

How the forestry and the wood processing sector can aid a Green Recovery

As society slowly adapts to the new normal and Governments within the UK wrestle with how they balance their nation's economy with the health of its people, industries are looking to the future, many with an eye on survival and the more fortunate ones looking for opportunities for growth. If there are such opportunities out there it seems that successful sectors will be those that can contribute to a Green Recovery and achieving Net Zero by 2045. With that view Confor has been working diligently to ensure that the UK wood supply chain is at the heart of governments' Green Recovery plans; promoting our sector as being in a strong position to deliver for

a green recovery across a wide range of interconnected strategic drivers including climate change mitigation and enhancing the circular economy.

The rest of this four-page article will outline how further investment in innovation and R&D could enable our sector to contribute effectively to a green recovery in the short and longer term. We will expand on many of these subjects in future editions of FTN.

This summary provides an insight to short- and longer-term opportunities focussing on the potential for our sector to have a positive impact on climate change mitigation and enhancing the circular economy, many of which are being embedded in industry strategic documents such as Scotland's Roots for Further Growth.

HAVE YOUR SAY

New ideas will emerge and we will follow up on the topic in coming issues of FTN. We are keen to hear your thoughts on other opportunities where our sector can contribute positively to a successful Green Recovery. Get in touch with the Stefanie.Kaiser@confor.org.uk

SEE ALSO

- Carbon and climate updates, p35
- Forestry Transport – Zero Heroes - Decarbonising timber transport, p38
- Carbon planning for future generations, p41

POTENTIAL FOR INCREASED CLIMATE CHANGE MITIGATION

Greater Carbon Sequestration

Increased carbon sequestration by increasing tree cover and wood use and growing more efficient trees.

 **OPPORTUNITY**
Wider tree planting and wood use

Sustainably managed forestry and the increased use of wood in construction is now widely acknowledged by governments and many climate change bodies as key contributors to climate change mitigation, with Scotland predictably leading the way. This is evidenced in the UK by the published ambitions of the Climate Change Committee and the Scottish Government Climate Change Action plan, which includes targets for greater wood use and tree planting. In September, the Scottish Government raised its ambition further setting a target of 18,000ha/year of new woodland creation by 2025 and an increase of wood use in construction.

If UK governments' planting targets can be achieved, then it offers the opportunity to sequester more carbon and provide additional feedstock for downstream processing and manufacture into long life wood products. This in turn increases economic activity and jobs, and potentially, additional investment.

 **OPPORTUNITY**
Increased tree quality & productivity

We mustn't forget there is already nearly 3.2 million hectares of woodland cover in the UK and timeous restocking with the appropriate productive species is just as important for locking up more carbon as trees which will eventually be processed into low carbon wood products.

If we could improve the productivity and quality of the trees we grow through tree breeding, this could provide the opportunity for economic growth as well as carbon sequestration. We are already seeing evidence of increased yields from improved Sitka Spruce crops and if research projects such as the Oxford University led Sitka Spruced are successful coupled with the continued good work of Forest Research Tree breeding team, Future Trees Trust and the Conifer Breeding Co-op, this should lead to further improvements to yields and quality and potentially shorter rotation lengths.





A typical hectare of wood-producing forest in the UK results in **7.6 tonnes** of CO₂ sequestered and stored¹. This is about the same as the average annual carbon footprint of a UK home².



CASE STUDY

Future Trees Trust improving planting stock

In the absence of full genetic gain or realized gain trials data, Future Trees Trust have undertaken juvenile/mature correlations and have deduced that even modest improvements of planting stock for stem form and growth rate can result in significant increases in timber yields - up to 20%. So tree improvement can not only help store 20% more carbon, but reduce rotation times significantly too, helping to mitigate against climate change. Future Trees Trust are aiming to establish demonstration plots, with improved stock planted alongside unimproved material, to show these gains and the benefits of investing in tree improvement.

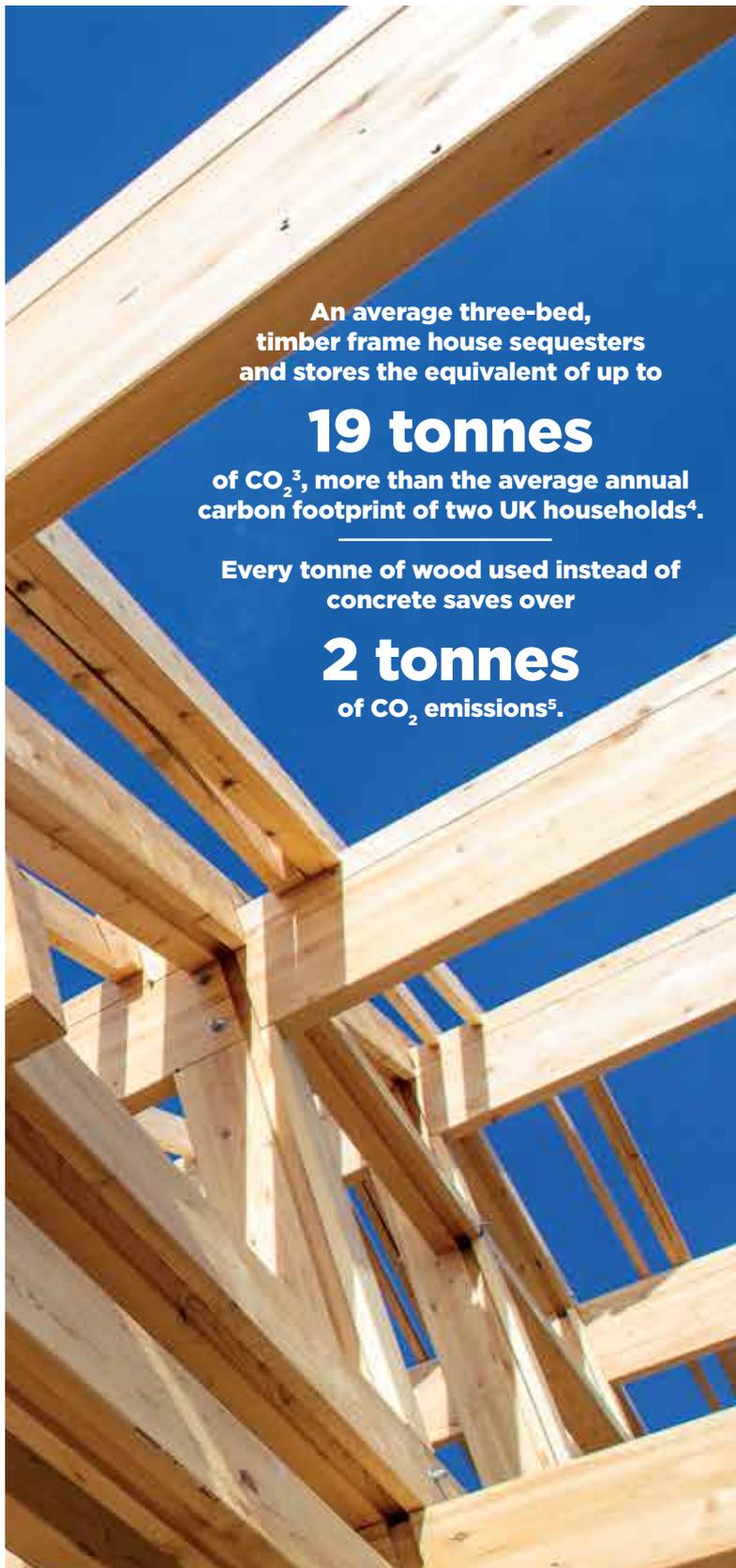
www.futuretrees.org

Continued overleaf

POTENTIAL FOR INCREASED CLIMATE CHANGE MITIGATION

Carbon Storage and avoided carbon

Increasing carbon storage and substitution of higher embodied carbon construction materials through the increased use of wood-based products in construction and beyond.



An average three-bed, timber frame house sequesters and stores the equivalent of up to

19 tonnes

of CO₂³, more than the average annual carbon footprint of two UK households⁴.

Every tonne of wood used instead of concrete saves over

2 tonnes

of CO₂ emissions⁵.



OPPORTUNITY

Build with more wood

Increasing the use of wood products in construction is achievable by increasing market demand for existing products such as sawnwood, panel board, cladding, and engineered products such as I-joists, and manufacturing new low-carbon products. At present, the sector continues to focus on raising awareness of the benefits of timber in construction with construction professionals through initiatives such as Wood for Good. The current Wood Co2ts Less campaign is having great success in promoting the carbon benefits of wood products. However, if we are to accelerate and increase the use of wood in construction in response to the climate change emergency, we urge governments to consider introducing public policies that will influence the construction sector to use renewable materials first.

In addition, with continued Research and Development and support for innovation there are opportunities to manufacture more wood-rich construction products and systems such as wood fibre insulation, solid laminate engineered wood products and other engineered products which in turn will substitute higher embodied energy materials and imports. A lot of good work is underway at Edinburgh Napier University and Wood Knowledge Wales with industry partners to explore opportunities for commercialising these new products, which we will report on in future editions.



OPPORTUNITY

Using wood-fibre to replace petrochemical products - the bioeconomy

Looking elsewhere in the world, there is evidence of increased investment in emerging industries such as wood biorefining where wood-fibre is used as a feedstock to manufacture products to replace petrochemical based materials such as plastics, textiles, high value chemicals and fuels.

The nearest biorefineries are currently in Norway and Finland and outputs of these facilities range from bioethanol to industrial sugars, vanillin and textiles. In Norway, they are already testing manufacturing fish food and other proteins derived from wood fibre.

There are companies in Britain actively exploring new efficient processes for breaking down wood-fibre and it is a subject matter of increasing interest to academics in this country; there are currently two active PhDs at St Andrew's University and Edinburgh University.

ENHANCING THE CIRCULAR ECONOMY

A circular economy is an economic system aimed at eliminating waste and providing for the continual use of resources. The circular economy aims to keep products, equipment and infrastructure in use for longer, thus improving the productivity of these resources.



OPPORTUNITY Resource efficiency

One key area we could improve is wood fibre recovery from harvesting; there is no doubt that on many of our post-harvesting sites a significant amount of 'usable' wood fibre is left on the hill. In fact, new businesses are developing that remove that material as a secondary operation, mainly for the energy market. In addition, there are potential volumes of fibre left above ground in the stumps.

Exploring and adopting viable new practices and felling systems may allow us to unlock that volume in the first pass of harvesting.



CASE STUDY EGGER

EGGER utilises approximately 40% recycled wood in its production of over 1.1m m³ of particleboard at its two manufacturing sites in the UK. The recycled wood material comes from furniture, pallets, wood packaging and suitable parts of construction and demolition timber and is sourced by a subsidiary company, Timberpak Ltd, which has four processing sites strategically located within the UK. They grade the recycled wood supplies which includes the separation and disposal of any contaminated materials such as metal, glass, sand, plastic and MDF before processed it into clean woodchips in several steps. www.egger.com



OPPORTUNITY Extending the life of wood products through re-use and then recycling

There are very good examples of good practice within the UK wood supply chain of minimising waste and reusing wood fibre material, such as using residues for heat and power in place of fossil fuels and recovering recycled wood to produce paper products, panel board and wood energy.

However, can more be done in our wood supply chain? Can we extend the life of wood products such as carcassing, engineered wood products, panel boards and pallets? There is an increasing demand across Europe for deconstruction and re-use of materials to be designed into the construction of new building.



CASE STUDY InFUTUREWOOD

Edinburgh Napier University are currently participating in a transnational project called InFUTUREWOOD, where they are exploring how recovered construction timber products can be re-used for structural purposes. If successful, this could result in an increase in the availability of structural timber to the market. At the other end of the market, how many lives could a pallet have through repair before being moved downstream for other purposes such as panel board or energy? www.infuturewood.info

REFERENCES

- (1) Confor Eskdalemuir report www.confor.org.uk/news/latest-news/eskdalemuir-carbon-report/
- (2) CCC Fifth Carbon Budget www.theccc.org.uk/wp-content/uploads/2016/07/5CB-Infographic-FINAL-.pdf
- (3) <https://woodforgood.com/news-and-views/2014/09/22/uk-could-store-3.8-million-tonnes-of-co2-annually-in-new-build-timber-homes/>
- (4) www.theccc.org.uk/wp-content/uploads/2016/07/5CB-Infographic-FINAL-.pdf
- (5) <https://woodforgood.com/behind-the-facts-fact-4>

