15.9%	▼	475	+215	+45%	▲
ESPF KD 2x4 8ft Stud	665	730	-65	-8.9%	▼	985	-320	-32.5%	▼	375	+290	+77%	▲
OSB Ontario 7/16" *(CDN$/msf)	930	960	-30	-3.1%	▼	960	-30	-3.1%	▼	285	+645	+226%	▲
CSPlywood Toronto 3/8" *(CDN$/msf)	766	766	0	0.0%	—	766	0	0.0%	—	430	+336	+78%	▲

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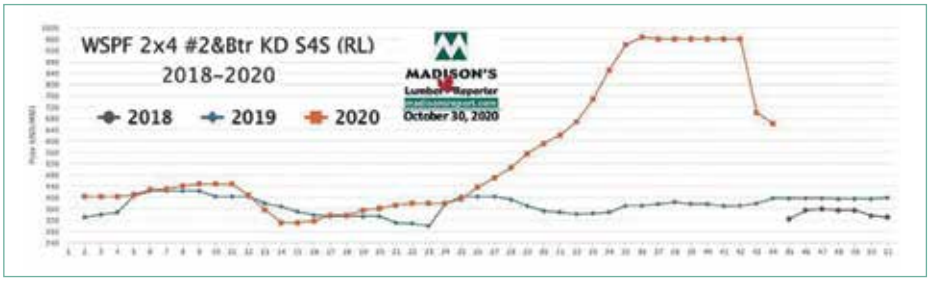

> Now is an excellent time to market timber especially softwood parcels with a good sawlog content or parcels with nice oak, beech or sweet chesnut sawlogs in England.

The consequence of this substantial increase in felling activity of diseased ash this winter has been saturation of many local firewood and biomass markets in the disease hotspots of southern and central England which has in turn dragged down the price of firewood to the 'biomass' level.

Further north, there is still good demand for firewood and prices have held up well.

Market outlook

Currently, the market appears to be plateauing and prices appear to be flattening, although, to counter this there appears to be a shortage of timber being offered to the market currently which is making buyers nervous about their bought-forward position.

IN DEMAND

There are a number of hardwood and specialist softwood sawlog categories where there is now domestic demand:

Good quality beam and planking oak sawlogs are in short supply this autumn and buyers are now actively looking for this material.

Beech sawlogs are also back in demand and there is a shortage of good quality white material currently on the market.

Sweet chestnut has now come back into fashion and there is good demand from a number of sources for clean (shake free) planking chestnut.

Western Red Cedar, strong demand for good quality 30cm plus TDUB logs.

30cm plus Douglas fir and Larch sawlogs in lengths of 6.2m and longer.

£ per tonne delivered to customers in Wales, central and south England (Nov 2020)

Product	*Lower price*	*Upper price*	*Trend*
Log 18	£80.00	£90.00	▲
Bar 14	£65.00	£70.00	▲
SRW	£50.00	£55.00	=
Fencing	£65.00	£75.00	= ▲
H Wood firewood	£55.00	£60.00	= ▼

£ per tonne delivered to customers in north England and Scotland (Nov 2020)

Product	*Lower price*	*Upper price*	*Trend*
Log 16	£80.00	£90.00	= ▲
Bar / pallet 14	£60.00	£70.00	= ▲
SRW	£45.00	£55.00	=
Fencing	£60.00	£65.00	= ▲
H Wood firewood	£50.00	£60.00	=

Roadside hardwood prices (£ hft) November 2020

	Oak planking	Oak beam	Oak fencing	Export ash & beech	White ash sawlogs	Export sycamore	Large Douglas fir and Larch
High price	£12.00	£9.00	£5.00	£3.25	£4.00	£5.00	£4.00
Mid price	£10.00	£7.50	£4.00	£2.75	£3.50	£4.00	£3.00
Low price	£8.00	£6.00	£3.00	£2.00	£3.25	£3.00	£2.590

These prices are for guidance purposes only and are based on historic market information

TIMBER AUCTIONS

If you wish to discuss parcels of timber you would like to market, please contact Oliver Combe on 07771 958975, **oliver.combe@timberauctions.co.uk** for free independent marketing advice.

Young restocked crops achieving premium prices

FOREST MARKET REPORT
Fenning Welstead
John Clegg & Co

Back in August, several sales were incomplete and could not be commented on. These have all now settled. The remarkable prices achieved during the summer of 2020 are worth considering in some detail. The most startling aspect being that the prices paid per conifer hectare for young, restocked crops was higher than that paid for mature plantations.

In particular, three high-quality properties in south Scotland, all with fully developed access and a track record of excellent yields from harvesting the original crop, sold at prices comfortable above £30,000 per conifer hectare. The average age being in the 10-15 year bracket. Contrast this with Glenhead and Arns, which at 22 years old sold at £22,750 per conifer hectare at the turn of the year. Is this simply market movement, or are there some other factors at play?

One of the factors undoubtedly is the use of planting stock. The three forests in question had all been planted with improved stock – full and half sibling material. The crops are now at an age where the vigour and quality is very apparent. Showing YC 30 in the PSI PF81 and PSI PF96 crops and with stem straightness 25 % better than QCI stock these significant improvements mean that the harvesting volume is likely to be of better quality but is also likely to be available on a shorter rotation than previous crops. If one builds in a real growth in timber values over the next fifteen years, it is easy to see how one can calculate high present net values.

Forestry's increasing investment appeal

During a period of low bank base rates, forestry is a very compelling investment. The underlying land being a real asset and the growing trees getting physically bigger year by year. The compound in physical growth and the anticipated growth in timber prices over time looks especially appealing at a time when many investment vehicles are showing close to zero or even negative returns. Forestry is also a relatively simple asset to manage and timber is a raw material that has many existing uses and may have a wider future use as new processes are developed. Therefore, while the prices paid for these three top quality Borders properties appear to be a very high spike it is equally possible to understand the logic behind them. When one adds in the potential for the environmental benefits of forestry ownership and the potential for natural capital incomes to develop, we can see why there is such demand to buy into high quality commercial forestry properties.

Scottish sales

Moving slightly later in the year, John Clegg & Co sold Reidside Wood in Aberdeenshire. This was a small plantation extending in total to 33ha of which only 26ha were stocked with Sitka at an average age of 33 years. Harvesting is virtually imminent. This sold at a sale price of over £30,000 per conifer hectare. Bidwells marketed a property at Risquehouse, double the size at 66ha but with the same type of crop. This is currently under offer at a similar level. There were several competitive bids on the table at both sales.

There has also been activity at the lower quality end of the market. John Clegg & Co sold a property called Glenouther. Situated to the southwest of Glasgow and comprising 376ha of Sitka/lodgepole mixture planted on deep peat this sold at a modest £3000 per hectare. Its future maybe as a peatland restoration project.

Another forest of spruce/pine mixtures was Badvoon, near Ardgay in Ross-shire. Extending to 728ha in total, but with about 550ha of Sitka/lodgepole mix planted in the 1980s this sold at a price approaching £18,000 per conifer hectare. The planned felling programme included significant areas of timber ready for harvesting. With railway access close to hand at Ardgay this is sort of property that may have scope to be developed beyond simply a conifer crop. Recreational and holiday activities could be considered as a boost to the local economy.

At a much more extensive scale is The Barracks. This is the largest individual forest that I am aware of in the UK at 4525 hectares of which the stocked area is in the region of 3200 hectares. This changed hands at a price understood to be just under £7500/ha. Barracks has been brought into production over the last six years and is capable of a virtually continuous supply of timber for the foreseeable future. With its scale and setting, The Barracks is also

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Higher Yield Class with improved planting stock

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likely to provide considerable Natural Capital value over the longer term.

Wales and England

Perhaps the most important news for forestry in Wales was the High Court ruling in late July that clarified the status of Manorial Mineral Rights and lifted the uncertainty for many forest owners and would-be purchasers of land in Wales. At least one large-scale sale had been derailed by a caution placed by a third party on the Land Registry title regarding historic Manorial Rights over minerals. This recent case has resolved matters in favour of the freeholder (in this case NRW) and appears to have lifted the threat. The principal issue here was that forest owners could have been prevented from using mudstones, won on site, for forest road building and repairs.

It's an interesting task to pick out highlighted sales but Tros Y Gol, in the Snowdonia National Park, is worthy of mention. In total 64 hectares with 43 hectares of mature spruce, larch and pine dating from the 1960s. Areas of oak and mixed broadleaves surround eight hectares of grazing land. There was little evidence of management interventions since establishment, primarily due to the difficult access. This involves crossing a funicular railway, a river (which currently only has a bridge with 3t weight limit) 300m of rough track and 150 m across bog to the entrance to the property. The guide price of £340k was set to reflect the large amount of capital expenditure required for any timber extraction and future management. There is a significant area of larch, vulnerable to P ramorum, and a priority for any new owner's attention. Such was the attractive nature of the woodland that interest was significant and, after a competitive closing date, it was sold for £9300 per hectare overall.

Another challenging woodland, also in a National Park, showed the level of interest in woodland beauty. With a mixture of conifers and broadleaves on an ancient woodland site it was being managed for PAWS restoration, under a CCF system. High public access levels, low timber production and a tricky access made this difficult to value. Due to narrow public roads it is not possible to get an HGV within 500m of the property, so small scale machinery and specialist equipment is required. At times the most efficient method has been to chip all products in the wood and sell locally into the biofuel market. However, its very attractive location and beauty as a woodland attracted a lot of interest and several offers at over £10,000 per hectare. We are seeing evidence of this across the country as people wake up to the benefits of woodlands.

Summary

There is strong activity in all sectors of the forest property market. The prime commercial forestry areas continue to be in demand from a range of investors. There is also demand for forest in less accessible parts of the country at prices to reflect the operational realities. We believe that Natural Capital factors, in their broadest sense, are a significant driver. The smaller woods, and especially mixed woodlands, appeal to a different audience who wish to enjoy the ownership and pleasure of being closer to nature – a desire enhanced by the events of 2020.

www.johnclegg.co.uk

Beech and Sitka spruce, Co. Carlow 2020

Irish forestry and wood processing update

Seán Lenihan
Kestrel Forestry Consultants

Mackinnon Report

In 2019, Jim Mackinnon was commissioned by the Irish government to critically examine the procedures and steps involved in acquiring a licence to establish a forestry plantation in Ireland, against the background of a serious reduction in afforestation levels over the previous five years.

The report – *Review of Approval Processes for Afforestation in Ireland* - was published in November 2019, and was very well received by the industry. In the report he was critical of government policy and inaction, and the fact that there was no Senior Minister with responsibility for forestry. He was critical of the licencing process for planting and the opportunity that the introduction of the new Felling Act 10 2017 gave to the public to object and or appeal licences at no cost.

His direct comparisons with the forestry sector in Scotland were revealing and relevant, bearing in mind the similarities between the two nations, and it was obvious to foresters here where the Scottish government had got it right and where we had got it very wrong.

It was certainly a surprise then when it emerged that the Irish government had apparently accepted the findings, had recruited a person to oversee the implementation of the report, and were ready to launch a press release in June 2020 to that effect. However, the release was pulled at the last minute and since then, there has been nothing except vague promises from the Department of Agriculture. Until just recently, in late November, Mrs Jo O' Hara, formerly British Forestry Commission and Chief Forester for Scotland was appointed to advise on the implementation on the Mackinnon Report by the Irish government. She will report back by the end of February 2021.

> Very few felling licenses have been issued this year and Irish processors were forced to increase their imports of logs from Scotland

Afforestation 2020

The view from the experts is that new afforestation in Ireland this year will only reach 2500 hectares, which is nothing short of a disaster. When one considers that in 1995 there were over 2500ha planted in County Donegal alone, and that even in as recently as 2010 we planted 8310ha, it is disgraceful that such a dramatic fall in the rate of new planting has been allowed. The industry needs 10,000ha a year to sustain current demand, and many believe that with a projected increase in population and an associated increase in demand for timber products, that 12,500 – 15,000ha per annum are required. Even more worrying are the current implications of decreasing planting levels, year on year, for forestry businesses, contractors and nurseries.

Various factors have contributed to the decline in afforestation - environmental constraints, pressure from tax-free land leasing and questionable decisions made by the Forest Service in the past ten years. However, the introduction of the licencing system under the Felling Act of 2017 has been the main negative factor since then. The requirement to place a Site Notice on the land prior to applying for the licence, the facility for the public to object and

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> 2020 afforestation rates are shockingly low; the export market to Scotland effectively saved the Irish forest nursery business in 2020

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appeal the granting of licences, and the time delays involved which typically run to 12 months, have alienated potential new growers. In addition, the strict application rules of the EU Habitats Directive regarding NATURA sites, where a 14km radius screening process is now obligatory, now require the hiring of an ecologist to compile a screening report. This at a cost of €1500, and associated delays of up to 12 months have made afforestation a seriously unattractive land use option now.

There were fears in the industry that with the Green Party entering a coalition government after the General Election in 2020, and the appointment of one their members Pippa Hackett as the new Junior Minister with responsibility for forestry, that commercial forestry would take a back seat to native/broadleaf forestry. However in a press release at the launch of National Tree Week in October she announced:

"I am determined to encourage farmers and foresters to increase diversity in both broadleaved and conifer species. We have one of the lowest levels of tree cover in Europe. That must increase, but it must increase in a way which is sympathetic to our native trees and our habitats while still delivering for commercial forestry and the timber industry. I will be working on the range of schemes and measures to increase the levels of diverse planting while also developing an improved model for forestry in Ireland. "

Time will tell.

Forest nurseries

Despite the fact that the biggest private nursery destroyed one million trees at the end of summer, many millions more would have been destroyed if there hadn't been a strong demand for trees in Scotland. The export market to Scotland effectively saved the Irish forest nursery business in 2020, and unless there is an unlikely, major increase in afforestation here in 2021, the sector will be depending on exports to Scotland and the UK again. The Irish nurseries had based their production on an 8000 hectare planting programme in Ireland for this cycle, thus the expected surplus of trees available for export again next year.

Forest track, Co. Wexford 2020

Felling licences

The debacle over Felling Licences which started in early 2019, and deteriorated dramatically in 2020 was of such a scale that the media in Ireland began publicising the issue on TV and press in recent months. The number of Felling Licences issued fell from over a 1000 in February 2019 to less than a hundred by September 2020, and the harvest areas concerned dropped from 14,000ha to 1200ha, respectively. As a result of the shortage in available timber for harvesting, Irish processors were forced to increase their imports of logs from Scotland. However, increased log imports can only partially replace the volumes that have been effectively quarantined due to appeals. Many timber providers, merchants and DIY stores are low in stock, or have no Irish timber left in their yards. This has resulted in a suspension of house and farm building construction in some parts of the country.

In response to the crisis the government passed an amendment to the Felling Act in October which introduced a charge of €200 to appeal the granting of an individual Felling Licence, and approved the allocation of more resources to the appeals process to speed up decisions. Since the introduction of the new charge there has been a very significant reduction in the number of appeals and hopefully this pattern will continue.

www.kestrelforestry.ie

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A guide to log splitters

Splitting timber into logs for firewood is one of the simplest processes imaginable yet one that has the greatest diversity of machinery available to do it. **Nick Marshall** of Treeline Woodlands takes a look at some of the many options on offer and examples of machines available in the UK.

Taking inspiration from the simplest method, the axe, which relies on hitting a log hard to break it in two you sometimes see kinetic splitters. You mainly see these in Youtube videos titled "World's most dangerous log splitters", where people have welded axe heads onto tractor wheel rims and have them flying round at great speed or have large metal arms supported on car springs that bounce up and down... The reliance on speed ensures that we don't seem to see these in commercial use in the UK as I imagine your local health and safety officer's head would explode if he saw one! So this takes us onto a reliance on hydraulic power where we can get the force to drive apart a log without requiring great speed.

1 Upright hydraulic splitter

Our simplest and most common mechanical method is to crosscut timber into rings with a chainsaw and use an upright hydraulic splitter to break it down into suitable sized logs. While relying on a lot of manpower this method remains useful to almost all sizes of firewood producer as it is the only method that can be used to process almost any size of timber. There are loads of simple log splitters available in many colours and sizes but if you are going to employ people to use a splitter you need to ensure it complies with current standards, requiring things like two-handed operation and not allowing more than a single-way splitting knife or moveable tables. Look at some of the offerings from AMR, Posch, Uniforest, Rabaud, among many others.


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2 Horizontal log splitters

The next method is favoured by our continental European neighbours and this turns the previous process around. Using large horizontal log splitters they break down timber into billets, often a meter long and then either stack to dry in situ or bundle using a bundler. These billets are perfect for log boilers but for most UK customers looking for short logs the billets are cut down to length once dry using a simple saw bench, a crosscut saw or a rotary drum saw. The timber dries well in the billets and can be stored outside until ready to crosscut for delivery. There are good billeting systems available from AMR, Rabaud, Binderberger, Posch, etc.

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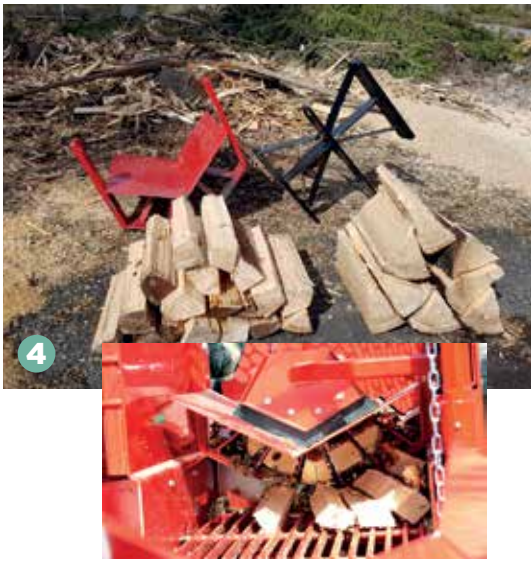
3 'Standard' log processor

Moving on from this we come to what I think of as the 'standard' log processor, favoured by our Scandinavian neighbours. Lengths of timber are fed in one end, crosscut to length and pushed through a multi-way knife to split to size before being moved out of the way using a conveyor. This method of producing firewood is the most common method in the UK as it can produce the required size of log through a single machine with virtually no manual contact with the timber. They can be extremely efficient but do rely on regular, straight timber up to a maximum diameter. Choosing your firewood processor is a whole subject in it's own right as there are many great offerings from lots of manufacturers and all have their own benefits and drawbacks. There are loads of options to choose from such as self-powered, electric, pto, towable or 3pt linkage mounted, chainsaw or circular saw, multi-way knife or box-blade, etc, etc. They come in a wide variety of sizes and budgets with great offerings from the likes of Tajfun, Fuelwood, Posch, Japa, Palax, Uniforest, Hakki Pilke and many more. If you are in the market for one I would have a think about the features that are important to you, the size required and your budget and then get out and try a few to see which best ticks your boxes.

The problem with standard firewood processors is that to maintain a consistent log size they are reliant on the operator lining up the centre of the log with the centre of the knife so that all of the slices are even. In order to get around this problem you can use a machine that uses an "X" or "V" shaped knife. These machines shunt cut rings sideways in increments while driving the x-shaped knife through the log after each shunt. This process produces a uniform, square-shaped log with a cross sectional area that can be adjusted by varying the distance the log is shunted between each split. Due to the nature of this process the machines are automatic, can usually deal with quite large timber and are good for processing arboricultural waste which has already been ringed up. However, they make a lot of waste from smaller diameter timber below 6-8 inches. If you want to produce logs from lengths of timber then these machines need to be connected up to a separate crosscut machine to mechanise the whole process. The two manufacturers to look at for one of these in the UK are Fuelwood and Posch but Pezzolato and Pinosa from Italy also offer large machines with this design of splitter.



4 Box wedge splitter

Another method for producing a more consistent size of log is to use a box wedge splitter. These use a horizontal blade with divider knives beneath it at set sizes and

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push logs back and forwards through the same knife, removing a layer at a time. These ensure you don't get any oversized logs and work better on larger timber but can produce small pieces from the edges. While they look to be operating quite slowly, as they move back and forwards constantly their output can be very good. The only manufacturer I am aware of selling these in any great volume in the UK are Japa who offer this system on their larger processors.

If processing lots of smaller branch wood material, which can be slow and cumbersome to put through a conventional processor there is a processor from Bilke that uses a spiral blade to cut to length and can also split the branch in two using a wedge on the side of the spiral blade. This is a neat little automatic machine but is restricted to smaller timber.

5 Screw or cone splitters

The final method of splitting wood is to use a screw or cone splitter. While you used to see these mounted to a table for hand splitting logs, this design seems to have disappeared and they are now seen mounted to cranes or excavators and used for breaking down large timber into more manageable sizes. While they do this very effectively, if the timber is not straight grained they can make a bit of a mess. The ones to have a look for are from Approved Hydraulics, Lasco, Black Splitter and Rabaud, among others.

Following that whistle-stop tour of splitting logs I would just say that there are lots of great suppliers of this equipment around the country who can discuss your requirements and point you in the right direction of a machine that should suit your needs. Get out, speak to them and try something out to make sure it will do the job you require.

Treeline is a family-run forestry business based in the Scottish Borders, providing woodland management and contracting services as well as supplying high-quality wood fuel across Southern Scotland, including the Borders, Edinburgh and the Lothians.

www.treelinescotland.com

The suitability of home grown timber for construction

Dan Ridley-Ellis *(right)* Edinburgh Napier University debugs myths about the quality of home-grown, construction-grade timbers.

For construction timber there are key properties that affect the safety of buildings: strength, stiffness and density. Density is important, since it determines connection designs and fire performance, but it is not as strongly correlated with strength and stiffness as is commonly thought. Knots and ring width, which can be quality issues for processing, finishing and appearance, do influence strength, but this correlation is also much weaker than people tend to think. They are, of course, a determining factor in visual grading, but they have to be, since there is little else on which visual grading can work.

It is therefore most helpful to try and think of these properties separately, and to make a distinction between the actual timber properties, and the features that determine grading yields, and customer perception. In fact, what people think about home grown timber is perhaps the most crucial aspect of timber quality, albeit one that does not have a strong connection to the actual wood performance and suitability.

Thanks to the work of SIRT and allied projects at Edinburgh Napier University, and recent collaboration through the WoodProps project led by National University of Ireland Galway, a great deal of data has been collected about home grown timber. Thanks to the close involvement of industry, and Forest Research, that data is properly representative of the timber resource.

‘British spruce’

Characteristic density: 310 to 350 kg/m^3
Characteristic strength: 13 to 18 N/mm^2
Mean stiffness: 13 to 18 N/mm^2

Our main species mix for construction timber is called ‘British spruce’ and is mostly Sitka spruce mixed with Norway spruce. It is often said that this home grown spruce grows too fast, making it too low density, and unsuitable for construction. This, very persistent, myth is a significant barrier to getting more home grown timber in construction, since it leads to perfectly suitable timber being rejected, and habitual over-specification. In reality, ring width, tree growth rate, density and strength are only loosely related, and if there has been any change in density in recent years, while forestry has been improving growth rates, it appears to be a slight increase (evidence collected thanks to the WoodProps for Ireland project led by NUI Galway).

The characteristic density (lower fifth percentile at 12% moisture content) of ungraded UK or Irish grown Sitka spruce ranges from about 310 to 350 kg/m^3. Characteristic strength (lower fifth percentile at 12% moisture content) ranges from about 13 to 18 N/mm^2, and mean stiffness (at 12% moisture content) ranges from about 7 to 9 kN/mm^2. It is therefore the stiffness that tends to limit the structural grading, but when grading to C16 alone (as is usually the case) the machine reject is minimal anyway. For this C16 graded timber, strength is higher than the C16 requirement (more than C18 requires) and density is actually the least critical property (sufficient for C20), but still low enough to make the home grown spruce’s high strength to weight ratio another one of its practical advantages, especially for offsite construction. Advantage can be made of this extra potential by using the specially developed grade for UK spruce, “C16+”. Visual grading to BS 4978 assigns to C14 and C18, and with an effective grading machine, practical yields of C24 are achievable. Despite the importance placed on density in the perception of this timber, the coefficient of determination (R-squared) between strength and density is only about 0.2, due partly to this species growing relatively dense, but less strong, wood in the early years of growth. The wood does contain many knots, and large growth rings, but these are also poor indicators of mechanical properties, and therefore not the most useful indicators for strength grading.

Larch

Characteristic density: 400 to 420 kg/m^3
Characteristic strength: 19 to 22 N/mm^2
Mean stiffness: 9 to 11 kN/mm^2

The construction grade larch from UK and Ireland is a mixture of European, Japanese and hybrid larch. The characteristic density of ungraded larch ranges from about 400 to 420 kg/m^3. Characteristic strength ranges from about 19 to 22 N/mm^2, and mean stiffness ranges from about 9 to 11 kN/mm^2. It is therefore, again, the stiffness that tends to limit the strength grading, but larch can achieve C20 or C22 as a single grade with minimal machine reject. With the right grading machine, yields of about 30% C27 with 70% C16 and minimal machine reject are achievable. Grades of up to C35 can be achieved in small amounts. Density is, again, the least critical property and even ungraded it is higher than the C40 requirement. This makes larch a relatively heavy timber, but by making use of bespoke strength classes this extra density can be made use of in connection design, which is often what determines timber grade or dimension in practice. Work at Edinburgh Napier University enabled grading of UK grown larch with modern grading machines, and earlier this year work at NUI Galway extended this to Irish grown larch, confirming also the similarity in the wood properties in both countries. Visual grading to BS 4978 assigns to C16 and C24. The R-squared between strength and density is similar to Sitka, only about 0.2 – a correlation too weak to be useful for strength grading.

Douglas fir

Characteristic density: 360 to 450 kg/m^3
Characteristic strength: 10 to 25 N/mm^2
Mean stiffness: 8 to 13 kN/mm^2

Home grown Douglas fir has quite similar in properties to the larch, but is much more variable from stand to stand and this variability requires the grading to be more conservative. This variability also causes the characteristic strength of the ungraded timber to be very low, although this is quickly improved by grading. The characteristic density of ungraded Douglas ranges from about 360 to 450 kg/m^3. Characteristic strength ranges from about 10 to 25 N/mm^2, and mean stiffness ranges from about 8 to 13 kN/mm^2. For Douglas it is the strength that tends to limit the grading, and unlike the spruce and larch, the

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knots are one of the most useful criteria for strength grading. Thanks to collaborations between NUI Galway and Edinburgh Napier University, pulling together data from other research projects, grading of Douglas-fir from UK and Ireland is also now possible with modern grading machines. Machine yield of C18 as a single grade is about 95% and grades of up to C40 can be achieved in small amounts. Once again, density is the least critical property, and while lower than Douglas-fir grown in Europe it is, when ungraded, at worst, higher than the C27 requirement. Visual grading to BS 4978 assigns to C14 and C18, or C24 for large dimensions. The variability in the population means the R-squared between strength and density is quite high, at about 0.5, but can be non-existent within a batch of timber making it an unreliable indicator for strength grading.

Pine

Scots pine, having other good markets, has been less researched, and can currently only be machine graded with the older bending type machines to C16 or C24. Visual grading to BS 4978 assigns to C14 and C22. A 2019 research report by Forest Research summarises what is known, indicating that grading would probably be a little better than for the spruce, with slightly higher density.

For all of these species, the most influence on the properties comes from the forest management, site factors, and tree selection. This means that wood properties are not fixed, and can change over time. It is therefore necessary to keep a research eye on the most critical properties to ensure that they do not inadvertently reduce due to actions aimed at improving other kinds of timber quality. Diversification of tree species in the forest, driven by resilience against pests, diseases and climate change, or by the public demand for prioritising the other functions of forests, means that the home grown timber resource is also set to change in other ways, and while these species named above will remain the core, work will also be necessary to prepare our processes, and our perceptions, for a wider species palette. This need not necessarily mean big changes if species can be mixed successfully with the spruce, and new opportunities will come with greater use of laminated wood products like CLT.

For more on the topic of home grown timber, its properties, the grading options, and the myths visit **https://blogs.napier.ac.uk/cwst/home**

CLT production in UK can help green recovery

Robert Hairstans
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Edinburgh

Cross Laminated Timber is formed from graded dimensional timber (normally 20, 30 or 40mm thick) 'lamellae' that are laid up and glued in perpendicular layers under high pressure by mechanical or vacuum compression. CLT is on an upward trajectory worldwide in terms of volume utilisation and for the construction of ever taller buildings. Mjostarnet, a mixed use building of residential and commercial accommodation, a restaurant and swimming pool, in Norway is 18 storey high standing at 85.4m and predominantly made from mass timber glulam and CLT.

This increased utilisation is driven by multiple factors (speed of construction, quality, health and well being of occupants etc) but sustainability is undoubtably the primary one. The drive for net zero carbon will necessitate alternative ways of carbon offsetting, timber in construction and particularly mass timber given volume use, can provide this via sequestration. A 10,000m^3 per annum cross-laminated timber plant, for example, would sequestrate 6,760,000 kg of carbon dioxide (CO_2) from the atmosphere assuming -676kg of CO_2 per m^3 will be stored after the production process[1]. A recent study also estimates 50 Mt greenhouse gases (CO2e) in up front avoided emissions, without considering any carbon sequestration and storage potential offered, would result from substituting concrete floor slabs with timber in steel building frames for the next 30 years[2].

The current estimated volume of CLT imported to the UK market is circa 42,500m^3 per annum costing on average £600/m^3 relative to aesthetic grade (visual grade when exposed to industrial grade when covered), level of machine finishing (blanks with no opening to a high level of post process), value add (treatments) or transportation distance. Currently, there is no commercial-scale UK production of CLT with the Construction Scotland Innovation centre offering pilot manufacture via their Innovation Factory. The UK does, however, have the potential sawnwood volume, approximately 3.7m m^3 per annum of which almost 2m m^3 of sawn softwood is produced by sawmills in Scotland, to sustain a plant. Any The vast majority of structural grade material within this sawn softwood is, however, normally only graded to only C16, and kiln dried enough to meet the requirements of dry graded timber of an average moisture (about 18% moisture content), but not dry content which is notenough to be compatible with CLT production requiring an average of 15%.

> Currently, there is no commercial-scale UK production of CLT, however, we do have the potential sawnwood volume of 3.7m m^3 per annum to sustain a plant.

Research work has demonstrated that it is feasible to dry homegrown material down to the necessary moisture content required for CLT production without impacting substantially on yield (level of waste) and corresponding cost, it is estimated it would result in an approximate 9% increase in timber cost by volume. To put this into perspective, the raw material cost of timber is cir-

Construction Scotland Innovation Centre – vacuum press for CLT manufacture

ca 40 to 50% of the overall production cost of CLT. The basic C16 grade of the spruceis resource is also not truly reflective of its potential attributes. It is graded to this level to minimise the reject rate and correspondingly maximise yield. With the correct grading machine, it is possible to achieve yields of about 25% C24 and 75% C16 with minimal reject, C27 is also possible but in small amounts. It is also possible to use more of the inherent properties of the timber by using special strength classes like C16+.

From a mass timber production perspective there is therefore opportunity for optimisation to enhance overall structural performance by laying the lamellae up in a manner to maximise the performance criteria relative to the end application. For example, placing the higher-grade timber towards the outer layers of a structural beam or floor component given the higher stress levels induced through bending (tension at the bottom and compression at the top). Taking this into account a mass timber product can compete with imported product for most of design circumstances particularly when considering the medium rise residential and educational buildings that have through market analysis undertaken been identified as the target use cases. These building typologies (relative to the architectural design) tend to conform to more standardised layout requirements and load/span thresholds. Indeed, there will be many instances where CLT from C16 grade timber alone is sufficient.

> A mass timber product can compete with imported product for most of the design circumstances

The origins of CLT production were based on minimising waste and maximising the value return from available resource, these original founding concepts reflect the modern paradigm of circularity which is of critical importance given the climate crisis. If this were not enough to evidence the need for UK CLT production there is also the market trajectory, methods for resource optimisation relative to end use and the need to stimulate a green economic recovery to consider.

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Confor backs campaign to promote accurate description of preservative-treated wood

Recent 'mystery shopper' research sponsored by the Wood Protection Association confirms that understanding amongst front line merchant sales staff and users of preservative treated wood is very poor indeed. When asked if there was a specific treatment specification for timber in ground contact, over 90% of people surveyed said they didn't know. When asked if they understood what 'Use Class 4' means, 72% said they didn't know.

Wider market feedback suggests that meaningless generic expressions such as 'pressure treated' and 'green treated' are still prevalent. The inaccurate or vague description of preswwervative treated products inevitably increases the chance of failure in service and subsequent customer complaints, particularly for outdoor applications. This will eventually damage the reputation of timber as a reliable and versatile building material, so undermining the opportunities to build confidence and grow the demand for treated wood. Consumer and contract law require that any product offered for sale must be fit for its intended use and a wood product impregnated with preservative is no exception.

There is no quick fix to this problem. Staff turnover at merchant outlets and the sheer range of products now handled by many merchants makes consistently enhancing product knowledge on one particular material a challenge. WPA believes the answer is to keep the message as simple as possible, communicate it through the right channels and keep repeating it until it becomes standard practice for both buyers and sellers. This will take time and persistence. To that end, Confor have now confirmed that they will be working with WPA, along with the Timber Trade Federation (TTF) and the Timber Decking & Cladding Association (TDCA), in order to ensure consistent messaging and maximise the audience impacted.

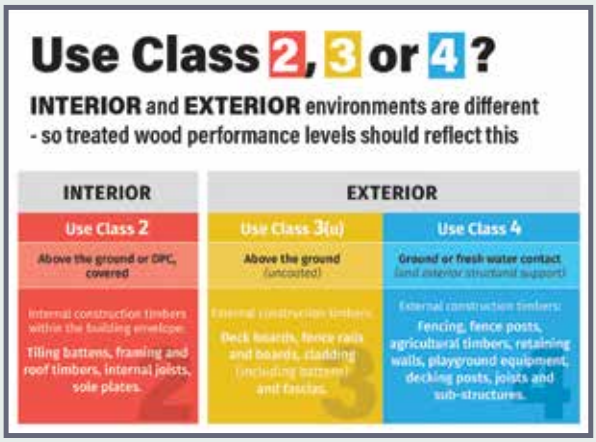
Communicating the message: not all treated timber is the same

It's a mistake to assume that all pressure treated wood is the same. Whilst one piece of treated wood may look very much like any other, the level of preservative protection could be very different. That's because the British Standard for wood preservation, BS 8417, requires that the loading and penetration of preservative impregnated into the wood is tailored to the desired end use. Applications for treated wood are therefore grouped into 'Use Classes'.

The challenge is how best to simplify this message whilst not losing technical accuracy. Therefore, starting this summer, we will be working together on a two fold approach, depending on the target market:

Make Sure It's 4:
For the fencing, garden and landscaping sector, the focus is on promoting the use of the term Use Class 4 for treated wood used in contact with or close to the ground, using the medium of the WPA's 'Make Sure it's 4' logo and communications package.

Use Class 2, 3, or 4?
For the broader timber supply chain, the focus also includes differentiating between interior and exterior applications for treated wood – using a bold, colour coded Use Class 2, 3 or 4? message and simplified product descriptions (below).



Campaign communications package

To accompany this extended campaign, the communications package will include developing more punchy visuals, editorial in key trade press plus associated advertising (tailored to sector), social media activity, training/webinars and a review of websites and guidance to ensure consistency throughout the wide range of resources available.

Point of sale posters are also available for members, which they can use to reinforce the message further.

In addition to the camaign communications package, for those who need further guidance on what the most critical Use Classes mean in practice, WPA have developed three new A4 Guidance Notes on Understanding Use Class 2,3 & 4 preservative treated wood. These include a simple explanation of what national standards require for each application, what species are most suitable, what preservative penetration to expect in different treated commodities and the necessary quality control criteria.

SPECIFICATION & INSTALLATION CHECK LIST

- ✔ Establish the Use Class of the timber you need, before ordering.
- ✔ Tell your supplier in writing, that the wood must be treated to that particular Use Class to comply with BS 8417. Ask them to verify that the wood supplied meets your Use Class specification – on the delivery note and invoice or a treatment certificate.
- ✔ When buying from stock always check to which Use Class the wood has been treated.
- ✔ NEVER substitute wood that has been treated for an indoor application for use in an external application – failure is inevitable.
- ✔ Do NOT supply wood that has been treated for external use for what you know will only be internal applications.
- ✔ For wood in permanent ground or fresh water contact, or providing exterior structural support, Use Class 4 levels of protection MUST be achieved. Anything less and service life, structural safety and customer satisfaction will be compromised.
- ✔ When cross cutting, notching or boring treated timber products during installation, ALWAYS apply an end grain preservative treatment to freshly exposed areas – to maintain the integrity of the protection.
- ✔ NEVER put cut ends in the ground, even if end grain coated.

RESOURCES & INFO

The visuals and logos which accompany the Make Sure it's 4 or Use Class 2, 3 or 4? aspects of this campaign are available, free of charge for all companies in the supply chain to use in their own promotional and educational resources. Simply get in touch via **contact@thewpa.org.uk**

For further information or guidance on any of the above please download the new Guidance Notes on Use Classes 2, 3 & 4 and the WPA Buyers Guide to Treated Wood from the resources page of the WPA website **www.thewpa.org.uk**

‘Make sure it’s UC4’

James Jones & Sons Ltd is one of Scotland’s largest processors of fencing timbers for the agricultural and domestic market and offers a fifteen-year warranty on its range of ground contact fencing and landscaping products. The company has been at the forefront of pioneering technology dedicated to improve the standard of ground contact treatment for a number of years and was the first in the UK to introduce a commercial incising line to increase the preservative penetration and provide uniformity of treatment.

In order to achieve the recommended minimum 6mm penetration necessary to satisfy the requirements of Use Class 4, spruce must first be incised. Incising involves creating small incisions in the outer region of a piece of timber prior to the treatment process. This significantly increases the depth to which preservative chemical can penetrate, thereby achieving the desired level of penetration and chemical absorption. This ultimately enhances material performance, increasing resistance to fungal degrade and extending service life.

James Jones & Sons has made significant investment in its incising and timber treatment facilities, borne out of the long-standing belief that the timber trade cannot continue to supply ground contact timber that has been treated to an inferior, Use Class 3 specification in ground contact applications, when anything other than Use class 4 will result in premature failure.

Above: Incising increases the depth to which preservative chemical can penetrate

> We have an obligation to help ensure ground contact products – fence posts and landscape sleepers – are fit for purpose

Graham Blyth, sales director at James Jones & Sons said “As a manufacturer of timber products, we have an obligation to help ensure ground contact products – fence posts and landscape sleepers – are treated to Use Class 4 standard, are fit for purpose and could be expected to provide service and longevity to the end user. We need to inform, guide and support our customers and all throughout the supply chain, from timber merchant to contractors and ultimately to the end user, to ensure they are fully informed as to the categories of timber treatment to ensure performance levels are compatible with its intended use”.

Recent research by the Wood Protection Association (WPA) confirms that understanding among users of preservative treated wood is poor, stating that “the sheer range of products now handled by many merchants makes consistently en-

Continued overleaf

Continued from previous page
hancing product knowledge on one particular material a challenge"

The recent 'Make sure it's 4 Campaign', led by the WPA and Timber Trade Federation (TTF) and supported by the Timber Decking and Cladding Association (TDCA) (see p42), is an initiative James Jones & Sons fully supports. The company holds regular training days to inform and advise merchant staff on timber treatment and is nearing completion of its new visitor and conference centre at its Lockerbie site which will be used for this purpose. "We need to remove the mystique around timber treatment, whilst collectively as an industry enhancing the reputation of timber as a sustainable material of choice" Mr Blyth added.

James Jones & Sons recently won the 'Treated Wood Trader of the Year' award at The Wood Protection Association's annual event, which was held online this year due to the current restrictions. Now in their sixth year, the awards have become a popular annual event, which showcases wood protection technology as a relevant and vital part of the timber industry.

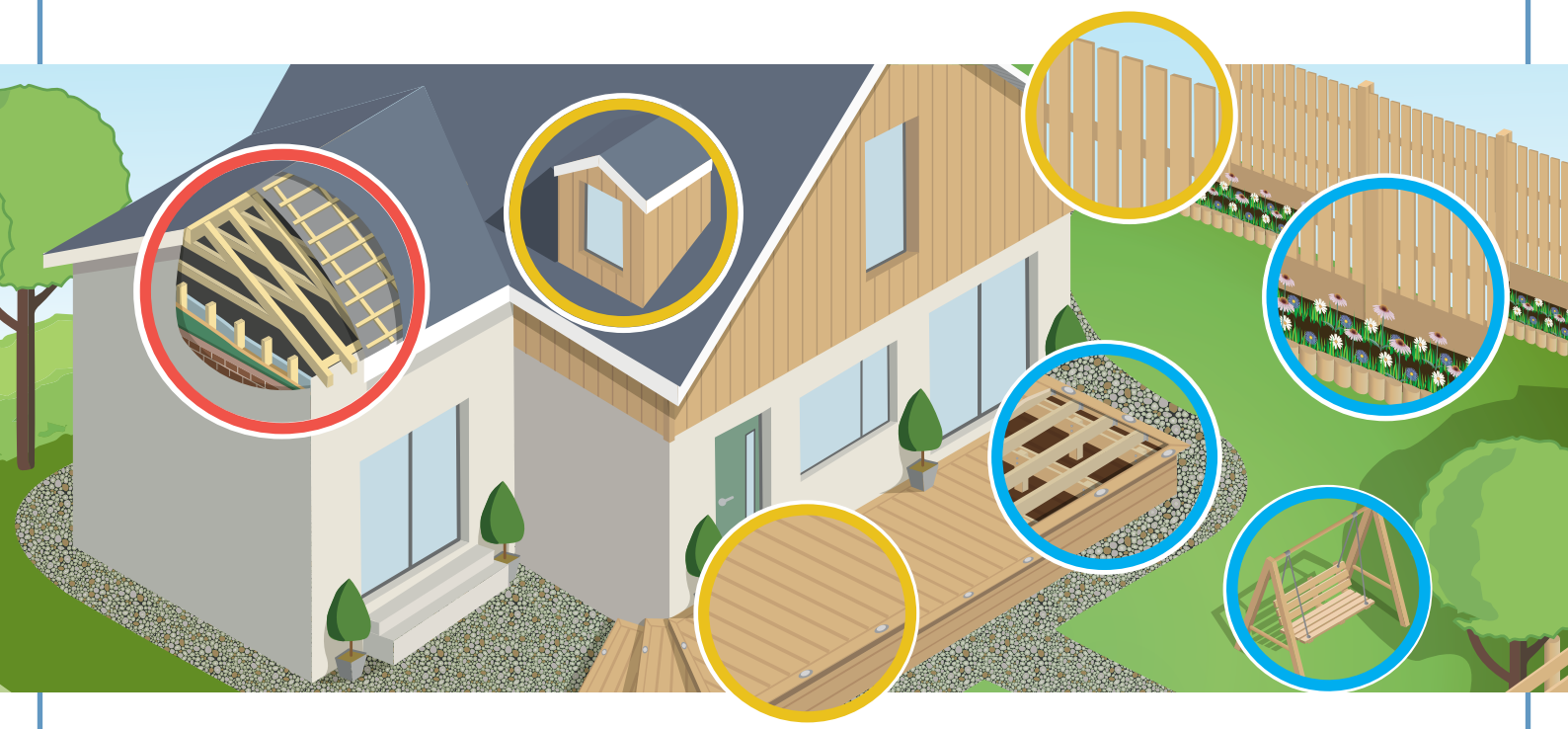
'Make sure it's UC4'

Graham Blyth said "We have been dedicated to conveying the importance of Use Class 4 in timber treatment to our customers for a number of years and we are delighted to receive the award in acknowledgement of our efforts".

www.jamesjones.co.uk

Use Class 2, 3 or 4?

INTERIOR and EXTERIOR environments are very different so treated wood performance levels should reflect this.



Preservative treatment provides added durability. However, it's a mistake to assume that all treated wood is the same. BS 8417 groups applications for treated wood into **Use Classes**:

INTERIOR	EXTERIOR	
Use Class 2	**Use Class 3(u)**	**Use Class 4**
Above the ground or DPC covered	**Above the ground** *(uncoated)*	**Ground or fresh water contact** *(and exterior structural support)*
Battens, framing, joists, roofs	Deck boards, cladding *(inc. battens)*, fence rails	Fencing, playground equipment, deck posts, joists and beams

To get the best from your timber, make sure it's preservative pressure treated to the correct Use Class.

Make sure it's 4 Use Class 4 GROUND CONTACT

Confor Promoting forestry and wood

Timber Trade Federation growing the use of wood

tdca TIMBER DECKING AND CLADDING ASSOCIATION

WPA Wood Protection Association

contact@thewpa.org.uk
01977 558274
www.thewpa.org.uk

Are you aware of the R&D tax relief scheme?

Brendan Scott of Leyton highlights the potential to access underused grant money to support forestry businesses that are developing new and innovate ways of operating.

While attention has understandably been focused on the Covid-19 pandemic this year, the climate crisis remains an important underlying issue for the world and much has been made of the importance of 'building back better' following the crisis. With a continued focus on meeting targets for new woodland creation and over 80% of new planting in the UK being in Scotland, through challenging times we have seen many advancements in the sector in terms of planting efficiencies and effective management.

As the case for establishing new woodland escalates, innovation in forestry has become more crucial than ever. Previously underused government schemes can offer significant financial incentives to forestry businesses that are developing new and innovative ways of operating.

R&D tax relief scheme – who can access it?

Indeed, everything from seed coatings, managers looking to improve yield, right through to harvesting and timber production is potentially eligible for R&D tax relief, a HMRC scheme which allows businesses to claim back proportions of cash for time and costs related to innovative or forward thinking work.

Larger players in the forestry market are often made aware of the scheme through their accountant or auditor. However, many smaller businesses who are also eligible are not made aware that they could claim. R&D tax relief is therefore sadly underused across the forestry sector as a whole, simply because so many businesses are unaware that their activities are eligible. Alongside woodland creation, a renewed focus on biodiversity and improved tree genetics are encouraging rapid advancements in the forestry sector, new innovations have come to the fore that promise to make forestry businesses' operations more efficient and more sustainable. As areas like geo mapping software, 3D scanning equipment and satellite imaging, pest deterrents etc become both more advanced and more widely used, both land owners and managers businesses can operate with more precision than ever before to maximise their results. We've also seen businesses across the sector make use of drones for assessments and GPS within planting machinery.

These highly advanced areas of innovation are all eligible for R&D tax relief, with the government paying back often significant sums of the money that businesses spend on investing in these forms of R&D.

Businesses are not restricted to claiming back costs for equipment used in the project, but the time investment in the form of employees' salaries, subcontractor costs, software licenses and consumables using during the project.

James Jones and Sons Ltd

Many businesses in the forestry sector may be unaware that more everyday activities can be eligible for significant tax relief. Money spent on trials of new chemicals and pesticides can be eligible for tax credits, as are efforts to develop new planting patterns and methods of managing invasive species and disease control, weavel control among others.

Grants vs R&D tax relief

It is also worth noting that businesses in this sector have traditionally focused on grants for financial support. However, while grants can certainly be a very valuable source of funding, as we know, these are more typically related to land owners as opposed to managers, harvesters and timber mills.

Grants are also considerable more time consuming and complicated to claim than R&D relief with the average input being around 4-6 hours when using a specialist consultancy. Indeed, R&D tax credits can offer more certainty in terms of future balances and support longer-term financial planning.

More forestry businesses are using the scheme

Over the past few years, it has been positive to see that more and more businesses across the forestry, agriculture and fishing industries are becoming aware of the scheme, with a 67% increase in tax credits claimed in these sectors between 2015-16 and 16-17.

The average R&D claim in the farming, forestry and fishing sector came to £41,000 in 2017 – enough to make a significant difference for many businesses, especially as the UK's 2025 deadline for new woodland creation approaches. At Leyton, we have helped forestry, agriculture and fishing clients claim a total of £36 million in 2019 and continue to support the sector in protecting cashflow in 2020. Businesses can claim back two years retrospectively , so could be claiming costs from 2018 onwards.

By planning ahead and ensuring that they claim the right support during this period, forestry businesses can use this challenging period to safeguard their financial future and maximise their capacity to deliver the tree planting that will be needed to forge a sustainable future for Britain and build back better from the disruption and turmoil of 2020.

With the percentage of claims low in comparison to eligible companies and other European countries, we are encouraging businesses in the sector take advantage of this incentive in order to ensure the industry continues to thrive.

https://leyton.com

The world turned on its head – how is the insurance sector responding?

Rory Gibson, of forestry and woodland insurance specialist Lycetts, provides an overview of the insurance market and outlines some of the emerging risks and hurdles companies need to be aware of.

As 2020 comes to a close, it would be reasonable to say that the year has seen its fair share of trials and tribulations.

From the coronavirus outbreak and a shrinking market to unshifting Ogden rates, all-time low interest rates and the effects of Solvency II still bearing down, the insurance market has certainly felt the impact.

Climate change and its associated unpredictable weather patterns further compounded an already-difficult situation.

The most notable of these challenges was the blindsiding effect of the COVID-19 pandemic, having been dubbed 'the most expensive event ever to hit the insurance world'.

With zero precedent, great confusion resulted from the outbreak and insurers found themselves in a new 'grey area', particularly in the case of business interruption policies, which subsequently prompted an FCA Test Case.

In addition to the emergence of COVID-19, early 2020 saw severe widespread flooding across the UK. Three successive storm events – Storm Ciara, Storm Dennis and Storm Jorge – not only put immense pressure on emergency services, but also on the insurance market. Insurers struggled to get to grips with planning for unpredictable floods and offsetting the huge costs involved.

The Odgen discount rate changes for personal injury awards was a further blow, with insurers' expectation of it returning to positive or neutral territory not being met, resulting in the continuation of costly pay-outs.

The rise of reinsurance rates, combined with record low interest rates, has created a perfect storm, with policyholders bearing the brunt of the associated hike in costs.

> With so many challenges facing the insurance market, premiums for end users are increasing.

With so many challenges facing the insurance market, the impact of the Solvency II EU directive adds another layer of complexity. Under Solvency II, insurers need enough capital to have 99.5% confidence they could cope with the worst expected losses over a year.

With spare capital requirements sharply increasing, a number of insurers were prompted to leave the market, whilst others have significantly reduced their capacity, impacting market flexibility and availability.

All this has manifested in increase premiums for the end users.

wwww.lycetts.co.uk

Forestry and woodland insurance – a changing market

As with every industry, the forestry and woodland insurance market has had to adapt to meet the challenge of emerging risks and sector changes.

The risks associated with climate change are omnipresent – as are the threats of pests and disease - and it is prudent that the market continues to react and adjust to need, albeit at a slower rate than perhaps desired.

For example, in addition to the traditional fire, wind and perils cover, protection is now available against highly volatile carbon credit contracts.

Traditionally, carbon credit contracts have been high risk ventures, with no way for owners to protect themselves against their liability to re-pay or replace any lost carbon credits. With extreme weather events becoming increasingly more common, vulnerability to loss is climbing.

As demand grows, price are also pushed up, increasing the value of potential losses.

The enhanced woodlands cover from Lycetts can help woodland owners to mitigate against these risks, by offering them a degree of protection and allowing them to continue their operations, without the need for excessively large cash reserves.

Whilst products are being developed to support changes in the market, the availability of other insurance options has reduced.

For example, the market has seen options for ma-

Subcontractors - own your liability

The hiring of subcontractors can be an attractive and cost-effective option for short-term forestry projects.

However, the issues of subcontractors and having the right protection can often be a cause of confusion and companies can be left exposed to costly fines and protracted legal proceedings through lack of knowledge or gaps in cover.

The distinction between subcontractor types is important. Labour-only subcontractors work under the direction of the main contractor and will not have their own insurance, as they are regarded as employees. Bona-fide subcontractors differ in that they supply their own materials and work under their own control. As they are not deemed employees, they must possess their own insurance.

But in neither case is the company exonerated from liability, should an incident occur. In the case of labour-only subcontractors, businesses need to ensure that they are included on their employers' liability insurance and public liability insurance policy. The first protects businesses in the case of an employee claim and the second covers against third party claims.

Whilst employers' liability insurance is a legal obligation, and carries a fine for non-compliance, public liability is optional – but equally as vital. Claims in either case can be an extremely costly venture, no matter the out-

chinery and plant insurance scaled back, driven by the hardening market and a reluctance from insurers to continue to underwrite poorly performing categories of business.

Nursery cover is also severely restricted, partly due to limited uptake, making it an undesirable offering for insurers.

come, so ensuring that sufficient cover is in place can be business-critical.

Though bona-fide contractors are responsible for acquiring their own public liability cover, and employers' liability insurance if they employ staff, it is important that the company verifies that the relevant cover is in place as a prerequisite to hiring. This evidence protects your business against being held liable in the future, should a claim be made against the subcontractor.

Credit: Laurence Crossman-Emms for Tilhill ©2013

Machinery inspectors - don't delay

With many areas of life put on hold due to the coronavirus pandemic, the line between what is essential and non-essential can become blurry. One thing that is not ambiguous is the need for forestry machinery's health and safety certifications to be up-to-date and valid.

Although certain emergency extensions were granted during the pandemic, the law governing 'Lifting Operations and Lifting Equipment Regulations' (LOLER) and 'Provision and Use of Work Equipment Regulations' (PUWER), along with the requirement for regular engineering inspections, remains in place.

PUWER applies to all machinery, whilst LOLER only applies to lifting equipment, including 360 excavators, foreloaders, fork-lift trucks, telescopic handlers, hoists, timber forwarders, lifting attachments and climbing equipment such as ropes, karabiners and body harnesses.

The pandemic presented a challenge for completing thorough examination and testing on time, with a backlog of inspections and lack of on-site staff among the reasons.

HSE has said that dutyholders must be able to demonstrate that they have made all reasonable attempts to have the thorough examination and testing (TE&T) carried out within the legal timescales.

TE&T is critical to ensure the safe operation of equipment, as failure of machinery through deterioration can create dangerous situations, physical harm and business disruption.

Throughout Covid-19 the HSE has not relaxed the rules on statutory inspections and therefore any equipment that is out of certification should be stood down. Should an incident occur and HSE investigate, the dutyholder could be prosecuted or fined, if found to be at fault or negligent.

The pandemic should not be a barrier to engineers visiting sites and carrying out examinations. To be reassured, dutyholders should ask what enhanced protective measures are being taken, including the use of suitable personal protective equipment (PPE), robust cleaning procedures and social distancing.

Financing quality machinery

Michael Harbison of Jas P Wilson looks at fincancing options for machinery

Many businesses are preparing their budgets for 2021 and, considering the current economic and geopolitical circumstances, having to invest in a necessary upgrade or replacement for an essential piece of machinery might be a cause of worry for many. But financing options can somehow ease the burden.

Quality products are not often seen as an entry-level option due to budget constraints, however, Jas P Wilson has explored options to make ownership of these quality machines as straight forward and affordable as possible. Ultimately, even those starting out within the industry can often attain a quality machine which will see them through as their business grows and develops.

Part-exchange

As a one stop forestry shop, Jas P Wilson benefits from a varied customer base and can therefore handle a wide variety of Part-Exchange machinery. Clients can trade-in a very diverse range of equipment, from plant machinery, farm equipment, excavators, delivery vehicles, ATVs, woodchippers etc. This is a very easy yet important first step to accessing vital new machinery to drive the business forward. Most business owners have several aging assets, or through diversification or changes in contracts, newer machinery which has become surplus to requirements. Part-exchanges are a very simply way to release equity and realise current business objectives whilst reducing the capital requirement for the new machinery. As national suppliers of new & used products, Wilson's are in a position to uplift trade-in equipment and drop off new machinery in the same visit.

Asset Finance

Another string in their bow and even more powerful if combined with the first step of a part-exchange is Asset Finance, an option growing in popularity even for those who could purchase machinery outright. Finance on machinery has become increasingly popular as business owners are often taking advantage of currently low interest rates currently and are taking hold of their capital to maintain buying power for raw materials such as timber, or to provide a safety buffer to bolster their cashflow should the need arise. Finance is available on most machinery on offer, even covering most of Wilson's used machinery range.

For Asset Finance, Wilson's work with trusted Asset Finance Brokers who understand and specialise in our sector. They know the machinery, industry and understand the associated risks fully, so their offers are often highly competitive and can easily be tailored to suit the cashflow of businesses. They understand work can be seasonal and can talk through payment options including paying a little more over busy months and reducing outgoings in quieter times to really generate a bespoke solution. The team at Wilson's do not directly offer finance packages, if customers wish to follow this route, Wilson's will put them in touch with an approved Asset Finance Broker who will be independently authorised and regulated by the Financial Conduct Authority.

There is never really a set standard

when it comes to a customer's requirements when financing the purchase of a piece of equipment. Our highly regarded brokers work with a real variety of different upfront deposit levels and clients can use their part exchanges as or towards deposits. Customers often have a different length of time trading, and completely different ideas of how they see their business developing and growing over the coming years. Machinery financed can be new or used and can be financed in a variety of different ways such as Hire Purchase and Lease. All of this is looked at and culminates in an agreement that is personalised to the customer's needs. A short overview of some of the options can be seen below.

ASSET FINANCE OPTIONS

Hire Purchase

Customers put down an initial deposit and then make monthly repayments – with interest – over a decided period. After all the monthly instalments have been paid, they then become the legal owner of the asset. The amount of money put down in the initial deposit and the desired term will dictate the monthly instalments – the more deposit put down, the lower the monthly payments are and vice-versa. It enables the purchase of newer and better equipment. Advanced modern machinery can be expensive and so it is not always possible to get the latest equipment from a full upfront payment alone. A hire purchase agreement makes these assets more attainable to buyers since the costs are spread. There are many options within a hire purchase agreement that can be tailored to individual needs.

Leasing

This can be of benefit to those with a lower deposit available or to non-VAT registered businesses amongst others. Fixed rental payments over an agreed period that covers the cost of the asset. This option usually requires a set number of rentals in advance. Options after the finished period include to continue with the lease on a secondary rental basis (a pre agreed instalment per year), return the asset or purchase the asset via an independent third party. The payments are subject to VAT which can change. This is a common way of spreading the cost of any VAT. A finance lease is very similar to a hire purchase, but as the lender claims the depreciation, meaning they're different on the balance sheet.

Jas P Wilson Forest Machines supply a wide range of new and used Forestry & Firewood machinery, including firewood processors, timber trailers, mulchers, and tree shears.
www.jaspwilson.co.uk

Combatting money laundering risks in the forestry sector

Tony Convery and **Paul Marshall** solicitors at Brodies LLP

Money laundering and terrorist financing may not be the most common points for discussion in these pages. However, the *Money Laundering, Terrorist Financing and Transfer of Funds (Information on the Payer) Regulations 2017* ("the Regulations") are applicable to certain types of work in the forestry sector. The risks associated with failure to comply with the Regulations are significant, both in relation to possible legal exposure and reputational damage. It is important therefore to understand whether your area of work is affected by the Regulations and, if so, what you need to do to comply with them.

At Brodies, we have the expertise to deliver specialist support for businesses across the forestry sector in relation to their money laundering compliance efforts. If we can be of assistance, please contact Paul Marshall or Graeme Leith or your usual Brodies contact.

www.brodies.com

NAVIGATING THE REGULATIONS

What areas do the Regulations apply to?

The Regulations list the activities which will bring an individual or business within their scope. Not all of those operating within in forestry will fall under the Regulations. In our experience, those operating in the forestry sector most commonly find themselves falling under the Regulations in their work as estate agents or property finders – that is to say, when acting either for the buyer or seller in forest or land acquisitions.

What is the purpose of the Regulations?

In general terms, money laundering occurs when money which has been acquired from criminal activity is processed so as to make it appear to have been lawfully acquired. In order to combat this problem, successive governments (indeed, governments across the world) have imposed and expanded obligations on certain business sectors to better understand the customers they deal with and the source of those customers' funds, and to report suspicions of money laundering when these arise.

Complying with the Regulations

All businesses which carry out any estate agency or property finder services, even only on an occasional basis, need to take steps to comply with the Regulations. The key aspects are:

- **Registering with HMRC for approval to operate as part of its anti-money laundering supervision scheme** – This can be done online and involves the provision of certain information in relation to the business and those working within it.
- **Carrying out an entity-level risk assessment** – The risk of the business being used for money laundering needs to be assessed and appropriate controls put in place to manage and reduce that risk.
- **Adopting a money laundering policy** – Informed by the entity-level risk assessment, this policy needs to detail the business's approach, controls and procedures to prevent money laundering.
- ***Taking appropriate staffing measures*** – This involves appointing a 'nominated officer' to be aware of any suspicious activity in the business that might be linked to money laundering and, if necessary, to report it, as well as training other staff on preventing money laundering.
- **Carrying out customer due diligence** – This involves taking steps to verify the identities (and, in certain circumstances, beneficial owners) of both buyer and seller in each forest or land transaction and assessing the risk of money laundering associated with them. The level of due diligence required will depend on the level of risk identified.

Enforcement

HMRC enforces compliance with the Regulations and carries out checks in respect of registered businesses. Where it identifies failures to comply with the Regulations, it can take various measures, ranging from warning letters to significant financial penalties and, in serious cases, referral for criminal prosecution.

Antisocial behaviour in our forests

John Proudlock and **Leila Eadie**, Fountains Forestry

The great outdoors—and in particular forests—are the current popular health revolution, with people being encouraged to get out and about. In Scotland, the 2003 Land Reform Act protects a public 'right to roam' and we have seen increased use of Scotland's forest resource by a multitude of users.

However, there seems to be a belief by certain irresponsible individuals that the Act supports the freedom to undertake any activity within our forests, regardless of the consequences.

COMMON ANTISOCIAL BEHAVIOURS

Fly tipping and fires

These are a common issue, and are not only unsightly but also present a health hazard. The UK Forestry Standard notes that "once vandalism, fly-tipping or littering have occurred, recurrence is much more likely. Prompt action to deal with it is therefore considered the best management response."

If offenders are unknown, it is the landowner's responsibility to remove the rubbish, although the local authority should be informed and may be able to help.

This problem is often compounded when fly tippers decide to burn the abandoned refuse. With increasingly dry periods through the year, the risk of fire damage to forests is already heightened and burning of rubbish is extremely dangerous.

Illegal vehicle access

Illegal access has increased, with both 4x4 and motorbike trespass being common. In our experience, 4x4 off-roaders break gates to access properties and cause significant damage to roads and infrastructure as they test their driving skills. It is not unusual to discover your newly planted restock site has been converted to a racetrack over the weekend. This has been particularly noticeable during lockdown and gatherings of up to 50 riders in forests occurred when governments were advising people to stay at home and avoid contact with others!

A quick internet search produces various websites that suggest specific forests as good places for 4x4 and motorbike driving, despite this activity being illegal. Large remote forests with extensive ride networks and open ground along boggy riparian areas seem to be particularly attractive to these adrenaline-seekers.

The resulting ground damage can be so extensive that access for forest operations becomes impossible. In addition, the potential for diffuse pollution is considerably heightened due to the large areas of rutted mud created. These can quickly deteriorate with rainfall washing away the disturbed ground in an uncontrolled manner into local watercourses. Forest managers then must quickly apply remedial measures and face SEPA.

Uncontrolled dogs

This is a controversial subject. With the public being encouraged to use forests for recreational activities such as dog walking, many people think they can ignore safety warning signs and continue to use their favourite routes, allowing their animals to charge freely through active operations that can potentially endanger both animal and owner.

Top: Debris left by fly tippers on the edge of a forest and, below, the burnt out remains of a pile of tyres

Confrontations with dog-walkers are not unusual when we are undertaking harvesting and restocking operations with large plant machinery. Similarly, maintenance operations such as weevil control can lead to conflict with members of the public, and stalking operations to control deer and protect crops are often disturbed by dogs and their owners. Good communication skills are required when explaining the reasons for warning signage and the dangers of ignoring it.

Vandalism and theft

This is an issue when heavy plant operations such as road construction, harvesting or ground preparation are underway. In the past year we have suffered vandalism and theft of diesel, vehicles, machine parts, gates, and caravan contents. As well as the financial and time impacts of these crimes, there is also the potential for major environmental incidents such as large-scale diesel spillage and fires.

WHAT CAN WE DO?

All this can be dispiriting to the forest manager who may feel they can only suffer the situation. This is not the case: help is available, and with a little effort we can better control these problems.

Security

An obvious but effective starting point is the use of security gates and barriers at forest entrances to restrict vehicular access, plus their regular inspection and maintenance.

Clear signage is necessary to educate and warn the public in advance of and during operations, including advising that dogs be kept on leads. These can also be displayed alongside 'stalking in progress' signs. Another useful warning/deterrent is 'CCTV in operation' signs.

The use of concealed cameras to record traffic entering and leaving the forest allows vehicles to be checked against a list of authorised users. If suspicious vehicles are spotted, this information can be shared with the police and industry colleagues. Forewarned is forearmed!

If further measures are needed, site security tools such as Perimeter Intrusion Detection (PID) systems are available. We have found these effective, cutting crime rates on site, and they are definitely not liked by criminals.

Contacting police and councils

Further support can be gained by notifying the police and local councils. It is good practice to document and report all crimes to the police. While this can be time consuming and may feel futile, it is creating an evidence profile, and gaining contact with senior officers can help achieve real results. ASBOs (Anti-Social Behaviour Orders) provide the police with powers of seizure for vehicles and equipment for repeat offenders and is a potent weapon in discouraging antisocial activities.

As an industry we have a wealth of information on people and vehicle activity in our rural areas which, if shared, can assist police intelligence units to build up a picture of local activity. The individuals behind crime and antisocial behaviour in our forests are often of interest to the police in other fields of investigation.

In addition, council environmental health departments can take action against fly tippers if they are caught in the act or if addressed documentation is found in the rubbish. There are reporting websites such as "Dumb Dumpers" (**www.zerowastescotland.org.uk/Dumb-Dumpers**) that can help with notifying the right organisations.

Deep ruts left in a forest track by 4x4s

CONCLUSION

Scottish forest owners have a responsibility to share their forests with the public exercising their access rights. Visitors are asked to respect the interests of others, care for the environment and take responsibility for their actions; we must keep them informed and safe, and watch out for behaviour that doesn't meet these ideals.

When antisocial behaviour occurs, we must take action: be vigilant; document problems with photos and activity diaries; share information and report crime to the authorities. With their support we can curb the ongoing outbreak of antisocial behaviour and damage to our forests, and we will achieve the greatest success when everyone collaborates to combat the problem.

The legal information in this article applies to Scotland: access rights are different in England and Wales. For further information see the Natural England (**www.gov.uk/government/organisations/natural-england**) and Natural Resources for Wales (**naturalresourceswales.gov.uk**)

OPINION

A time for virtual discovery

Jez Ralph, Timber Technologies takes this autumn's key virtual events as an opportunity to reflect not only on innovation in the timber sector, but on some of this year's key concepts such as Bioeconomy, Green Recovery, and a renewed interest in Natural Capital.

If there has been one advantage coming out of our Covid focussed world it is the prevalence of on-line workshops that would otherwise have been out of reach. The cost and time of attending multiple conferences or workshops is often out-of-reach for small businesses. Being able to dip in and out of events from sunny Devon has allowed us to hear more than we ever otherwise could. The only thing we miss is the critical aspect of networking that is the life-giving access to new clients and is a major blow.

In September the World Bioeconomy Forum, Timber 2020 and the Rural Policy Group ran simultaneously, providing two days of insight into current and future technologies and systems likely to affect the timber sector.

The messages coming out of the Bioeconomy Forum were of global shifts in consumer and manufacturing attitudes. Younger generations of consumers are focused on products that protect nature and society as well as fit an image of the digital revolution they are part of. Within manufacturing the need for collaboration was highlighted as the only way to advance technologies in the sector. We become so focussed on Intellectual Property in technology development that it is similar to a bike race where competitors often sacrifice their own chances of winning so an opponent doesn't win. If we can find a way through collaboration to increase our slice of the market, whether that be in construction products; bio-refining or non-timber products, the IP can then be shared out once a market share has been secured with the new generation of environmentally focussed users and the IP is actually worth something.

This fits well with the subject of the Rural Focus Group asking whether the current model of Corporate Social Responsibility is dead. The idea of a few cosy projects that provide social-media click-bait for businesses has run its course and consumers are starting to demand a new, real CSR that has real purpose and belief from the boardroom down. With consumers demanding this and product classes more socially & environmentally focussed our sector is in an ideal position. One of the most exciting things about our sector is that there is a purpose and real belief. That being said, it was clear from the speakers that return-on-investment and cash still have to be kings to a viable business. To us this is where R&D, product development and technological advancement in timber can bridge between corporate social responsibility and ROI; offering a green, responsible, price competitiative product packaged in real and tangible belief in our responsibility the land that provides our raw material.

Where is timber innovation heading?

Timber 2020 and the Bioeconomy Forum showcased where timber innovation is going and it would be easy to write multiple articles delving into our inner geek for all things innovative in timber. Biorefining, extractives and harnessing the micro-properties of timber are focus of substantial research inside both academia and the commercial sector. With UPM opening a bio-refinery plant in Germany the sector is finally coming to life in Europe. The question for us is how we can head off large-scale centralised infrastructure to create smaller, efficient distributed manufacturing that allows us to make use of localised resources for high-value products. Modification processes also came up multiple times with a drive to create stability and durability in timber to fit modern construction ambitions and again, the issues in our mind is of how we can harness this research into UK timber.

The global market for timber, highlighted in the last edition of FTN, showed some stark graphs of major spikes in timber markets. At the same time calls from a number of worried clients asked if the current difficulty of accessing sawn timber was a short-term covid response or the start of a long-term systemic global change in market conditions.

If the latter scenario plays out then we need to reassess how we use technology to make better use of the timber available, increase value-chains and create more efficient distribution chains. McKinsey Consulting has recently released a number of studies concentrating on supply/value-chain optimisation in the agricultural sector, all relevant to forestry and all worth looking up. The one stark message that came out of these recent on-line events is that innovating in systems, integration, collaboration and business attitudes are vital if we are to harness the potential innovations in material and product technologies.

Black Meldon afforestation: Making the shoe fit!

Byron Braithwaite Tilhill

Landowners in modern times face increasing challenges. They need to make their asset pay the bills, but more than ever they also need to take into account public perceptions and sentiment and consider how their actions will affect future generations.

Forward-thinking owners, such as Wemyss and March Estates, demonstrate how this can be done by understanding how farm units and grazing land can be enhanced by the addition of new woodlands. Black Meldon, an afforestation project in the Meldon Hills, is a good example of this concept in action. The land in question was an area of relatively poor grazing, located at the far boundary of the farm, delivering little benefit to the business. It also sat directly adjacent to a large of complex of productive forestry.

Working closely with Martin Andrews, the factor for the estate, Byron Braithwaite, Area Manager at Tilhill, assessed the site and designed a woodland that fitted with the client's objectives, was sensitive to the local landform and protected the socially and environmentally important features.

Whilst the main driver for the woodland design was to create a productive woodland, the estate wanted to make sure the legacy being created enhanced the surrounding countryside for generations to come, helped support the drive for sustainability and the climate change battle we all face.

At the heart of the area in question was Black Meldon Hill, standing some 407m, proudly overlooking Peebleshire, not only an important local landmark but well used by the public to gain stunning panoramic views of the Tweed Valley. The hill has historical significance, as atop there is a Scheduled Ancient Monument in the form of a Prehistoric domestic and defensive fort, with views to and from other surrounding hilltop forts which had to be preserved to maintain a sense of place.

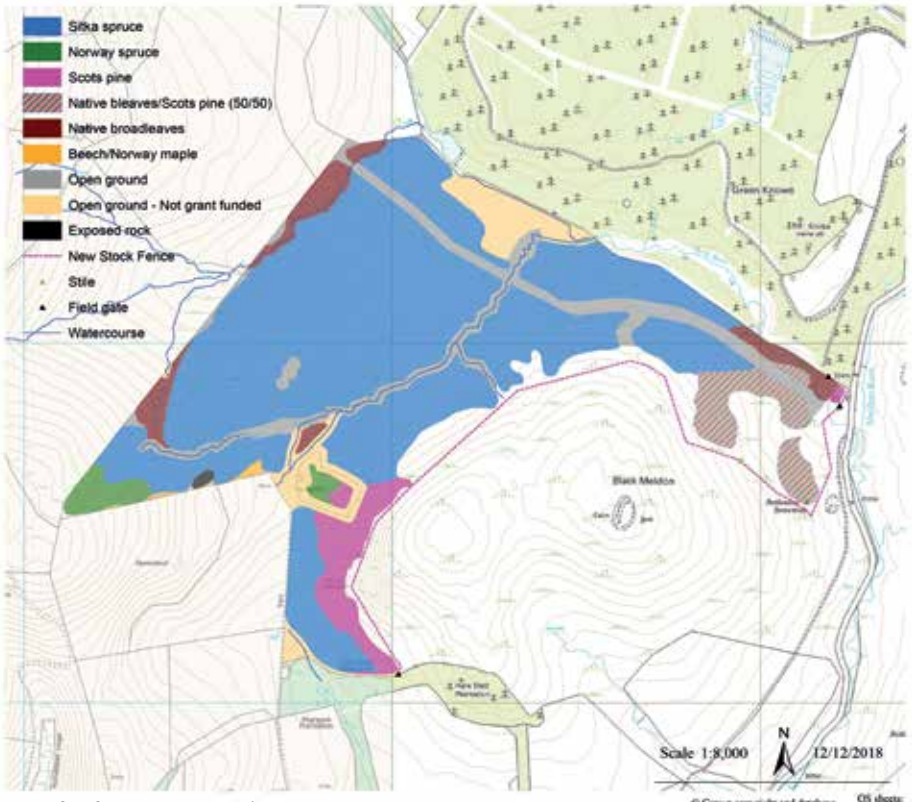
Permission was granted from Scottish Forestry in early 2019, and funding secured under the Forestry Grant Scheme, ground preparation and planting was carried out spring 2019. Ground preparation was a combination of continuous mounding and shallow forestry ploughing, with the appropriate method being targeted based on soil type and moisture levels. The main productive species to be planted was Sitka spruce, with some of the more fertile soils being planted with full sibling Sitka spruce, to maximise the productivity of the crops.

Scots pine and Norway spruce were planted where the site conditions were favourable, in areas of prominence, to create a strong landscape fit. They will enhance the habitat value for black grouse and red squirrels both of which are immensely important species locally and nationally. Native broadleaves were focused to enhance the riparian zones within the woodland, improving the water quality of these tributaries to the mighty Tweed, which is a SSSI, SAC and a major asset to the local economy.

To the east of the woodland, where it meets the public road, a mixture of Scots pine and native broadleaves were planted around the foot of Black Meldon. This will help protect the amenity value of the site, a popular picnic and camping area, and enhance the experience of those who scale Black Meldon itself. These strategically placed native species also add to the sense of place for historic features on this side of the hill. Some tactically placed groups of beech and birch, as well as aspen, in mixture with Sitka spruce, provide visual diversity and striking autumnal colours on the prominent edges visible from the distant John Buchan Way.

Tilhill facilitated the registration of the project with the Woodland Carbon Code, which allowed the estate to secure additional carbon funding. This made the project viable and allowed the creation of 100ha of new, multi-purpose woodland. A small drop in the ocean as part of the national or global target, but a great local asset and a step in the right direction.

BLACK MELDON



Total 'scheme' area: 101.5ha
Planted in: Spring 2019
Composition:
Sitka spruce – 73ha
Scots pine - 5.5ha
Norway spruce – 2.5ha
Scots Pine/Native Broadleaves – 5ha
Native broadleaves – 5.5ha
Designed open ground – 10ha

Releasing income from woodland carbon

In this five-part series of articles for FTN **Matt Hay** explains the basic concepts of woodland carbon and carbon markets.

The Woodland Carbon Code exists to make financially unattractive woodland creation projects attractive. In doing this, it enables trees to be planted that otherwise wouldn't be, and additional carbon sinks to be created in the UK. But how does woodland carbon improve a project's economic prospects in practise? And how can the carbon income actually be released?

The answer is via two routes: the upfront sale of future carbon, or the future sale of sequestered carbon. Both options have advantages and drawbacks, which lend themselves to different types of woodland creation projects.

www.forestcarbon.co.uk

Upfront sale of future carbon (PIUs)

The upfront sale of future carbon revolves around a carbon product known as a 'Pending Issuance Unit' (PIU). PIUs can be thought of as the promise of future carbon sequestration. The number of PIUs a woodland creation project has at its inception is identical to the number of tonnes of carbon dioxide (CO_2) that project will sequester over an agreed contract duration. In other words, 1 PIU = 1 future tonne of CO_2.

Verifications

Over time, Woodland Carbon Code projects undergo successive verifications. The first of these happens five years after the trees were planted, with further verifications every ten years, subsequently. The purpose of these verifications is to confirm that a woodland creation project is 'on track', ie that it is delivering the amount of carbon that was agreed at the outset. This involves counting the growing trees, making sure the right number and right species are there, and that they aren't being damaged by herbivores, disease or extreme weather.

Sale of carbon that has been sequestered already

After each verification, a certain amount of CO_2 can be confirmed as sequestered in the growing trees. It is there, visible as solid carbon in the wood of their trunks. At this point, the tonnage that has been sequestered is represented through the conversion of an equivalent quantity of PIUs into 'Woodland Carbon Units' (WCUs).

Example case study

If a woodland creation project is going to sequester 10,000 tonnes of CO_2 over its contract duration, that gives the project 10,000 PIUs to sell at the outset. After five years, and assuming a successful verification, the project's saplings may have sequestered 50 of those 10,000 tonnes. As a consequence, 50 PIUs will be converted to WCUs at this point, in recognition of the 50 tonnes of CO_2 that are now locked up in the trees.

Ten years later this woodland will be due its second verification, at which point the trees could have sequestered another 1500 tonnes of CO_2. This would enable another 1500 PIUs to be converted to WCUs, giving the project a total of 1550 WCUs after 15 years.

Cash flow timeline

The above example illustrates two important points:

1. The rate of carbon sequestration in a growing woodland changes throughout its lifetime.

Slow growth initially, combined with the soil disturbance that occurs during ground preparation, means woodland creation projects are often barely breaking even carbon-wise at year 5. After 15 or 20 years, however, the trees have laid down extensive root networks and are growing quickly, with the sequestration rate increasing correspondingly.

2. Releasing income from the sale of WCUs takes a very long time but prices achieved are higher.

Whereas PIUs can be sold upfront, most projects won't have many WCUs to sell until 15 or even 25 years down the line. For many landowners, that is simply too long to wait.

For landowners who can afford to wait, selling WCUs can be lucrative. The most recent 'Woodland Carbon Guarantee' auction saw WCUs achieving an average price of £19.71, which compares favourably to the sale price of £5 - £8 currently achieved by most PIUs. However, we must account for the fact that we're comparing a future price for WCUs with the current price of PIUs. Applying an appropriate discount rate brings the future price of WCUs back to their present value, allowing for a fairer comparison with PIUs.

What drives prices for PIUs and WCUs?

In the UK, the market is largely voluntary, because most businesses are not required to offset their carbon emissions (yet). As a result, it is buyers of carbon who ultimately dictate the market price. Businesses will only pay what they want to for carbon credits, because they aren't mandated to buy any, and cheaper offsets can always be procured overseas.

As a result, what we at Forest Carbon term the 'charisma' of a woodland creation project is often critical to the price its carbon can achieve. Most businesses want to buy carbon from woodlands with a strong narrative, woodlands that offer clear benefits to society, be they social, hydrological or ecological. Rightly or wrongly, this means that carbon from woodlands comprised (primarily) of native species, which enhance biodiversity, mitigate flooding and/or have amenity value for local communities, commands the highest price.

Even the latest round of the 'Woodland Carbon Guarantee', where the government (in England) acts as a buyer of carbon, has ring-fenced 75% of the available budget for 'predominantly native woodland' projects. At the time this article went the print, the results of that auction were not yet available. They will be the focus of my next article, in the February edition of Forestry and Timber News, along with the 'Woodland Carbon Guarantee' itself.

The importance of pricing transparency in the woodland carbon market

David McCulloch,
CarbonStore UK

The popularity for planting trees to counterbalance our carbon emissions is gathering momentum in the UK. The Woodland Carbon Code is the regulatory authority governing all carbon-related woodland creation schemes and its recently released statistics clearly illustrate this growing impetus.

A growing woodland carbon market

Back in 2012, just 1488 hectares of newly planted woodlands were validated (ie certified) under the Woodland Carbon Code. Since then, the area of validated woodland has multiplied six-fold so that, in 2019, the Code's auditors validated 151 schemes, covering 9372ha which are expected to sequester 3.48m tons of CO_2 equivalents (tCO_2e) as they grow and mature.

It seems likely that further growth lies ahead as well. From 2025, the UK government is committed to planting 30,000ha every year until 2050. If 60% of these newly created woodlands satisfy the Woodland Carbon Code's eligibility tests, the annual hectarage of validated woodland could double again to roughly 18,000ha, enough to sequester roughly seven million tCO_2e.

With prices for the corresponding carbon offset units, known as Pending Issuance Units (PIUs), ranging (at the low end) between £12 and £14 per ton, the value of transactions agreed each year in the woodland carbon market could rise to between £80m and £100m.

As the link between carbon-emitting companies and carbon-sequestering landowners, both the Woodland Carbon Code and the market for woodland-generated carbon units will play a significant role in achieving our ambitious tree planting targets. For landowners, it provides a valuable incentive to redeploy pasture or moorland as woodland. For companies, it provides a quantifiable and credible means of offsetting their carbon emissions.

The need for transparent pricing

We believe it is essential therefore that the two main parties in the woodland carbon market, landowners and companies, understand the true value of the services which they are exchanging. We need transparent pricing of woodland-generated carbon units.

A clear and open pricing mechanism allows landowners to evaluate accurately the costs and benefits of carbon-focused woodland creation. It also enables companies to compare realistically the merits of UK-based woodland offsetting schemes relative to alternative projects overseas.

Under the woodland carbon market's existing framework, these decisions risk being distorted. Landowners are receiving less for their woodland-generated carbon units than companies are clearly willing to pay. This is due to the role played by 'middlemen' in the market's existing modus operandi.

When a company buys woodland-generated carbon units from a landowner, the exchange currently involves two separate transactions. Firstly, the intermediary purchases the units from the landowner of a recently planted wood. Depending on the nature of the agreement, the middleman might help the landowner register and validate his woodland under the Woodland Carbon Code.

> A clear and open pricing mechanism allows landowners to evaluate accurately the costs and benefits of carbon-focused woodland creation

This validation generates the legally recognised and saleable Pending Issuance Units which we mentioned earlier. The intermediary then sells these PIUs on to the company, charging a mark up between the price paid to the landowner and that paid by the company.

It is this mark up which risks undermining the decision-making process by landowners and companies. Some uplift is essential. Such middlemen provide an important service both to landowners and companies. Moreover, delivering this service inevitably incurs certain costs.

However, very often, only the middleman knows the scale of the mark up. In many cases, neither party to the transaction understands how much the other received or paid for the units. In a market where demand for woodland-generated carbon units is strong and only a limited number of companies provide such intermediaries services, described above, there is a possibility the mark-up might be material.

Fortunately, a more transparent and straight-forward alternative is possible for landowners wanting to sell their woodland-generated carbon units. Several companies now offer a platform for landowners to advertise their woodland carbon via their websites.

The process simply involves sellers advertising their woodland-generated carbon units and outlining the broad details of their scheme, such as the size, location and species mix. Buyers can then browse through these options to find the one which best matches their needs. A standardised legal contract then codifies the price and terms of the ensuing agreement.

Carbon Store believes that such an approach, by introducing more clarity and transparency to the pricing for woodland-generated carbon units, allows both companies and landowners to make better-informed decisions as to whether to woodland-related carbon offsetting. For both companies and landowners, it is important to research thoroughly all the available options when either selling or buying woodland-generated carbon units.

www.carbonstoreuk.com

Hylobius attack: other ways of protection

Dr Ian H. Willoughby FICFor and **Dr Roger Moore** of Forest Research describe some of the results of a collaborative pan-industry research programme looking into alternative ways of protecting trees from browsing by the large pine weevil

The large pine weevil, *Hylobius abietis*, is arguably the most serious pest of young trees on restock sites in the UK and Ireland. Adult insects emerge from the stumps of trees that were felled 9 - 18 months previously, and then feed voraciously on the stems of any young seedlings they find. Trees of all species are browsed, be they hardwood or conifer, and the insects don't distinguish between seedlings that have been planted or have arisen from natural regeneration. Typically, if nothing is done, around 50% of newly planted seedlings on affected restock sites will be dead within two years. On the sites with the highest populations of Hylobius, it is not unusual for all young trees to be completely wiped out. It's been estimated that the impacts from this insect cost the UK forest industry between £7,000,000 and £40,000,000 a year.

The scale of the problem won't be a surprise to anyone who's tried to establish trees on restock sites lately. For many years, foresters have protected trees by spraying them with synthetic pyrethroid insecticides such as permethrin, and in more recent times alpha-cypermethrin and cypermethrin. This can be very effective, but the problem is that these chemicals are highly toxic to aquatic life if they get into watercourses as a result of spray drift, run off, or poor mixing and filling practice, and therefore voluntary certification schemes such as that run by the Forest Stewardship Council now discourage their use.

Because of concerns over pesticides, and their impact if misused, in the UK it is recommended that an integrated approach to the management of Hylobius is adopted (Willoughby et al., 2017). This involves predicting the likely insect population level for a particular site, for example through using a tool such as the Hylobius Management Support system (**www.forestresearch.gov.uk/tools-and-resources/tree-health-and-protection-services/hylobius-management-support-system**), and then using the combination of methods that will best protect trees whilst having the least risk of negative environmental impacts, with a preference for non-chemical approaches so long as they are not prohibitively expensive.

An adult large pine weevil mid-feast. This young tree is unlikely to survive.

Non-chemical approaches that are sometimes practical to adopt in the UK and Ireland include the use of continuous cover forestry rather than clear felling, biological control of insect larva through inundating stumps with nematodes, physical protection, leaving sites fallow for 3-5 years after tree felling, using larger, well balanced planting stock, cultivation, and practising good weed control. However, there is no one size fits all approach and in many instances there are, unfortunately, currently still no viable non-chemical alternatives to the use of insecticides.

Our research – some possible solutions?

For this reason, a large programme of collaborative research involving a range of organisations across the private and public sectors took place during 2009 – 2015. Some of this research was described by Imam Sayyed in the October issue of Forestry and Timber News (Hardy et al., 2020; Sayyed et al., 2020). Forest Research have recently published a paper in the scientific journal Forestry giving the results of a further 16 of those experiments, which examined over 50 different potential solutions to the problem of protecting trees from Hylobius damage (Willoughby et al., 2020).

We found that, of the alternative synthetic insecticides tested, acetamiprid, which is less toxic to aquatic life than alpha-cypermethrin or cypermethrin and has not been linked to bee decline, provided very good levels of protection, even on the sites with the highest populations of Hylobius. It is perhaps unsurprising then that since the research was completed, acetamiprid has increasingly been phased in across the forest industry in the UK and Ireland in place of synthetic pyrethroid in-

Physical barrier sleeves like this MultiPro guard may sometimes be a viable option for protecting trees, but only where on-site populations of Hylobius are predicted to be low.

secticides. Chlorantraniliprole also showed great promise in our research, and this relatively low toxicity non-neonicotinoid insecticide merits further study.

Bioinsecticides contain naturally occurring micro-organisms, and hence normally have a relatively low toxicity. In contrast, natural product insecticides are chemicals that are derived from natural organisms such as plants, or as by-products of micro-organisms, rather than being produced synthetically. Some people consider natural product insecticides to be preferable to synthetically produced ones, although they are not necessarily inherently any less toxic. Whilst the natural product insecticide spinosad, and the entomopathogenic fungal bioinsecticide Metarhizium anisopliae, gave only limited protection in our work, we believe they may both have some future potential if methods of applying them can be improved.

Other chemical and non-chemical approaches that we tested, but unfortunately found to be largely ineffective, included the natural product insecticides azadirachtin (derived from neem trees), maltodextrin, and pyrethrins; the synthetic insecticides lambda-cyhalothrin and spirotetramat; repellents such as blood meal, sheep fat, and the essential plant oils eucalyptus, geraniol, limonene, garlic, or capsicum; flexible stem coatings using wax or polysaccharide films; and a range of physical barrier products. In the UK and Ireland we often suffer from much higher populations of Hylobius on our restock sites than in mainland Europe, which may go some way to explaining why non-chemical methods developed in Scandinavia such as flexible stem coatings and physical barriers do not always work over here.

However, based on our research we do believe that physical barrier sleeves such as MultiPro® guards may have a limited role as a partial substitute for the use of insecticides in the UK in some circumstances, but only if on-site populations of Hylobius are predicted to be low. Even then, we recommend that guards should be properly fitted and only be considered for sheltered, cultivated, and weeded sites, with soil textures that are not stony or very friable, and only in combination with well-balanced planting stock with few side branches, which may limit their use in practice to vegetatively propagated material.

FURTHER INFORMATION

Full details of the research, including links to a free copy of the scientific paper (Willoughby et al., 2020) are available:-
www.forestresearch.gov.uk/research/are-there-viable-chemical-and-non-chemical-alternatives-use-conventional-insecticides-protection-young-trees-damage-large-pine-weevil-hylobius-abietis-l-uk-forestry/

For comprehensive guidance on the integrated pest management of Hylobius, please refer to the Forest Research guide (Willoughby et al., 2017) freely available:-
www.forestresearch.gov.uk/research/integrated-forest-management-of-hylobius-abietis/

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Nice and simple does it!

Eamonn Wall test drives the Isuzu Pickup Tipper

Isuzu is an old Japanese firm established in 1916 and first imported its popular Trooper SUV into the UK in 1987. The 3.2L version was very popular but was never replaced when Isuzu decided to focus on pickup trucks. Their current D-Max pick up is a popular work horse with prices spanning from £17,414 for the 4x2 single cab up to £36,000 for a very fancy 4x4 double cab XTR. A more expensive Artic version is available. The cheapest 4x4 double cab costs £2,1314 plus VAT and makes for a good work horse. The extended cab 4x4 version is about £20k plus VAT.

All are powered by a 1.9 litre four-cylinder diesel producing 164bhp and 340NM of torque. Each model comes with 125,000 or five- year warranty with five years roadside assistance. This engine provides the vehicle with 40mpg and a towing capability of 3.5tonnes and a max payload of 1161kg. 2WD high, 4WD high and 4WD low are chosen via a rotary switch.

I test drove the extended cab version fitted with the tipper body. The extended body has wee jump seats in the rear and half-length doors that are hinged at the rear to present an easy to access rear where small folk could fit for short journeys. Two large storage boxes are located there acting also as seats.

The last time I drove a D-Max was five years ago and then I found it to be a likeable vehicle but I remember that the top gear was too tall, meaning it would not cruise along happily at 60mph, you were constantly changing between 5th and 6th gears. I can now report that this is no longer an issue though the truck will still happily and fairly quietly cruise at above 70mph. It is slow to get initial movement when cold but soon skips along. However, I have heard that those doing a lot of towing have had to chip their engines to get adequate power for the job. The engine does rely on its turbo for power. Brakes, suspension, steering and comfort are all adequate and it is certainly an easy vehicle to drive and as with most unladen pickups its ride is a bit jittery.

The tipper conversion takes place after the vehicle has been registered as an after market conversion carried out by TGS on behalf of Isuzu. It is a professionally-engineered piece of kit costing £4k plus VAT. The load bay is 1977mm long and 1800mm wide and its floor comprises 18mm thick interlocking alloy floor panels. The side walls are 300mm high. The tail board can open from top or bottom hinges and be removed altogether with the sides to give a flat bed.

An electro-hydraulic power pack activated by a wander lead housed beneath the rear seats controls the lift once a safety key has been turned on the chassis. It works very well indeed. It can hold approx 950kg, and for lightweight materials like loose firewood, extendable side walls would be needed. The tipper bed sits high and the rear panel slightly obscures rear view. It looks like a real useful hillbilly machine and I enjoyed driving it...nice and simple!

Eamonn Wall is a Chartered Forester and Arboricultural Consultant and senior director with Eamonn Wall & Co Woodland Design and Management.

Skills to pay the bills

Neil Stoddart
Creel Consulting

skill (noun) *The ability to perform an action with determined results often within a given amount of time, energy, or both.*

To perform the task of loading roundwood in the forest and safely delivering products to a mill or port, a professional timber haulage driver must have a full set of skills in their top drawer, these include:

- Reliability
- Organisation
- Navigation
- Holding and maintaining a good Class 1 licence
- Being able to operate a hydraulic crane efficiently
- Positive on road and off-road driving ability
- Time management
- Mechanical knowledge
- Interpersonal skills
- Stress management
- Managing paperwork
- Timber product identification
- Communications

Often the skill sets noted above have been developed over many years, and are perhaps born out of, or are an evolution of previous employment. This could be from a forestry machine background or perhaps a crossover from agriculture.

Across the broader haulage sector, the average age of an HGV driver in the UK is 53, with only two per cent of commercial drivers being under 25. A huge proportion of UK truckers are due to retire soon and many MPs have already warned that the shortage of drivers is a 'ticking time-bomb' under the UK's economic recovery.

In relation to figures for specialist timber haulage drivers, it is anticipated that this landscape will not differ too much, so as a sector we have a problem brewing. Primarily, we need to get a better handle on the figures for forestry, and Scottish Forestry is funding work in early 2021 on a national timber haulage survey, so that the Timber Transport Forum is commissioning work in early 2021, so that we can better understand the current UK fleet. As well as the driver statistics, this also will review both truck types and asset age to assist with future decarbonisation planning.

So, we can assume that the forestry sector is going to need more drivers and preferably from a younger demographic. Not easy to achieve, when referring to the list of skills required above! Unless you are already a driver and considering crossing over from general haulage or motorway work, we have to add the layer that accessing an HGV job and getting started can be daunting for individuals and employers alike. Training and testing to get a class 1 licence costs around £3000 and on top of that you must consider the crane competency and training. Morale is low among some drivers who complain of increased regulation and medical requirements, poor working conditions and low prestige. Renumeration has possibly lagged equivalent careers, such as tradesmen. The time, hassle and cost of mentoring new starts combined with higher insurance premiums currently dissuades companies from employing young drivers or even trying them out – would you hand over the keys to £250k of truck and trailer to someone with little or no forest experience?

Enough negativity though! Like working in Forestry 'per se', driving a timber truck has lots of benefits, starting with a reasonable degree of freedom (especially when compared to general haulage/motorway work), shorter routings and the option to get home at least on some nights. Then of course, there is the old cliché of 'welcome to my office' .... ie the stunning views and vistas.

We must all work hard to accentuate the positives and attract younger drivers, drivers from other haulage sectors and ex-military personnel. We need to start by improving wages. Forestry always used to attract labour 'because the money was good'. It would be naïve to think that this strategy will not lead to higher haulage rates, it will and should. It will be even more costly when there are not enough trucks to meet demand.

There is lots going on, trade representative bodies the RHA and Logistics UK are currently campaigning for initiatives such as the Apprenticeship Levy to become a Skills Levy, funding all relevant quality vocational training and making schemes accessible for part time and self-employed to upskill.

Scottish Forestry, FLS and NRW recently funded a series of training videos for the forthcoming Forest Haulage CPC +F course, a spin off this is production of a promotional video for Forest Haulage – this needs to be shared far and wide on social media, into schools and land based colleges.

Confor is working closely with Skills Development Scotland to look at how funding could help attract new drivers and cross over personnel from other sectors, particularly relevant post CV19 and as part of the 'green recovery'.

One idea is that by working in partnership with regional hauliers this could see the establishment of week-long 'academies', whereby groups of around five candidates at a time (HGV licence holders to begin with) can be put through an intensive taster and training week. On rotation, they could spend two days out on the job in the forest 'in the cab' with an experienced driver, a day attaining their +F CPC module and days days intensive training on off-road driving and crane techniques, in an actual timber truck, on a real site.

After a week, some may say it's simply not for them, but more importantly, some candidates will be inspired, will be a much more rounded and employable, and be ready to start developing that list of skills.

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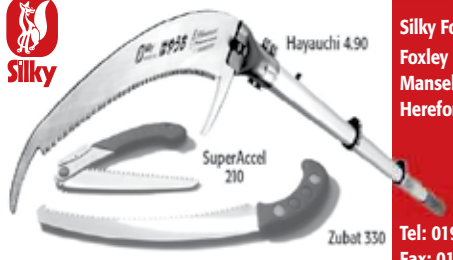

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Old tree shelters

In October's FTN Alex MacKinnon's fascinating account of Tilhill's look at alternatives to the standard plastic tree-shelter set me thinking about old tree-shelters. Small woodland owners have been hugely grateful for Graham Tuley's invention in the late 1970s, while he was working at Forest Research, of an easy way to protect and help establish small numbers of trees when fencing would have been prohibitively expensive. But it has come at a price: early designs have left un-degraded plastic littering some woods and farms and some even with 'stakes' that were totally unsuitable.

Many of the early tree-shelters had too much ultra violet inhibitor in the plastic to breakdown readily when exposed to sunshine as, for example, most fertiliser bags will. Even after 30 years I have Tubex tree-shelters in my wood as sound as the day they were bought. Now I stress these were of an early design long since discontinued. That said I have, indeed, turned to advantage this durability and re-used a few for some new planting. Interestingly, what often had perished over time were the black ratchet ties.

Modern tree-shelters are a far cry from the early ones, but I must warn of another legacy from long ago. In September, three of us were visiting a woodland planted with larch and pine in the 1980s and we were shocked. The tree-shelters used had reinforced transparent plastic for the tube and were held upright by a steel rod as the 'stake'. The system had worked and the stands very well established with few gaps.

Protruding steel rod stuck fast in the tree (left) and unsightly remains of a poor tree shelter design (right)

But what a problem now presents itself prior to any harvesting! With hindsight it is easy to see how unwise using steel rods was and easy to say that the tree-shelters and rods should have been removed as soon as the trees had got away. But they weren't. Today, about 35 years later, hundreds and hundreds of pines and larches each have a bit of plastic at the base and, far more worryingly, a steel rod protruding. We tried pulling one out. It was utterly impossible the tree having long since grown around it gripping vice-like. Every single rod will need to be cut off with wire cutters but even then a length will remain hidden in the stump. We worry about hedgerow trees with in-grown barbed wire, but that's nothing to these steel rods – just look at the photo.

Other old tree-shelters can be problematic, too, like the land drainage tubing which was used for a time from which trees eventually 'break-out' - and I am sure readers will have come across other examples. I had to highlight this scourge of the massively dangerous steel rods embedded at the base of trees hoping that we had come across a one-off, but fearing it might not be so.

If there's a take home message, it is twofold. Never neglect maintenance during the establishment phase and in silviculture the cheapest option may not be the best – think holistically not by individual operation. After all, we as foresters pride ourselves in taking the long view.

Let me finish on a happier note and wish readers a very Happy Christmas at the end of a year when more than ever I thank God for His gift of a Saviour.

FORESTRY IN PICTURES

Skills under threat?

A lesser spotted handcutter, the most endangered species in the woods. Felling ash is a highly skilled operation, owners and managers need to make choices about who fells these dangerous trees based on competence rather than price.

Will the proposed new chainsaw levels system be a help or hindrance?

Only time will tell.

Photo and Text: Toby Allen, Say it with wood

Want to see your picture here?

Forestry in Pictures is a regular feature in FTN. For every issue, we select the most impacting photograph sent by a reader. If you have a photo you would like to see published here, please send your file to **Stefanie.kaiser@confor.org**. Please include your name, brief description of yourself and the picture and a credit.

Photos should relate to forestry and timber and be of high-quality (minimum resolution 300dpi). Exceptional pictures might be considered for the front cover of a future FTN issue.

By submitting a picture to Forestry in Pictures you give Confor permission to use the file for non-commercial purposes in Forestry and Timber News or the Confor website. Photos will always be credited.

COMING UP IN FEBRUARY – GET INVOLVED

In February, we will run our annual feature on forest management and rural diversification.

Remember that FTN is your magazine – get in touch if you want to suggest editorial or give us feedback on articles we have published in the past.

Confor members, send us your company's news updates or pitches for feature articles.

Note that our general editorial deadline for February is 10 January 2021. If you would like to pitch an article idea, please do so by the end of December 2020.

Paul Vidgen
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