



Llywodraeth Cymru  
Welsh Government

**Number: 51114**

## Welsh Government Consultation Document

Timber Industrial Strategy

### Making wood work for Wales

Date of issue: 22 January 2025

Action required: Responses by 16 April 2025

Mae'r ddogfen hon ar gael yn Gymraeg hefyd / This document is also available in Welsh  
Rydym yn croesawu gohebiaeth a galwadau ffôn yn Gymraeg / We welcome correspondence and telephone calls in Welsh

## Overview

This consultation sets out proposals for Wales's first Timber Industrial Strategy. Managing forests sustainably, for timber production, helps reduce net carbon dioxide emissions. When the trees are harvested, carbon locked up while they were growing remains stored in the timber. Using timber in buildings and other long-term uses, such as furniture, keeps that carbon locked away. Meanwhile the harvested crop of trees is replanted, locking up more carbon and the cycle continues.

There is real potential for Wales to increase and to add value to our home-grown supply of timber, also to reuse and recycle more wood. This creates a real opportunity for foresters, timber processors and manufacturers in Wales to contribute to a 'wood economy'. Multiple opportunities can flow from forest nurseries through planting, management, harvesting, milling to designing and constructing end products that continue to lock-up carbon for years after the timber has left the forest.

## How to respond

To respond to this consultation, please complete the Consultation Response Form at the back of this document and email your response to [Pren.Timber@gov.wales](mailto:Pren.Timber@gov.wales)

Alternatively, you can submit your response via our online form available on the [Welsh Government website](#).

The Welsh Government is holding a series of consultation events, for further information and to reserve a place to attend email: [Pren.Timber@gov.wales](mailto:Pren.Timber@gov.wales)

## Further information and related documents

Large print, Braille and alternative language versions of this document are available on request.

## Contact details

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Welsh Ministers have statutory powers they will rely on to process this personal data which will enable them to make informed decisions about how they exercise their public functions. The lawful basis for processing information in this data collection exercise is our public task; that is, exercising our official authority to undertake the core role and functions of the Welsh Government. (Art 6(1)(e))

Any response you send us will be seen in full by Welsh Government staff dealing with the issues which this consultation is about or planning future consultations. In the case of joint consultations this may also include other public authorities. Where the Welsh Government undertakes further analysis of consultation responses then this work may be commissioned to be carried out by an accredited third party (e.g. a research organisation or a consultancy company). Any such work will only be undertaken under contract. Welsh Government's standard terms and conditions for such contracts set out strict requirements for the processing and safekeeping of personal data.

In order to show that the consultation was carried out properly, the Welsh Government intends to publish a summary of the responses to this document. We may also publish responses in full. Normally, the name and address (or part of the address) of the person or organisation who sent the response are published with the response. If you do not want your name or address published, please tell us this in writing when you send your response. We will then redact them before publishing.

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For further details about the information the Welsh Government holds and its use, or if you want to exercise your rights under the UK GDPR, please see contact details below:

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The contact details for the Information  
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## **Introduction**

The timber industry in Wales is an established and valued part of our rural economy. Wood has a crucial role to play in the environmental and economic future of Wales. For example, the benefits of building with timber are being ever more widely recognised. Timber allows us to build high performance, durable, healthy and sustainable homes and contributes to climate change mitigation by capturing carbon within buildings and other long-term uses such as furniture for their lifetime. Meanwhile the harvested crop of trees is replanted, locking up more carbon and the cycle continues.

There is real potential for Wales to increase and add-value to our use of timber, as a low embodied carbon material. Doing this will support innovation, develop skills in this renewable land-based sector, improve the links in the renewable materials supply chain from forest nursery through planting, management, harvesting, milling to designing and building end products and embedding recovery, reuse and recycling when these reach the end of their working life.

“Woodlands for Wales”<sup>1</sup> is the Welsh Government’s 50-year overarching strategy for woodlands and trees in Wales. The proposals contained in this consultation towards a timber industrial strategy, seek to deliver against the priorities set out in Woodlands for Wales, with a particular focus on supporting a competitive and integrated forestry sector, supporting thriving forest and wood-based industries.

The Trees and Timber Deep Dive in 2021<sup>2</sup> identified priority areas for a timber industrial strategy that can develop and sustain the high value production and processing of Welsh wood. The Welsh Government is grateful to the Timber Industrial Strategy Working Group for its support during the developmental phase leading to this consultation document. Members of the working group include the Confederation of Forest Industries (Confor), Natural Resources Wales (NRW), Woodknowledge Wales, as well as Welsh Government officials.

The outcome of this consultation will inform the drafting of the Timber Industrial Strategy, to be published in summer 2025.

## **Context for this strategy**

### **Climate Change**

Wales is facing a climate and a nature emergency. As noted in the Welsh Government’s Climate Adaptation Strategy 2024<sup>3</sup>, forestry productivity may be affected by climate-related impacts. Wales is already being affected by changing climatic conditions and there are risks posed by more frequent extreme weather events such as drought, flooding and wildfire. Invasive species and changes in the

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<sup>1</sup> [Woodlands for Wales: strategy | GOV.WALES](#) 2018

<sup>2</sup> [Trees and Timber Task Force: recommendations | GOV.WALES](#) 2021

<sup>3</sup> [Climate Adaptation Strategy for Wales 2024 | GOV.WALES](#)

pattern of outbreaks of pests and diseases are already presenting an even more serious threat to our woodlands.

Risks to forestry, woodland and soils represent a risk to our plans to achieve net zero greenhouse gas emissions, due to their function as natural carbon stores which sequester carbon from the atmosphere.

There are also potential opportunities arising from new or alternative commercial tree species becoming suitable. Adapting our silvicultural methods, as well as improving resilience, may also support increased biodiversity. It is important that the forestry sector plans for these areas of risk and opportunity to ensure sustainability of the sector in the context of climate change, especially given the relatively long-term planning cycles involved.

### **Timber security**

The UK was the second-largest net importer (imports less exports) of forest products in 2022, behind China<sup>4</sup>. Imports accounted for 73% of all wood (production and imports) in the UK in 2023<sup>5</sup> with 1.2 million cubic metres harvested in Wales which was 12% of the UK harvest for that period<sup>6</sup>.

It is necessary to increase the scale and value of timber grown in Wales and timber products produced in Wales – those products that will be essential to helping us to meet the 2050 net zero target and to growing the value of the sector in Wales. This needs to be realised in the challenging context of a climate and nature emergency.

We are expecting the market for timber to be increasingly volatile, as demand for timber globally quadruples by 2050<sup>7</sup>. Securing future timber supply, coupled with a resilient supply chain, will involve increasing volumes of Welsh-grown timber (and wood fibre), balanced with importing in a globally responsible way, to ensure a reliable, secure, sustainable source that's fit for purpose.

### **Green jobs and growth**

Net Zero Wales - Low Carbon Delivery Plan 2<sup>8</sup> highlighted the need to grow more timber in Wales and use a greater proportion of that timber in high value added, longer life uses. Timber and wood fibre can make an immediate and important contribution to the materials transition needed to decarbonise. This creates a real opportunity for foresters, timber processors and manufacturers in Wales to contribute to a 'wood economy' in Wales, creating new jobs in rural Wales and increasing the amount of wood used for products and purposes that maximise its useful life and that have the potential to displace other higher embodied carbon materials.

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<sup>4</sup> [Forestry Statistics 2024 - Forest Research](#).

<sup>5</sup> [2024 - 3: Trade - Forest Research](#)

<sup>6</sup> [Time Series - Forest Research](#)

<sup>7</sup> World Bank Group, [World Bank Group Forest Action Plan FY16–20](#), April 2016;

<sup>8</sup> [Net Zero Wales Carbon Budget 2 \(2021 to 2025\) | GOV.WALES](#)

However, Wales (as in the rest of the UK) is predicted to lose 20% of its skilled workforce in the forestry sector by 2030<sup>9</sup> due to retirement. In the 2021 England and Wales study of forestry businesses, respondents listed lack of skills as the main reason for unfilled vacancies.

With more skilled workers needed to meet woodland creation targets and expand the production of quality Welsh timber to fulfil the growing demand for low carbon timber-framed social homes, prompt action is required to address the shortfall.

The forestry, timber and advanced manufacturing sectors offer a huge range of opportunities for varied careers and high-paid jobs. Urgent action is needed to support industry to improve recruitment and retention of an appropriately skilled, diverse and flexible workforce that can adapt to change.

### **Sustainable housebuilding**

Timber is well-placed, as a low embodied carbon building material, to be used to replace high embodied carbon materials such as concrete. Timber in construction is currently the only economically viable Carbon Capture and Storage (CCS) action at scale and therefore crucial to decarbonisation/the delivery of carbon budgets.

Virgin and recycled timber and wood fibre also offer opportunities for modern methods of construction, such as panelised solutions and off-site manufacture. Using these approaches both reduces the carbon footprint compared with traditional on-site construction methods and increases the speed of delivery, supporting the drive to increase provision of social housing.

### **Priorities for the Timber Industrial Strategy**

Through the development phase, the following six priorities have emerged for Wales:

1. Increasing timber supply
2. Increasing resilience in our forests
3. Resource efficiency and circular economy
4. Instilling confidence in demand
5. Developing sector capacity
6. Underpinned by behaviour change

These priorities are explained in more detail below. Under each priority we set out the context for why it has been chosen and then set out the key areas that we think the strategy should focus on. This consultation seeks the views of industry, the public and other stakeholders under the questions listed in the Consultation Response form.

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<sup>9</sup> Forestry Workforce Research report, Forestry Skills Forum, Aug 2021 (p.39)



## **Priority 1: Increasing timber supply**

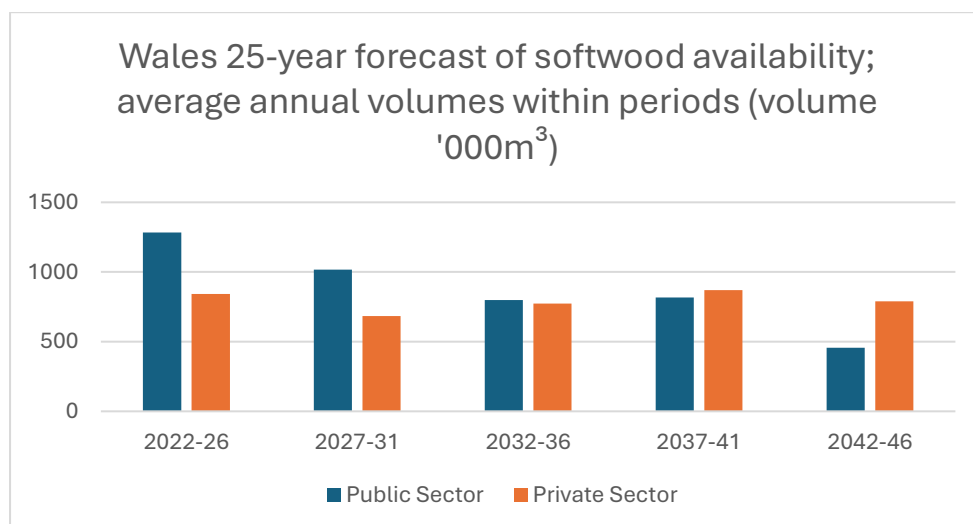
The UK currently imports much of our timber. Wales offers favourable growing conditions for many productive species, both softwood and hardwood. We need to capitalise on this, improving understanding throughout the supply-chain of the potential applications for home-grown timber and dispelling the myth that Welsh wood is not of sufficient “quality” for some purposes, e.g. construction. Improving our understanding of timber properties and communicating these will help us maximise the utility, desirability and value of Welsh wood.

The area of woodland in the UK, at 31 March 2024, was estimated to be 3.28 million hectares, representing 14% of the total land area in the UK, 19% in Scotland, 15% in Wales, 10% in England, and 9% in Northern Ireland<sup>10</sup>. Given the relatively low level of forest cover in Wales and in view of increasing domestic and global demand, it is unrealistic to aim for self-sufficiency. However, we can improve security through both increasing volumes of Welsh-grown timber and wood fibre and importing in a globally responsible way. The aim is to ensure a reliable, secure, sustainable source that is fit for purpose.

Under the Well-being of Future Generations (Wales) Act 2015<sup>11</sup>, the statutory description of the ‘Prosperous Wales’ goal specifically refers to ‘innovative, productive and low carbon’ and a Wales that ‘uses resources efficiently’ and ‘recognises the limits of the global environment’.

### **Availability of Welsh softwood and hardwood, now and in the future**

Forest Research published their last 25-year forecast of softwood availability in 2022. The report gives projections for average annual volumes within the public and private sectors within 5-year periods. The projection for Wales, below, showed a steep downward trend for the public sector.



Forest Research 2022<sup>12</sup>

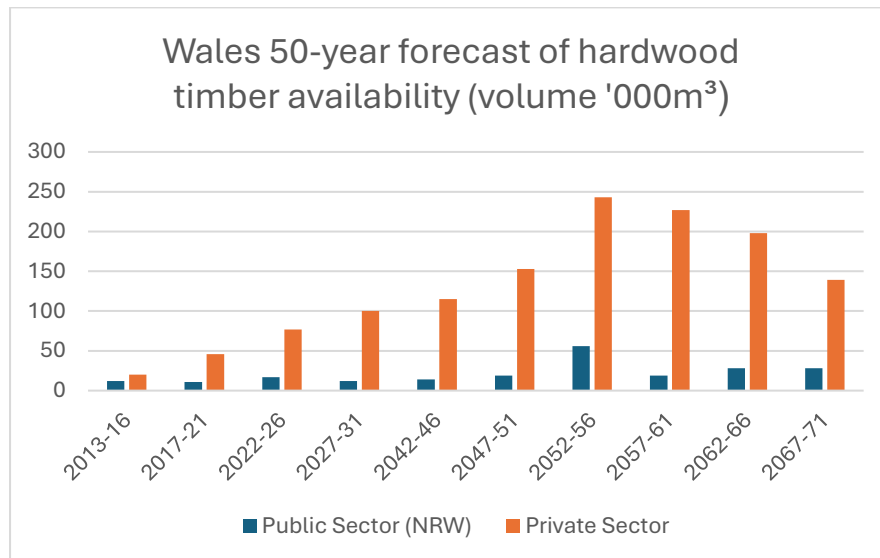
<sup>10</sup> [2024 - 1: Woodland area and planting - Forest Research](#)

<sup>11</sup> [Well-being of Future Generations \(Wales\) Act 2015](#)

<sup>12</sup> [25-year forecast of softwood timber availability \(2022\)](#)

Forest Research produces a 50-year forecast of softwood timber availability<sup>13</sup> and separately a 50-year forecast of hardwood timber availability<sup>14</sup>. The last iteration of the 50-year forecasts were published in 2014 and covered the period 2013-2061.

The 2014 50-year forecast is the latest available projection of hardwood timber, see figure below.



Forest Research 2014<sup>15</sup>

Forest Research has set up a Steering Group, including representatives from Confor, NRW and Welsh Government, to consult on the creation of the next 50-year production forecast (public and private, softwood). Publication is currently expected during the second half of 2025.

NRW manages the Welsh Government Woodland Estate (WGWE) on behalf of Welsh Ministers with income it receives from producing harvestable timber that meets recognised standards of sustainable forest management. In Wales, the WGWE is the main supplier of certified timber, and it is committed to retaining certification to the UK Woodland Assurance Standard (UKWAS) independent verification of sustainable forest management and continue to sell timber with Forest Stewardship Council (FSC) and Programme for the Endorsement of Forest Certification (PEFC) in Wales.

In the face of increasing demand for timber, we need as accurate an understanding as possible of current timber volumes from all production forests in Wales, including the WGWE, together with projections for future timber supply.

We propose to:

- work with NRW, Forest Research and other stakeholders to improve forest data and mensuration (the precise measurement and quantification of forest resources) to enable better long-term forecasting, giving confidence in future timber harvesting and facilitating a more strategic approach, positively impacting on the whole supply chain.

<sup>13</sup> [Microsoft Word - PF2012\\_Softwood\\_Report\\_final\\_draft\\_v7.doc](#)

<sup>14</sup> [Microsoft Word - PF2012\\_Broadleaf\\_Report\\_final\\_draftv8.doc](#)

<sup>15</sup> [Microsoft Word - PF2012\\_Broadleaf\\_Report\\_final\\_draftv8.doc](#)

- use the renewed 50-year forecast as key data for Wales, promoting it to facilitate coordinated, long-term investment in planting and harvesting infrastructure.
- consider how to encourage more private woodland owners to become certified.
- work with NRW to achieve the timber producing potential of the WGWE, contributing to the reduction in carbon emissions and providing a long-term, sustainable timber resource.

### **Increasing the volumes of timber brought to market from the Welsh Government Woodland Estate**

NRW's current Timber Sales and Marketing Plan<sup>16</sup> communicates their approach to the harvesting and marketing of timber from the WGWE for the period 2021-2026. The current plan sets out that the volume of timber NRW brings to market each year will be within the range 735,000m<sup>3</sup> to 835,000m<sup>3</sup>.

NRW accounts are consolidated with the Welsh Government's accounts and they are therefore not permitted to manage their timber income across financial years. In addition, the volatility of wood prices and buoyancy of the timber sales market impacts on NRW's ability to manage their finances in relation to management of the WGWE and consequently limits the range of activities that it can undertake for the benefit of forestry, causing challenges with long-term planning and investment in harvesting potential.

In 2024/25, to ensure NRW operates from a more stable financial footing, through budgets that are aligned with Programme for Government priorities, the Welsh Government provided NRW with an underwritten budget of £33m to help them manage the annual uncertainty in their timber income. Currently, discussions are ongoing between NRW and the Welsh Government around how to enable NRW to manage this uncertainty more effectively in the future, with the aim of implementing arrangements in managing risks and incentives which will enable NRW to increase the volumes of timber coming to market over time.

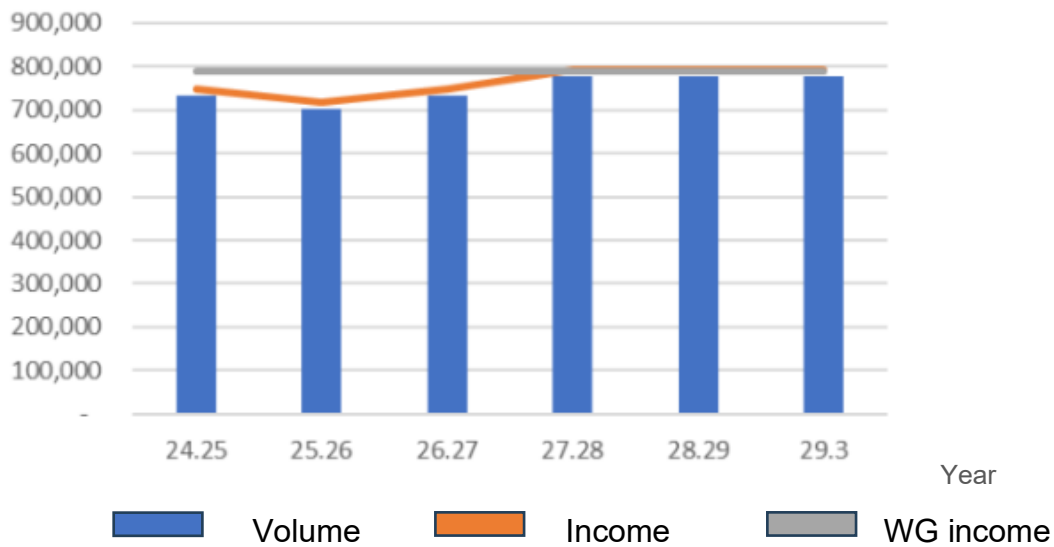
The figure below shows the current 2024/2025 volume of timber to market of 732,000m<sup>3</sup> with projections for 2025/2026 dipping down, coming back up to 2024/2025 levels for 2026/2027, before rising to closer to 776,759m<sup>3</sup> from 2027/2028, with the potential to continue to rise, subject to the right financial arrangements.

Welsh Government will also work with NRW to consider whether support to enable investment in building harvesting capacity and infrastructure is necessary to maximise the amount of timber coming to market between now and 2030. Such investment could include roading to reduce the risk of future failure of forest roads and to support the thinning of difficult to access crops, making regular thinning interventions more achievable (better form, higher yield).

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<sup>16</sup> [Natural Resources Wales / Timber sales and marketing plan 2021-2026](#)

M<sup>3</sup>



### Maximising restocking potential

To ensure sufficient and appropriate timber supply for the future, the work to restock trees after timber has been extracted must keep pace with demand. On the WGWE the restocking and woodland creation programme being carried out by NRW requires a reliable supply of young trees to enable it to deliver its annual planting of some 1,500 hectares across Wales. In 2021, NRW entered a long-term contract with Maelor Forest Nurseries Ltd to guarantee appropriate supply of an estimated 30 million trees for re-stocking and woodland creation on the Welsh Government Woodland Estate between 2022/23 – 2030/31<sup>17</sup>. This will provide much needed certainty of supply to facilitate timely and appropriate restocking.

We need to ensure that restocking, of private and public forests, maximises production whilst delivering other UKFS criteria. Maximising production in our existing forest structure could have a significant impact on future timber supplies, bringing quicker results to complement longer-term woodland creation.

For the Private Sector, Confor estimates it takes between 1 year to 18 months for trees go back in the ground (rounded down to 1 year for forecasting purposes). NRW's mean fallow period for the Welsh Government Woodland Estate is 3 years (rounded to the nearest whole year).

There is no blanket recommended fallow period on the Welsh Government Woodland Estate. Decisions are site-specific, with fallow periods are determined after considering a balance of factors, including NRW's overall chemical reduction strategy (pest and weed control), the ground preparation programme, plant supply and contractor availability.

<sup>17</sup> [Natural Resources Wales / NRW announces new tree supply contract](#)

We propose to:

- work with NRW, FR and the private sector to produce regular, accurate, evidence-based, information about length of fallow periods to aid future projections.
- agree actions with NRW that will enable re-stocking to the earliest opportunity indicated by the site conditions, respecting the other factors requiring consideration, such as those listed above.
- work with Forest Research and NRW to see whether remote sensing could be used to give more accurate data regarding existing forest resource, including “overdue” stands<sup>18</sup>, to improve estimates of timber on the Welsh Government Woodland Estate.

### Health and Safety of workforce remains paramount, ensuring a safe as well as a sustainable harvest

The combined agriculture, forestry, and fishing sector has the highest rate of workplace injury in Great Britain, with a fatality rate 21 times higher than the workplace average<sup>19</sup>. Improving health and safety is therefore of paramount importance. Reducing risk is driven by a hierarchy of controls: removing or replacing the hazard, isolating people from the hazard, changing the way people work (including training), and Protective Personal Equipment (National Institute for Occupational Safety and Health, 2023). Technology is driving improvements in all these areas for the forestry sector.

NRW asks for standard levels of health and safety information from clients and their contractors, working on the WGWE, based on Forest Industry Safety Accord (FISA) requirements. Concerns about health and safety as well as other considerations, such as lack of investment in roading, can influence the upper ceiling on the volume of timber to be extracted from the WGWE and brought to market.

We propose:

- working with stakeholders from all sectors to encourage diligence and an appetite to constantly improve health and safety management in forestry with a view to achieving a sustainable increase in timber supply.

### Managing levels of permanent removals, encouraging compensatory planting (of productive species) and investigating expansion of the Welsh Government Woodland Estate

In 2018, the Ministerial foreword of “Purpose and Role of the Welsh Government Woodland Estate”<sup>20</sup> set out key principles including that the woodland area on the estate should be bigger in 25 years. This document identifies the importance of maintaining, and where appropriate enhancing, the overall productive potential of the

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<sup>18</sup> “Overdue” denotes crops that were not felled within their allocated felling period. N.B. this doesn’t necessarily indicate crops are beyond maturity/utilisation/stability.

<sup>19</sup> [Fatal injuries in agriculture, forestry and fishing in Great Britain 2022/23 - HSE](#)

<sup>20</sup> [Purpose and Role of the WGWE](#) 2018, p.2

WGWE. It also prioritises the need to carry out compensatory planting to mitigate permanent loss of woodland due to management actions.

To maintain and increase the productive potential of the WGWE, it is important to accurately distinguish land awaiting restocking from land which will be permanently removed from restocking due to e.g. windfarm development.

For renewable energy infrastructure (e.g. wind turbines), NRW follows the required compensatory planting approach and is currently ahead of schedule. However, compensatory planting does not necessarily guarantee maintenance of productive potential as it is dealt with on a woodland cover basis, with site-specific species selection, rather than a presumption of replacing like-for-like, e.g. conifer loss with equivalent conifer planting.

Permanent removals occur for a variety of other reasons, for example, the National Peatland Action Programme<sup>21</sup> delivered by NRW and the riparian restoration programme which removes conifers from riverbanks to avoid shadow and acidification. Other areas of permanent loss occur when open areas are created for various reasons (biodiversity, recreation etc) as detailed within the Forest Resource Plans. These are not necessarily subject to compensatory planting.

Practices need to change to avoid a reduction in the productive potential on the WGWE – this could include increasing the land coverage to enable woodland creation to counteract deforestation, or changes to the species mix to ensure sufficient productive species.

We propose to:

- work with NRW and other relevant stakeholders to achieve greater visibility of the pipeline of permanent removals
- ask NRW to pro-actively monitor the effects of all permanent removals (as well as other factors) that could threaten the productive timber resource, taking mitigating actions to maintain or increase levels on the WGWE.
- work with NRW to develop options for the potential expansion of the WGWE.

### **Woodland creation – increasing woodland cover, ensuring sufficient emphasis is placed on planting of productive species**

Wales needs a step change increase in woodland creation to tackle the climate and nature emergencies and increase the availability of domestically grown timber for future needs. We will take proactive action both to incentivise woodland creation effectively with a range of landowners, as well as carrying out further work to understand and mitigate barriers to tree planting.

The Sustainable Farming Scheme will be a key element of our woodland creation offer. The proposed scheme outline for SFS was published at the end of November 2024 and includes a ‘Universal Action’ for all those in the Scheme to create a Tree Planting and Hedgerow Creation Opportunity Plan by the end of their first year in the Scheme. Subsequent planting would be supported via Optional Actions. This provides a crucial opportunity for farmers to engage with trees and to integrate them

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<sup>21</sup> [Natural Resources Wales / The National Peatland Action Programme](#)

on their farm in a way that suits them to benefit livestock, nature and business diversification including through timber income.

We will seek to maximise planting under SFS through:

- providing financial incentive and flexibility.
- working with stakeholders to provide a more positive narrative and communications on trees and the benefits they provide for nature, farmers and the wider economic imperative to improve supplies and meet increasing demand.
- addressing regulatory and administrative barriers to tree planting – making it easier for those who want to plant trees to get them in the ground.

We also propose to:

- learn lessons from the Integrated Natural Resources Scheme to encourage larger scale, collaborative planting projects involving multiple landowners

A new UK-level Tree Planting Taskforce was launched at the end of November 2024, to oversee the planting of millions of trees across the UK to meet net zero targets<sup>22</sup>.

The Taskforce, chaired by the forestry ministers from the four nations, recognises that woodlands and trees are the heart of communities around the UK, essential to supporting wellbeing and improving quality of life, alongside providing sustainable timber and being home to some of our most important species.

- Welsh Government will engage with the Taskforce to identify opportunities to work together, to improve tree planting and ensure the long-term survival of woodland, safeguarding their benefits for future generations.

## **Woodland management**

In addition to woodland creation, maintaining our existing woodlands is crucial. There are large areas of currently unmanaged broadleaf and farm woodland in Wales. Although not all of this woodland is suitable for market-orientated management, collectively it represents a major opportunity to increase production of usable timber in response to increasing demand and thereby support the development of smaller businesses<sup>23</sup>.

Under the Sustainable Farming Scheme (SFS) all farmers will be paid to maintain their existing woodland as a Universal Action according to certain management requirements. If they wish to go further there will be support for more proactive woodland management under both the Optional and Collaborative layers of the scheme. Similar support will be available for other landowners outside the scheme.

Trees offer a range of benefits, including enhancing biodiversity, providing shelter for livestock, improving soil filtration, helping prevent flooding as well as providing a

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<sup>22</sup> [Government launches Tree Planting Taskforce to oversee planting of millions of trees across our four nations - GOV.UK](#)

<sup>23</sup> [Woodlands for Wales](#) 2018, p.33



source of income through sustainable harvesting of timber and non-wood forest products and via applications such as agroforestry.

The National Forest for Wales (NFfW) is helping to increase the number of well-managed woodlands, as for sites to join the NFfW network they must evidence its essential outcome “Good quality, well designed and managed resilient woodlands”.

The Welsh Government’s Climate Adaptation Strategy contains an action to consider the development of a woodland management scheme to improve the condition of woodland habitat<sup>24</sup>.

We propose to:

- promote best practice and provide support for woodland management actions to improve unmanaged and undermanaged woodland, as part of a resurgence of sustainable economic activity in existing Welsh woodlands and support the sustainable management of natural resources.

### **Ensuring global responsibility and resource security regarding Welsh imports and exports**

The UK’s heavy dependency on imports will continue to be a feature for decades to come. As global competition for timber resources becomes fiercer, there are risks inherent in so much of the global timber supply being controlled by relatively few countries. Global market prices could fluctuate unexpectedly, increasing sharply or even resulting in interruption of supply. The UK forestry sector must increase flexibility to adapt to changing market prices or availability of different types of timber.<sup>25</sup>

The UK needs to protect our timber imports from supply-chain shocks. Impacts like the COVID-19 pandemic and conflicts affecting countries supplying the UK market, show the vulnerability of the supply chains and the impact it can have (e.g. to the price of timber and impact on construction costs).

Local sources of wood also reduce transport impact and can reduce the need to import timber from unsustainable forests. Our ‘Globally Responsible’ goal<sup>26</sup> sets the challenge to ‘make a positive contribution to global well-being’.

We propose to:

- work with stakeholders to raise awareness of how best Wales can minimise the offshoring of negative impacts and to import in a globally responsible manner.

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<sup>24</sup> [Climate Adaptation Strategy for Wales](#) 2024, p.27

<sup>25</sup> Tew, E. et al, “A horizon scan of issues affecting UK forest management within 50 years”, *Forestry: An International Journal of Forest Research*, 2024, 97, 349–362

<sup>26</sup> [Well-being of Future Generations \(Wales\) Act 2015](#)



## **Priority 2: Increasing resilience in our forests**

### **Overall ambition**

The Climate Change Committee's 2021 UK climate risk evidence (CCRA3-IA) highlights risks to forestry arising from extreme weather events and changing climatic conditions (including temperature change, water scarcity, wildfire, flooding, coastal erosion, wind and saline intrusion) and from pests, pathogens and invasive species. Forestry productivity may also be affected by climate-related impacts to soils due to seasonal aridity and wetness<sup>27</sup>.

To achieve increased volumes of Welsh-grown timber and wood fibre requires a reliable, secure, sustainable source that is fit for purpose. Greater awareness, knowledge and pro-active action is needed to reduce risks posed by:

- Biosecurity – pests and pathogens, browsing mammals
- Effects of climate change - drought, flooding, wild-fire, frequency of extreme weather events
- Increases in global demand and uncertainty in global markets (supply shocks)
- Logistics and transportation – secure product delivery chains in context of global geopolitical considerations

The 2019 IUCN European Red List of Trees<sup>28</sup> indicated that 42% of European trees are considered as having a high risk of extinction with the primary threat being from invasive species i.e. plant pests.

The changing temperatures and weather conditions can mean parts of the UK becoming more favourable to pests and pathogens. This can lead to increased instances of known pests and diseases and the introduction of new ones. As an example, the Larger eight-toothed European spruce bark beetle, *Ips typographus*, is a major forest pest in continental Europe and in 2018, *I. typographus* was discovered in woodland in southeast England. Global warming will increase breeding cycles and hence the risk posed by this pest in the UK<sup>29</sup>.

### **Promoting diversification to improve resilience to climate change and pests and diseases**

Forests need to be healthy and resilient to environmental change if they are to maintain and enhance their capability to produce timber, provide other benefits to society and a high-quality habitat for wildlife. This is reflected in the updated version of the UK Forestry Standard<sup>30</sup> (UKFS), which says that to maintain or establish a diverse composition across the forest management unit, no more than 65% of the area is to be allocated to a single species.

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<sup>27</sup> [Climate Adaptation Strategy for Wales](#) 2024, p.37

<sup>28</sup> [European Red List of trees | IUCN Library System](#) Rivers, M. et al, 2019

<sup>29</sup> [Phenology of the spruce bark beetle \*Ips typographus\* in the UK under past, current and future climate conditions - Webb - PLANTS, PEOPLE, PLANET - Wiley Online Library](#)

<sup>30</sup> [The UK Forestry Standard - GOV.UK](#)

NRW is already meeting the 65% single species limit on the WGWE and Welsh Government encourages continued efforts to promote diversification to improve resilience to climate change, pests and diseases. Careful planning and use of appropriate alternative species, by both private and public sectors, will be needed to avoid an overall reduction in the productive area.

Climate change predictions include a change in the suitability of some tree species as well as an increased incidence of pests and diseases. This presents both challenges and opportunities, for example:

- Increased potential yield from conifer trees in locations where there is no limitation due to water or nutrients, but falling potential yield in other areas impacted by summer drought and winter waterlogging (species as such as Spruce could be severely affected by the predicted increase in the occurrence of droughts in Wales)
- Potential to grow more high value broadleaved species in central and eastern Wales
- More frequent green spruce aphid attacks may reduce Sitka spruce growth in west, east and south Wales.

A step change in direction, attitudes and practice is needed to make our forests future proof, with corresponding adjustments throughout the supply chain to support the more widespread use of alternative species. We will support continuing research and development efforts to improve resilience in Sitka spruce. At the same time, we will push for wider and faster paced species and genetic diversification and support the industry in continuing to seek improved plant stock for yield, strength and resilience.

It is essential for everyone involved in forestry to increase knowledge and skills, leading to better informed decisions on climate change adaptation practices. We will continue to engage with Forest Research on the delivery of their Science and Innovation Strategy, which includes research into alternative tree species and adaptation of forest management practices to improve forest resilience to climate change. We will promote UKFS Best Practice Guides relevant to climate change and will encourage wider engagement with Forest Research's Climate Change Hub<sup>31</sup>, which provides resources and tools the help forest managers adapt management practices to better cope with climate change.

### **Adapting silvicultural systems**

Adaptive forest management, the continuous development of practice through close monitoring of forest management outcomes, will become ever more important in improving the resilience of forests and maintaining ecosystem function.

New and emerging technologies will help improve forest design, management and monitoring. This includes the use of artificial intelligence, remote sensing and eDNA, which can reduce costs and resource requirements. The benefits of these new

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<sup>31</sup> [Welcome to the Climate Change Hub - Forest Research](#)

technologies include the ability to match species more precisely to site conditions and targeted responses to pathogen outbreaks.

The adoption of such 'smart silviculture' may, be held back by a lack of skills or resources. Welsh Government proposes to consider what support would best accelerate the uptake of these opportunities.

Under the Well-being of Future Generations (Wales) Act 2015<sup>32</sup>, the statutory description of the 'Resilient Wales' goal sets out our aim to be 'A nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change'.

Encouraging active management of woodlands can both maximise yield and bring biodiversity benefits. For example, thinning can increase the diversity and abundance of animals in forest ecosystems. Simultaneously, the products of thinning may generate welcome income part way through the growth cycle.

The Welsh Government's literature review of international approaches<sup>33</sup> identified ways in which Sustainable Forest Management has been implemented internationally, including through approaches such as close to nature forestry (CNF) and continuous cover forestry (CCF). Such approaches can bring benefits such as increasing tree species diversity, which lowers disease risk and lessens the likelihood of supply chain disruption. Less soil disturbance through less felling could also increase woodlands' net carbon sequestration.

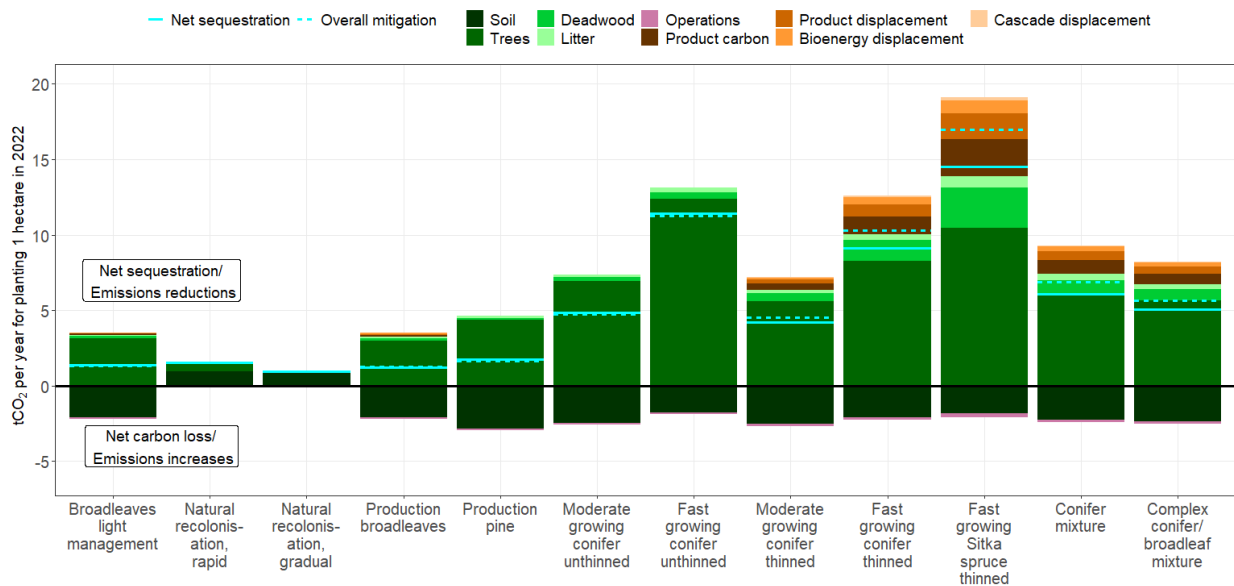
It is important to understand the potential of the different silvicultural approaches to achieve different objectives, over different timescales. A mixture of short-term actions is required, to accelerate carbon sequestration and increase available supplies of timber, alongside planting for longer-term diversity, resilience and carbon sequestration.

Forest Research has evidenced that over shorter time periods (2022-2050), carbon sequestration potential is greater for faster growing softwood plantations actively managed through thinning and clear felling than other modelled scenarios, including CCF.

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<sup>32</sup> [Well-being of Future Generations \(Wales\) Act 2015](#)

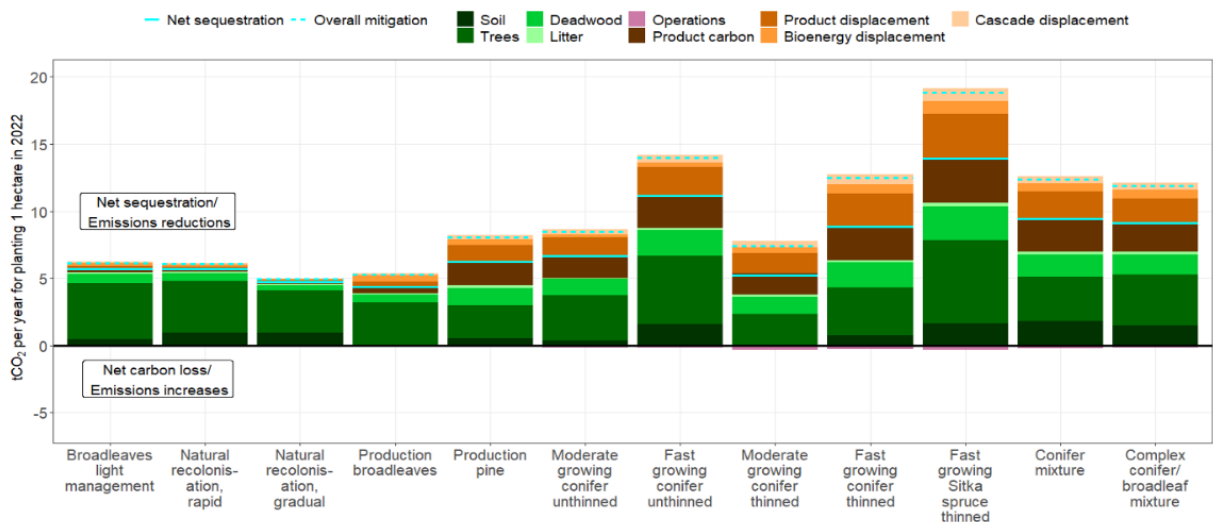
<sup>33</sup> Strategies and Interventions to Support the Timber Industry – Literature Review, Welsh Government 2025



Annualised CO<sub>2</sub> uptake and GHG emissions avoided, estimated over the period 2022 to 2050 for 12 illustrative woodland options, assuming 1 hectare of woodland planted in 2022.

Figures above from Matthews, R. et al 2022, Forest Research<sup>34</sup>

Over the longer term (2022-2100), however, the differences in carbon sequestration between management scenarios were less pronounced.



**Figure S1.** Annualised CO<sub>2</sub> uptake and GHG emissions avoided, estimated over the period 2022 to 2100 for 12 illustrative woodland options, assuming 1 hectare of woodland planted in 2022.

Figures above from Matthews, R. et al 2022, Forest Research<sup>35</sup>.

## Future Productive Species Selection

For new tree planting to respond appropriately to climate change, it is important to have access to genetically diverse and climate-appropriate stock, in sufficient

<sup>34</sup> [Quantifying the sustainable forestry carbon cycle: Report download page - Forest Research](#)

<sup>35</sup> [Quantifying the sustainable forestry carbon cycle: Report download page - Forest Research](#)

quantities. We need to ensure the necessary supply of forest genetic materials, including seed orchards, as well as sufficient capacity in forest nurseries.

A new UK Forest Genetic Resources Group has been formed to facilitate information exchange and deliver technical advice and co-ordination of activities covering all aspects of future species selection and supply. The Group's scope covers activities related to the genetic diversity of UK forests, including identification of priority species for planting across the UK, species trials, tree seed supply and tree improvement. It will seek to enhance all aspects of productive forestry, including timber production, ecological benefits, resilience to stresses such as pests and diseases and climate change, and wider benefits to society. Welsh Government and NRW are fully engaged with this work and the outputs will inform future policies and support delivery of resilient woodlands and forests in Wales.

Third sector organisations also make an important contribution in Wales, educating and involving members of the public in citizen science, woodland management and other activities. For example, Llais y Goedwig and Coed Cadw (The Woodland Trust) have been working in partnership since 2020 on the CommuniTree project. CommuniTree is supporting the development of community tree nurseries across Wales. They provided information and training in seed collection, to enable the establishment of productive, sustainable seed resources, leading in some cases to the creation of nano-nurseries<sup>36</sup>. Under the CommuniTree project, in 2022, Magu Coed (tree growing) Network was started for anyone interested in growing, raising, planting, and looking after native trees in Wales.

We propose to:

- support research to identify alternative species and provenances and better understand the genetic basis of resilience of a range of tree species, including establishing more trial plots.
- promote knowledge exchange to increase understanding of the genetic resistance of native species and commercially important species, against current and emerging diseases.
- work with researchers and stakeholders to identify and fill evidence gaps in the review of genetic considerations for provenance choice, including commercial species.
- engage the private sector in discussions about future productive species selection to diversify woodlands.
- liaise with stakeholders, including Confor Nurseries Producers' Group, to offer support to Welsh forest nurseries to provide a genetically diverse range of suitable tree species, while meeting best biosecurity standards as set by the Plant Health Assurance Scheme.
- continue to promote and enhance plant health and biosecurity measures to protect plant species and associated ecosystems from new and existing pests and/or pathogens.

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<sup>36</sup> [CommuniTree – Llais y Goedwig](#)

### **Priority 3: Resource Efficiency and Circular Economy**

#### Overall ambition

Welsh Government's "Beyond Recycling" strategy sets out our intentions to make the circular economy a reality in Wales. A circular economy keeps resources and materials in use for as long as possible and avoids all waste. This means moving away from a 'linear economy', which assumes a constant supply of natural resources, or the take-make-use-dispose culture based on the extraction of resources, the production of goods and services, and the disposal of post-consumer waste<sup>37</sup>.

An important consideration is ensuring that opportunities to valorise forestry by-products and wastes are pursued. Trees contain valuable biochemicals – an example is pinene. Valorising forestry wastes could help provide additional income as well as reducing waste and its environmental impacts.

For Wales, timber security is not solely reliant on virgin timber production. There is already a healthy market for recycled wood fibre and potential to reclaim more timber than is currently retrieved, for example from demolished buildings. WRAP Cymru has produced a useful Welsh Circular Economy Mapping Tool for Wood<sup>38</sup> that identifies companies that use wood fibre, and those that recycle it.

As part of our 'Welsh Development Quality Requirements 2021 - 'Creating beautiful homes & places', we recommend incorporating reused and recycled materials, ensuring that buildings can be adapted, reused or deconstructed and that recovered materials are re-used or recycled at end of life. To decarbonise at scale, moving away from high embodied carbon materials and substituting them for more sustainable alternatives is essential. An example of this is increasing timber in construction, which is also an economically viable Carbon Capture and Storage action, which locks the carbon into the buildings that are built.

Alongside the energy transition to renewables, the move towards a materials transition is critical. This takes many forms, for example the use of recycled material, instead of virgin material. The more widespread use of timber also presents many opportunities for substitution. In construction, this means thinking beyond timber framing to materials used to fit out the building.

Construction is just one example, there are substitution opportunities across all sectors. This is starting to be seen, for example laptops coming to market with wooden cases and eco-friendly, biodegradable packaging made from wood fibres that can substitute fossil plastic. When thinking about materials substitution, it is important to consider inputs to the forestry and timber sector, as well as outputs. For example, re-using, recycling and/or substituting plastic tree guards, where biodegradable alternatives made from e.g. pine resin and cotton are available<sup>39</sup>.

Additionally, making things from wood can use much less energy than making things from other materials. By using more wood in place of high embodied energy materials, such as metal, concrete, brick we can reduce greenhouse gas levels by

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<sup>37</sup> [beyond-recycling-strategy-document.pdf](#) 2021, p.6

<sup>38</sup> <https://wrapcymru.org.uk/resources/tool/welsh-circular-economy-mapping-tool-wood>

<sup>39</sup> [Tree Guard Research: Plastic-free Alternatives - Woodland Trust](#)

reducing our demand for energy in production<sup>40</sup>.

We propose to:

- Promote innovation to expand timber and wood fibre into other usages to drive decarbonisation and help Wales to derive far greater value from supply chains, providing economic benefit.
- To support innovative, scalable projects, which prevent waste and recognise surplus materials as a resource.
- To encourage greater wood use across the economy, at the end of first life, resulting in higher volumes of recycled wood available in the market.

### **Keeping wood out of the waste stream, reclaim and reuse before recycling**

In terms of resource efficiency, it is crucial to make the most of our available Welsh timber, producing no waste, maximising yields and adding value to products. UK sawmills are already adept at using and extracting value from every part of the tree, including bark and even sawdust produced in the milling process.

The wood panel industry currently supplies 65% of the UK's demand for wood panel products, utilising 25% of the total roundwood harvest basket (11.2 million green tonnes in 2021)<sup>41</sup>. The Wood Panel Industry is an important user of recycled content with approximately 30% of the industry's wood consumption coming from waste wood streams. Reclaimed waste wood is used in the manufacturing of chipboard and accounts for an average of 67% of the feedstock. Kronospan, based in Chirk, is a key employer in Wales and a leading worldwide manufacturer of particleboard and MDF (Medium Density Fibreboard).

The UK waste wood market is relatively static, with arisings of between 4.5Mt to 5Mt per annum. Three competing markets consume virtually all the available supply – energy, horticultural products and wood panel manufacture. This efficient approach to resources means minimal amounts of timber going to landfill.

As the level of raw materials becomes increasingly competitive, the All-Parliamentary Expert Working Group for the Wood Panel Industry also recognised the importance of maintaining a steady supply of waste wood, recycling wood and developing ways to extend the life cycle of wood fibre.

All-Parliamentary Expert Working Group for the Wood Panel Industry recommends a hierarchy of uses for waste wood that is clearly defined and gives priority to uses that will reuse waste wood. For example, pallets are used to transport all kinds of goods around the world. Concerted efforts by the industry, have increased the reuse of pallets, sometimes up to 12 times. Once they have passed their initial usefulness as a pallet, the wood can be put to other long-term uses, including being gathered and supplied as feedstock to the panel board sector, rather than releasing its stored carbon through burning.

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<sup>40</sup> Natural Resources Wales consultation on Timber Sales and Marketing Plan, 2020

<sup>41</sup> All-Parliamentary Group – Expert Working Group for the Wood Panel Industry, 4<sup>th</sup> Edition Report 2023

We propose to:

- Work with stakeholders to collectively grow the “wood basket” available for the future demands of all users
- work with the wood panel industry to support them in their goal to meet more of the demand for their products currently satisfied by imports.

### **Innovation - increasing life of shorter life products, circularity of product design**

Some wood products, such as paper, tissues, packaging, wood fuel, firewood, charcoal, have a very short service life, typically less than three years. Other products, like roofing rafters and structural timber can have a service life of well over a hundred years. The longer the service life of the product, the greater the contribution of that product to reducing greenhouse gas emissions, by keeping CO<sup>2</sup> locked up<sup>42</sup>. In addition, paper and cardboard products (including packaging) need to have a high recycled content, thus reducing the demand for virgin fibre.

We need to move up the waste hierarchy, fully exploring the potential to re-use and re-manufacture before resorting to recycling. It is important to design new products with circularity in mind. This means increasing the life of shorter-life products by making them more durable, while at the same time thinking about the effects any treatments, coatings or other applications might have on the ability for the materials to be re-used or recycled. Consideration should also be given to use of adhesives – considering ways to make products, avoiding the use of adhesives and making them easier to disassemble and reassemble.

Forster, E.J. et al<sup>43</sup> showed that at a UK-level, “the circular approach of recycling medium-density fibreboard delivers 75% more cumulative climate-change mitigation by 2050, compared with business-as-usual. Early mitigation achieved by circular and cascading wood use complements lagged mitigation achieved by afforestation”. Their study concluded that linear use of wood curtails the potential climate-change mitigation contribution of forestry value-chains. More cascading and especially circular uses of wood can provide immediate and sustained mitigation by reducing demand for virgin wood, which increases forest carbon sequestration and storage, and benefits from substitution for fossil-fuel derived products, reducing net greenhouse gas emissions.

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<sup>42</sup> Natural Resources Wales consultation on Timber Sales and Marketing Plan, 2020

<sup>43</sup> Forster, E.J., Healey, J.R., Newman, G. *et al.* Circular wood use can accelerate global decarbonisation but requires cross-sectoral coordination. *Nat Commun* **14**, 6766 (2023). <https://doi.org/10.1038/s41467-023-42499-6>



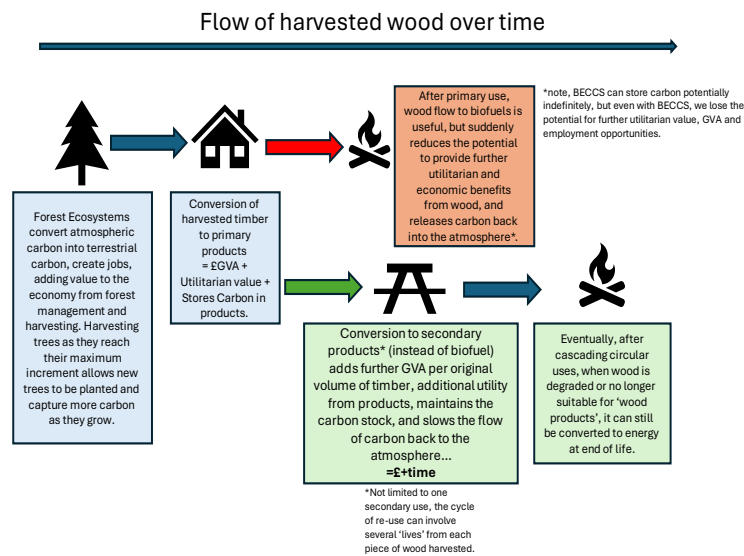


Figure - Henderson, T. 2024, Woodknowledge Wales

The English Timber in Construction Roadmap aims to “commission an audit of the supply chain in England and the UK by 2028, to better understand the current and potential circularity of wood and carbon stored within it”<sup>44</sup>. Welsh Government will work with colleagues in Defra to input as appropriate to this process.

We propose to:

- encourage further exploration of the potential to re-use and re-manufacture, before resorting to recycling.
- highlight best practice and case studies to illustrate how to design new products with circularity in mind.
- work in partnership with stakeholders to develop and articulate a clear wood cascading protocol that should account for second and potentially third operational lives for Welsh grown wood fibre.

<sup>44</sup> [Timber in construction roadmap - GOV.UK](https://www.gov.uk/government/consultations/timber-in-construction-roadmap)

## **Priority 4: Instilling confidence in demand**

### **Overall Ambition**

The UK's Committee on Climate Change (UKCCC) stated that "using wood in construction to displace high-carbon materials such as cement and steel is one of the most effective ways to use limited biomass resources to mitigate climate change"<sup>45</sup>.

Welsh Government's Social Housebuilding Strategy highlighted that the rise of off-site manufactured housing is providing a high-value market for Welsh grown and processed timber. As such, this is expected to become a key driver for forest expansion in Wales, which can deliver much needed jobs in forest management and wood processing particularly in rural areas.<sup>46</sup>

In "Beyond Recycling", the Welsh Government's strategy to make the circular economy in Wales a reality, one of the headline actions stated: "We will procure on a basis which prioritises goods and products which are made from remanufactured, refurbished and recycled materials or come from low carbon and sustainable materials like wood."<sup>47</sup>

We will use the full range of public sector levers available to increase the use of timber and wood fibre (including recycled wood fibre) in long-term uses, such as construction.

### **Opportunities for increasing the amount of timber used in construction**

Opportunities to increase the use of timber in construction exist for both:

- Domestic structural construction - including use of timber frames and wood fibre for insulation and other purposes.
- Non-domestic or multi-storey residential Mass Timber Commercialisation (associated further development of CLT/Laminated or engineered timber products).

In Wales we are already working to enable much greater use of timber in construction of homes. The Tai ar y Cyd project brings together 23 social landlords to develop a standardised pattern book for the next generation of high performing, timber based off-site manufactured homes. They will be built to a performance specification to achieve net zero operational carbon and make a step change in reducing embodied carbon emissions. The home pattern books, to be launched in 2025, will be used by the member social landlords to help build out their pipeline of new affordable homes. This offers considerable opportunities associated with increased demand for timber, with the pattern books enabling the supply chain to

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<sup>45</sup> <https://www.theccc.org.uk/wp-content/uploads/2019/02/UK-housing-Fit-for-the-future-CCC-2019.pdf> p.14

<sup>46</sup> [Social house building strategy](#) Welsh Government, Feb 2020, p.27

<sup>47</sup> [beyond-recycling-strategy-document.pdf](#) Welsh Government, 2021, p.6

have good, early information about expected quantities of materials required for each house type.

To build on this progress and drive further change we propose to:

- promote the scaling-up and normalising of alternative methods of construction, including off-site manufacturing, modular and panelised systems and lightweight construction solutions.
- engage stakeholders to encourage the wider application of timber-based construction products beyond timber frames, for example, wood-fibre insulation, timber windows, and roof shingles.
- actively encourage increased supply of timber available for long-life uses, including graded structural timber.
- Promote production in Wales of wood-based products with increased value, extended durability and climate resilience.

### **Using Welsh Government purchasing power to drive change**

A key part of our delivery of a net zero public sector in Wales is to use our purchasing power to improve our economic, environmental and social outcomes drive a step change across the public sector in Wales so that the procurement of sustainable goods and products becomes the norm, whilst phasing out the procurement of non-sustainable alternatives.

Major public construction projects provide a key opportunity. The Social Partnership and Public Procurement (Wales) Act 2023<sup>48</sup> places a duty on Welsh Ministers to publish a set of model contract clauses (“social public works clauses”) for major construction projects (£2m and over), designed to improve the economic, social, environmental, and cultural well-being of public bodies’ areas.

The proposed content of the clauses and accompanying statutory guidance is being developed, in an “open book” way by the Welsh Government. Under the Environment contract clause, the requirements include the implementation of a plan for reducing the project’s whole life carbon, which must include, but is not limited to:

- A lifecycle carbon assessment.
- The setting of targets for increasing the use of recycled and re-used materials.
- The setting of targets for reducing the use of high-embodied carbon materials.
- The setting of targets for minimising waste.
- Evidence of due diligence carried out on the source of materials used.

The opportunities this presents for the use of timber and wood fibre as a low embodied carbon building material, as well as recycled wood are clear. Additionally, early consideration of alternative off-site methods of manufacturing and construction to reduce the overall carbon footprint of building works.

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<sup>48</sup> [Social Partnership and Public Procurement \(Wales\) Act 2023](#)

We propose to:

- seek ways to optimise the use of government levers, making the best use of our powers to support and drive progress to a thriving timber industry.
- use our fiscal powers to spend in a way that supports the transition to Net Zero, including the resources we use as a government and in the Welsh public sector via public procurement
- continue to work with public sector partners to seek ways to improve the accessibility and visibility of the pipeline created by public sector infrastructure projects
- work with industry and academia to research and provide sufficient evidence to give lenders, valuers and insurers confidence about barriers such as perceptions around safety, fire risk, longevity of wood
- work closely with UK Government and Devolved Administrations to maximise cross-Border potential for Wales regarding flows to, through and from each side of the border
- work with forestry and timber stakeholders to encourage preparation and readiness for the opportunities presented by the Social Partnership and Public Procurement (Wales) Act 2023.

### **Supply Chain Development**

The Welsh forestry sector includes many family-owned businesses with a predominantly rural base, providing valuable employment opportunities for local communities. Some of these enterprises are also involved in the management of predominantly smaller and more diverse native woodlands. Access issues and management of threats posed by grey squirrels and deer are some of the common challenges faced.

In Wales, although limited hardwoods are processed, most sawmills rely heavily on softwood timber as their raw material. They produce a range of timber products, including panel boards, sawn timber used for construction, packaging, flooring and fencing, wood energy products including pellets, chips, brash bales and firewood for industrial, commercial and domestic use. Also niche products such as charcoal, furniture and craft products and supplies to the paper tissue manufacturing sector.

The supply chain needs to be ready to take advantage of the opportunities presented by increased timber demand, ensuring processors of all scales are able and motivated to produce high value timber products in Wales. Consideration needs to be given to how much home-grown timber is going into low value applications such as fencing, packaging and pallets.

Wales does not produce added-value processed timber such as structural glulam, cross-laminated timber (CLT) or wood fibre insulation, despite growing the appropriate timber for these outputs. These high added-value products will be key for building high-performing, low-carbon, 21<sup>st</sup> Century buildings. Low value outputs reduce financial returns for Welsh landowners and social returns for Wales in terms of environmental quality, climate change mitigation and quality jobs.

We propose to:

- continue discussions with Forest Research about improvements to data on end-uses of UK timber, including options to re-start and update the timber utilisation report<sup>49</sup> last published in 2015.
- work with stakeholders to support existing and emerging enterprises to use home-grown timber and to flourish at many different scales, including supporting co-operative initiatives, contributing to the Welsh economy.
- support the development of economic opportunities for timber from biodiverse, deciduous woodland and thereby expand and diversify the market.
- discuss with the private sector what support is needed to increase the capacity of sawmills to tackle trunks routinely considered “oversize”.
- promote better integration along the whole supply chain involving owners and growers, managers and contractors, primary, secondary, tertiary processors and the end user, with leadership and direction from the private sector.
- foster and maximise the potential of value chains, from forest to product – to enhance the product’s value as it moves along the supply chain, strategically using the Welsh resource for maximum benefit.

NRW’s Timber Sales and Marketing Plan<sup>50</sup> says that at least 70% of the five-year programme will be offered through conventional tender sale to the open market. Alternative Sales methods to the standard auction process could be employed for the remaining (up to) 30% of harvested volume.

Some progress has been made with a few of the options, including some pilot work by NRW with Woodknowledge Wales around designated supply contracts. There has also been some work done to enable community woodland contracts. Community groups are exploring with NRW the potential of alternative timber sales methods e.g. community (roundwood) and community (standing sale).

We would welcome further efforts by NRW to explore alternative timber sales methods to enable Wales make best use of the opportunities of the up to 30% potential.

In the longer-term, forest planning should consider species choice to meet market demand for volume and specification, while building in increased flexibility to adapt to changing market prices and offer greater availability of different types of timber.

When NRW next engages stakeholders to refresh their Timber Sales and Marketing Plan, we propose opportunities should be explored such as:

- How to better align the timber being offered to the market with the needs of the sawmillers, including small and medium-sized, with consideration given to matching the timber supplied with the intended markets and end-products, also exploring greater use of alternative timber sales methods.
- How to capitalise on market trends/demand for different material production from a crop (product breakout).
- Timing and scale of sales to align timber availability to peak demand seasons.

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<sup>49</sup> [Other Timber Statistics - Forest Research](#)

<sup>50</sup> [Natural Resources Wales / Timber sales and marketing plan 2021-2026](#)

## **Priority 5: Developing Sector Capacity**

### **Recruitment and retention of a skilled workforce**

As set out in the Net Zero Skills Action Plan<sup>51</sup> the Welsh Government is committed to creating a Wales where individuals of all ages can receive a high-quality education, with jobs for all and where businesses can thrive in a net zero economy.

As we transition to a stronger, fairer, greener Wales, we need an expanded, skilled workforce to manage our trees forests and woodlands. There are not enough people with the right skills to support current and anticipated future needs.

New people are not joining the sector in sufficient numbers. There are low numbers of trainees on full-time forestry-related Further Education courses as well as low Apprenticeship numbers in Wales. The sector is made up of a significantly high number of micro businesses and sole traders, which compounds the challenge for new entrants entering the profession as these businesses find it financially unviable to take on apprentices and untrained staff.

Forecasts are showing these gaps widening without positive intervention. There is an urgent need to recruit and retain skilled people at all levels in the industry.

Reasons for unfilled Vacancies (% response)

RDI Associates Ltd.

Forestry Workforce Research

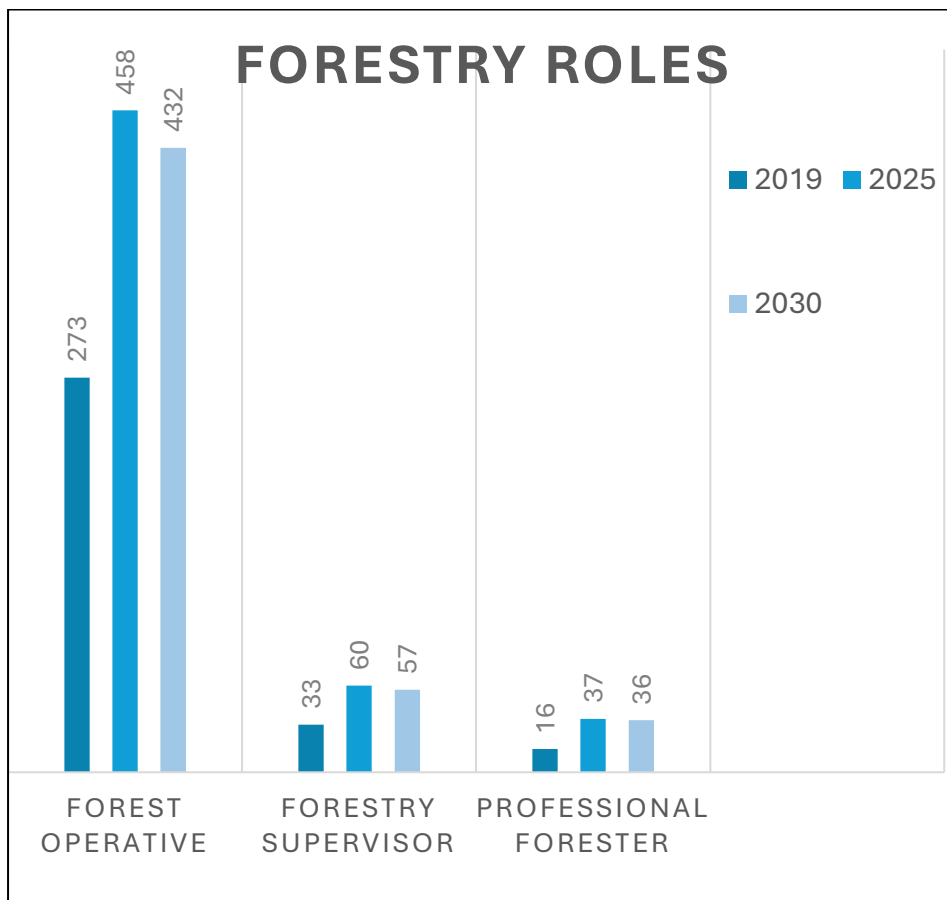
<b>If you do have unfilled vacancies, why do you think this is?</b>	
<b>Reason Categories</b>	<b>Frequency</b>
Lack of skills/experience	39
Pay	14
Demand/competition	12
Internal issue	11
No interest in role	7
Location issues	7
Not aware	4
Training issue	3
COVID-19	1

*Figure 9 Online Survey - Reasons for Unfilled Vacancies*

Source: Forestry Workforce Research (Forestry Skills Forum) 2021

Quantitative forecasts of future workforce needs were undertaken to provide an indication of the future demand over the next ten years, from a 2019 baseline. The totals, including additional need due to attrition, are outlined below.

<sup>51</sup> [Net zero skills action plan | GOV.WALES](#)



Source: Forestry Workforce Research (Forestry Skills Forum) 2021

New skills requirements are emerging for the sector. Development of woodland management techniques and technical advances requires upskilling of the current workforce. Research continues on climate resilient productive species, both conifers and broadleaves, and developing skills around the successful growth of new species is essential. Whilst there are skillsets within forestry that are transferrable, particularly with other land-based sectors, the expense of gaining certificates and qualifications can be a barrier.

There is ambition to build more houses using alternative methods of construction<sup>52</sup>. As off-site manufacturing increases, including in the building of social homes, the workforce including sawmillers, needs to be supported to develop suitable skills. There is a lack of courses available for learners and the current workforce on the science of timber and its use in construction.

The Tai ar y Cyd project enables social landlords and local authorities across Wales to select from a suite of timber framed house specifications which are manufactured offsite. The need for skilled operatives throughout planting, management, harvesting

<sup>52</sup> [Social house building strategy](#)

and milling is essential to ensure there is knowledge and understanding of timber properties.

Employment in the forestry sector goes far beyond the well-known traditional job profiles of Forest Manager and Forest Worker. Supporting economic growth and environmental sustainability, green jobs in both the forestry and timber sectors contribute to the fight against climate change and align with the ambition of achieving Net Zero by 2050.

## **Skills Challenges**

To increase woodland creation and bring established woodlands back into management, we need to support landowners to develop their skills and training in sustainable woodland management.

We want to see more of the usable timber grown in sustainably managed Welsh woodlands being harvested and greater value being added to it during processing. We want to see more markets, particularly local ones, being further developed for timber and non-wood products from farm woodlands and agroforestry systems.

We need to support forestry businesses to develop and strengthen their business skills providing them with the opportunities to compete for contracts and retain business in Wales.

As we move towards an increase in demand for structural timber, it is important that our Sawmills are equipped with the skills to deliver for construction sector requirements. Of the UK's 139 sawmills processing roundwood in 2023, 9% were in Wales. Over the past ten years, there has been an 18% decrease in the number of active sawmills<sup>53</sup>. The vast majority of the UK's sawmills are small, producing less than 25 thousand cubic metres sawnwood each. In Wales, the small and medium sawmills are an integral part of the rural economy and have the opportunity to process timber suitable for the housing market.

We propose to:

- support farmers and other landowners with the appropriate training and knowledge to bring timber and timber products into the local supply chain, placing an economic value on the woodlands by extracting chosen stands for timber use which will have a wider benefit to local supply chains.
- review existing mechanisms of support for post-16 training to include Apprenticeships and understand better how best to support forestry businesses to foster learning and increase workforce capacity.
- undertake a workforce review to understand the sector skills requirements.
- collaborate with forestry, timber and built environment organisations on cross-sector knowledge exchange, on a local and national scale.

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<sup>53</sup> [Forestry Statistics 2024 - Forest Research](#)



## **Sector Attraction**

With continuing urbanisation there are fewer opportunities for children and young people to connect with forests. The Eco-Schools programme and the development of the new curriculum provides opportunities to educate and engage with young people. Through the Curriculum for Wales, Health and Wellbeing, Humanities, Science and Technology as well as areas of Learning and Experience, provide opportunities for schools to embed learning about climate and nature. Children can learn about the many different services the forests provide, such as clean air and water, the mitigation of climate change as well as the associated career opportunities.

We have an opportunity within the curriculum to illustrate how timber and innovative timber products support low-carbon construction, sustainability, helping to protect the environment. Embedding timber into curriculum areas including design and technology as well as business and mathematics allows young people to recognise the career progressions associated with the timber sector, green skills and green economic growth.

Collaboration with other land-based sectors provides the opportunity to showcase the multidisciplinary nature of forestry careers and the transferrable skills needed for sustainable land management, sustainable land management, biodiversity and food systems placing a high environmental value on the timber we produce. We need to promote the sector in a way that dispels the negativity around productive forestry and teaches young people how we manage our forests and how we use the timber in a sustainable way.

We want to see forestry skills integrated into the syllabus of other land-based courses and develop an understanding that trees and woodland provide environmental and economic value to farming systems.

We need professionals in the built environment to have a better understanding of timber and its properties. Understanding timber properties and products such as cross laminated timber (CLT) at the project conception stage is key to sustainable developments. Consideration needs to be given by Further and Higher Institutions of the inclusion of timber knowledge at all levels of education.

We propose to:

- review any gaps identified to current training programmes and liaise with the forestry training providers to encourage the development tailored programmes to provide the skills to enable rapid uptake of innovation and new technologies.
- review education and training programmes for timber use in construction to include timber grading and merchandising.
- support the development of modern apprenticeships suited to the needs of the off-site timber.
- work with the sectors to promote the integration of forestry and timber knowledge at an early age (pre-16) across the curriculum.

- promote a collaborative approach, forestry working with other land-based sectors to stimulate interest in land and natural resources management careers.
- develop a communications plan to promote the sector, with a focus on elevating its status and showcasing the professionalism and diverse opportunities.

## **Recruit and Retrain**

We need to consider how we welcome a diverse range of people into the sector and support them, allowing them to thrive and develop their career through skills and training, health and wellbeing. Third sector organisations make an important contribution, often offering opportunities for people, including people from marginalised groups, to have their first encounter with woodlands. Through volunteering and/or skills development in the community woodland setting, an interest can be sparked that may lead to future employment in the sector. We can learn from existing initiatives, such as the Royal Forestry Society's Forestry Roots Programme<sup>54</sup>.

Whilst providing direct support to a particular group is important, what is essential is to consider equality, diversity and inclusion throughout our development of the forestry and timber sector skills and training. Forestry and Construction are often seen as two of the most male dominated industries. We should build on the good work that is being delivered by The Landworkers Alliance<sup>55</sup> who proactively support women and diverse genders in Forestry<sup>56</sup>.

Advances in digitalisation and automation within the forestry sector broaden the opportunities and skillsets required. As well as training new entrants, it is important that opportunities exist for the current workforce to retrain and upskill and progress on a structured pathway which allows them to evidence their competencies.

For those over 20 years old and seeking to re-enter the labour market after redundancy our ReAct+<sup>57</sup> programme continues to provide grant support for vocational training, travel costs and care (including childcare) related to all forms of training, including net zero skills.

We propose to:

- work with stakeholders to support people from disadvantaged socio-economic backgrounds and those from urban settings with no connection to forestry but an interest and an appetite to understand the sector better.
- encourage well-designed training that is fit for purpose to enable vocational learners to have a broad range of competencies to deliver ecosystem services at the landscape scale.

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<sup>54</sup> [Forestry Roots - Royal Forestry Society](#)

<sup>55</sup> [Landworkers' Alliance](#)

<sup>56</sup> [Women and Diverse Genders - Landworkers Alliance](#)

<sup>57</sup> [ReAct Plus | Working Wales](#)

- support organisations to promote the forestry and timber sectors to those with transferrable skills with an interest in retraining and entering the forestry and timber professions.

## **Progression, Continuous Professional Development**

Continuous professional development (CPD) is recognised as a must for any role. CPD is essential in the forestry sector to ensure professionals stay updated on advancements, meet legal and environmental standards and manage forests sustainably. Developing a framework which sets out typical requirements for qualifications at each level of competency will allow the workforce to develop in a way that provides universal recognition across the sector. There are many roles in forestry with cross-over and it can be difficult at times to attribute a level of competency to the role. A framework will help alleviate the challenge.

The Flexible Skills Programme training offer that is detailed below allows businesses to prioritise training needs for their business and their employees. With the advances both in engineering and technology we should consider the need for new training courses for the forestry workforce.

Supporting development of leadership and management through initiatives such as the Institute of Chartered Foresters' Emerging Leaders Programme<sup>58</sup> is essential for forestry businesses and the forestry sector.

Timber Frame businesses often conduct in-house training as there are no courses available in Wales. Understanding the skills level required to support employees to progress within the industry is key to sustaining a knowledgeable and experienced workforce.

As we develop new qualifications and training that is appropriate for the sectors it is essential that we work cross border to avoid duplication and promote efficiency and best practice.

We propose to:

- develop a set of competency frameworks to demonstrate career progression within the sector.
- work with the sector to develop a standardised industry recognised tool allowing the workforce to record training and evidence CPD.
- develop higher level professional training programmes working with other Nations to ensure a consistent approach

## **Research, development and knowledge exchange**

The Welsh Government, along with the other Nations, supports Forest Research to deliver the Science and Innovation Strategy for forestry in Great Britain (the SIS). Effective and timely research provides an improved evidence base, leading to increased knowledge and understanding. This can aid the development of new

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<sup>58</sup> [Emerging Leader Programme - The Institute of Chartered Foresters](#)

policy and practice, informed by science and can help sustain a skilled research community with an increased national capability

Welsh Government represents Wales on the Steering Groups of all research programmes across the SIS and over the next 12-18 months will be involved in a refresh of the SIS for its next c.5-year cycle along with the other nations and Forest Research.

To improve our evidence base and to keep our collective knowledge up to date, it is important to communicate the findings from research, case studies etc. Bringing stakeholders together can foster collaboration and innovation, ensure transparency, resilience and equitable sharing of information.

We propose to:

- reach out to engage stakeholders to ensure Welsh needs and priorities are identified and communicated into the process of developing the next SIS.
- co-ordinate a knowledge exchange programme for forestry and timber stakeholders. These will involve presentations from a range of speakers from the public, private and third sectors and events will include conferences, workshops and webinars.

## **Innovation**

New technology and digitisation can offer potential, for example to:

- Improve forest management, to monitor forests more efficiently, optimising harvest and minimising waste
- Optimise wood valorisation and processing
- Aid timber tracking and traceability, logistics and transportation

Automation is desirable in some contexts and can lead to resource savings and increased productivity. It is, however, important to recognise there are other benefits to be gained, through alternative approaches which remain people focussed. For example, “hands-on” experience in the woodland offered through the network of community woodlands (see Llais y Goedwig<sup>59</sup>). Also training in the woods and workshops of organisations such as Down to Earth<sup>60</sup> who seek to tackle social inequality and the challenges of sustainability at the same time.

The Third Sector is another source of innovation, piloting different ways of doing things, which can be inspirational to all. An example would be the Dewis Gwyllt<sup>61</sup> project, funded under the Rural Development Programme for Wales 2014-2020. Dewis Gwyllt, joint initiative between Llais y Goedwig and Wild Resources Ltd, explored and researched opportunities for income generation from wild forest products such as sap, berries and fungi to support community woodland groups in Wales.

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<sup>59</sup> [Llais y Goedwig – The voice of community woodlands in Wales](#)

<sup>60</sup> [Down to Earth Project - Doing good things together](#)

<sup>61</sup> [Home Page - Dewis Gwyllt](#)

We propose to:

- design appropriate revenue and capital grant support, tailored to available resources, with the aim of maintaining a resilient sector, developing capacity, building more resilient supply chains.
- support innovation, the development and adoption of new products, processes, technologies.
- work with the private sector as they explore private finance options to support the industry. Private sector to also highlight any opportunities to bring public and private finance together to achieve value for money and best results.

## **Priority 6: Underpinned by behaviour change**

### **Improving public understanding of productive forestry**

Surveys of public attitudes to forestry and forestry-related issues have been conducted by Forest Research (and previously the Forestry Commission) since 1995, generally on a biennial basis. These surveys are used to inform and monitor policy development.

Although the Public Opinion of Forestry 2023 Wales survey<sup>62</sup> recorded that most respondents (90%) believed the woodlands near them provide at least one benefit for the local community, support for most woodland benefits fell significantly when compared with 2021. For example, “they help to remove carbon dioxide from the atmosphere helping to reduce the impact of climate change” fell by 26 percentage points from 2021 to 2023. Responses identifying “they provide timber and other wood products” as a benefit fell from 24 to 17 percentage points as did responses identifying “they support the local economy”. “They give people in the community opportunities to work together” fell from 27 percent in 2021 to 16 percent in 2023.

We propose to work with stakeholders across all sectors to:

- enhance and promote understanding of the benefits of productive forestry.
- raise the visibility of the opportunities for varied careers in the sector, including high-paid jobs.
- promote understanding of trees, timber and wood fibre’s contribution to carbon sequestration and storage.
- promote understanding of the need for the materials transition and the importance of timber in this regard.
- encourage greater awareness of the health benefits of timber in construction.
- encourage communication and promote understanding between different parts of the supply chain e.g. foresters, sawmills, trades, architects, planning officials, building inspectors.
- “myth-bust” negative perceptions about the “quality” of Welsh wood, demonstrating practical applications and uses in construction.

### **An Industry Leadership Group for Wales**

In Scotland, there is an established Industry Leadership Group, the Scottish Forest & Timber Technologies Industry Leadership Group.<sup>63</sup> It is co-chaired by the Minister for Environment and Land Reform and an industry representative. The group meets twice or three times a year to discuss immediate industry opportunities and challenges. The aim for the collective group is to strengthen business to business and business to Government relationships by facilitating cross-industry conversations and actions which focus on things of greatest strategic importance for industry, examining cross sector opportunities and potential synergies. It provides a forum for action by identifying where, how and what industry and government can most effectively work together on to drive economic growth and prosperity.

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<sup>62</sup> [pofwales-report-13jul23.pdf](#) Forest Research 2023

<sup>63</sup> [About The ILG – Scottish Forest and Timber Technologies](#)

We propose:

- to explore with Confor and the wider forestry industry the potential of setting up a similar Industry Leadership Group in Wales, led by the industry with public sector collaboration and support. Such a group could aid constructive dialogue and provide structured opportunities to discuss the industry's needs and to identify opportunities where support and input from government can add value.

**Recruit a Chief Forester for Wales, to advocate for the Sector, raising its profile and encouraging professionalism**

Scotland has a Chief Forester. This is a part-time role<sup>64</sup>, with the postholder appointed by Scottish Forestry, on behalf of the Scottish Government, for a maximum of four-years before the appointment process is repeated.

Introducing a Chief Forester for Wales would give the sector a high-profile champion. They would give professional advice to Welsh ministers. As in Scotland, the Chief Forester would act as Head of Profession for foresters working in the public sector, with a responsibility to promote and maintain professional standards across Welsh forestry. Outreach work to promote the sector more broadly could include raising awareness of forestry as a career and promoting the range of available job opportunities. The Chief Forester could also provide input to the skills actions to help ensure that the right education and training opportunities are available to Wales.

We propose:

- to recruit a Chief Forester for Wales, via an open, competitive appointment process.

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<sup>64</sup> [Scottish Forestry - Chief Forester for Scotland](#)

## Consultation Response Form

Your name:

Organisation (if applicable):

email / telephone number:

Your address:

Consultation Questions:

1. Increasing timber supply
  - i. How can the sustainable forest resource grown in Wales, be increased to make more timber and wood fibre available for the future?
  - ii. How can volumes of Welsh timber and wood fibre coming to market be increased?
2. Increasing resilience in our forests
  - i. What actions can be taken in Wales to reduce the risks to our forests posed by climate change and pests and diseases?
  - ii. How can growers and nurseries accelerate the implementation of adaptation measures?
3. Resource efficiency and circular economy
  - i. What actions could be taken in Wales to encourage reuse and recycling of wood to minimise waste?
  - ii. How could Wales promote innovation, to design and manufacture wood-based products with increased value, extended durability and climate resilience?
4. Instilling confidence in demand
  - i. What actions could be taken in Wales to increase the use of timber and wood fibre in long-term uses, such as construction?
  - ii. How can we use home-grown timber and wood fibre to maximise local supply chain opportunities?
  - iii. How can Wales better align timber supply with market demand?
5. Developing sector capacity
  - i. What challenges need to be addressed to improve recruitment and retention in forestry and timber industries in Wales?
  - ii. What gaps are there in forestry and timber training and skills provision in Wales?



- iii. What actions are needed to support the development and adoption of new products, processes and/or technologies?
6. Underpinned by behaviour change
- i. What actions are needed to improve public understanding of productive forestry?
  - ii. Do you support the proposal to establish an Industry Leadership Group in Wales? Yes/No
    - a) If yes, what contribution could it make during the implementation of the Timber Industrial Strategy?
  - iii. Do you support the proposal to recruit a Chief Forester for Wales? Yes/No
    - b) If yes, what added value would the role bring to the forestry sector in Wales?
7. What, in your opinion, would be the likely effects of the proposals on the Welsh language? We are particularly interested in any likely effects on opportunities to use the Welsh language and on not treating the Welsh language less favourably than English.
- i. Do you think that there are opportunities to promote any positive effects?
  - ii. Do you think that there are opportunities to mitigate any adverse effects?
8. In your opinion, could the proposals be formulated or changed so as to:
- have positive effects or more positive effects on using the Welsh language and on not treating the Welsh language less favourably than English; or
  - mitigate any negative effects on using the Welsh language and on not treating the Welsh language less favourably than English?
9. We have asked a number of specific questions. If you have any related issues which we have not specifically addressed, please use this space to report them. Please enter here:

Responses to consultations are likely to be made public, on the internet or in a report. If you would prefer your response to remain anonymous, please tick here: