

# Growing furniture in Wales







## Introduction

Wales lost much of its furniture industry from the 1990s on. Globalisation brought cheaper imports. Consumers expected everything to be fast and throw-away. Tastes for furniture changed, and online shopping impacted on storage costs and delivery expectations. These market shifts meant the management and supply of Welsh timber for furniture design and higher value manufacturing declined. But times have changed.

Sustainable materials are continuing to gain favour as consumers better understand the impacts of climate change, synthetic materials such as plastic, and the consequences of disposability. Companies are under pressure to report on environmental, social and governance (ESG) responsibilities and set targets to reduce material impacts and carbon footprints.

Wales still holds its heritage of furniture design. It is home to contemporary designers working with Welsh timber,

and there is growing interest coming from young creatives. Welsh forestry management is now better prepared to reconnect with the furniture industry. With the availability of hardwood timber set to double in Wales over the next 30 years, it is an advantageous time to capitalise on this boost in material supply and customer demand.

This document is a collection of existing knowledge, experience and contacts, with contributions from some of the designers, sawmill owners, manufacturers and educators that are already working with Welsh timber. They demonstrate what can be achieved, but more action is needed to create a bigger collaborative network that will secure the future of Welsh timber and woodland.

Above: The Caerphilly Chair, designed by Fraser Smith, constructed from solid Welsh Oak felled from the Ruperra forest.



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Coed Cymru was established in 1985 to: provide free and impartial advice and training in forestry; promote co-operation between woodland owners, woodland contractors and timber users; and to develop timber products and markets to ensure that woodlands have a firm economic base to ensure their continued management.

[www.coed.cymru](http://www.coed.cymru)



Conceived by Dylan Glyn Jones and Lynne Elvins, this document builds on the conclusions of the 'Welsh Timber Supply Chain in Furniture Design and Manufacturing' report (2019), with the aim of creating next-step activity to increase demand for high value Welsh timber from designers and manufacturers in the furniture industry.

This follow-up document is intended as a conversation starter, to stimulate more discussion, debate and experimentation. Thank you to everybody that participated, especially those who openly shared their conversations.

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Both documents can be downloaded as a pdf at:  
[www.coed.cymru/resources.html](http://www.coed.cymru/resources.html)

Cover image:  
[simon@simonclodefilms.com](mailto:simon@simonclodefilms.com)

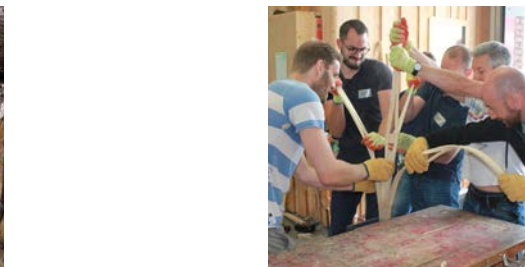
## Growing Furniture in Wales

Wales has a fragmented network of forests across farms, estates, other private land, as well as land under the management of Natural Resources Wales (NRW). Coed Cymru has access and relationships with this network.

Designers need to understand the origins and attributes of timber first. Then design with this in mind to make the most of it's characteristics. Manufacturers need to be sure of supply, with access to the right mills with suitable stock and expertise.



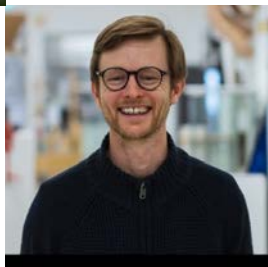
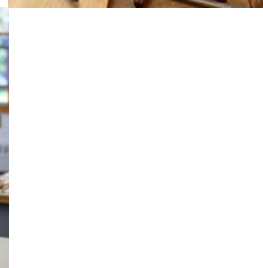
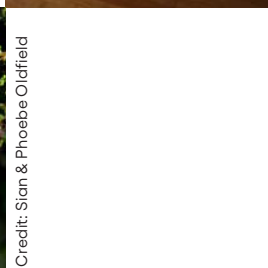
**“We don’t want to design new items that just end up being manufactured overseas and shipped around the world.”** Marcus Beck



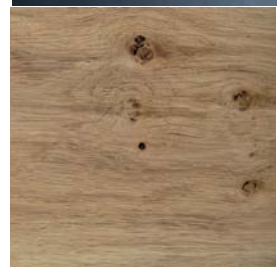
**“Imagine what we might design to regenerate the forest, and then connect with customers that want to invest in that regeneration.”** Lynne Elvins



**“Investment in all areas of the furniture industry is required urgently if we are serious about meeting environmental targets.”** Dylan Jones



**“The buying public respond to the back story of the product they’re buying, it’s a strong marketing edge.”** Aled Lewis



**“Following raw timber on its journey, from felling to the final artefact, deepens awareness of the impacts of what and how we design.”** Huw Williams



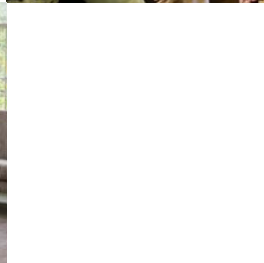
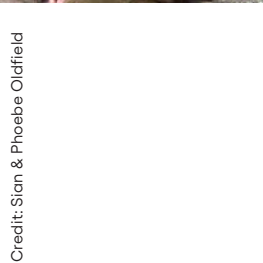




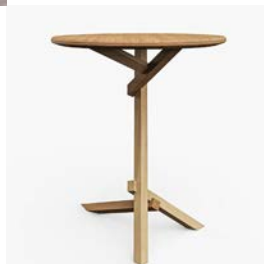
**“Design’s challenge is to make the future fulfilling and exciting, for producers, consumers, and the environment.”** David Colwell



**“Well managed forests create jobs in rural communities, they improve land, and ultimately they support clean water and air.”** Gareth Davies



**“Using local materials is a key criterion in any design brief – thinking local is first base thinking.”** Angela Gidden



**“Small batch or limited edition production is where locally sourced wood can bring an aesthetic advantage as well as being a more sustainable material.”** Phoebe Oldfield

**“The industry is changing – people now want the story, companies want sustainability.”** Kenton Jones



**“My sketch book is full of wood-based concepts. I morally have a responsibility to redress the material selection process in my own work.”** Luke Palmer

## High-grade Capacity

### Gareth Davies // Coed Cymru

Gareth has been Director of Coed Cymru since 2017, having previously worked for the charity as Finance Officer. He also set up Grwp Coed Cymru in 2021 which works with land owners on tree planting and carbon schemes. He also run his own tree nursery business near Machynlleth.

[gareth@coed.cymru](mailto:gareth@coed.cymru)



“ Coed Cymru works to maintain forestry management across a fragmented network of land ownership in Wales - much of it on farmland. Our role is to underpin the commercial and natural value in those forests. Furniture design and manufacture has an important part to play in that.

We have the capacity to produce plenty of furniture-grade timber in Wales, but it is only around 20% of a timber crop. We know that high-grade potential can be lost to the market as firewood if woodland owners do not understand how to capitalise on its value.

We are working to close those knowledge gaps and reroute this high value material into the furniture industry where it belongs. The benefits of this are not limited to a reliable stock of timber. Well managed forests create jobs in rural communities, they improve land, and ultimately they support clean water and air.

We are planting trees and managing forests for carbon capture. What we seek are new conversations with larger businesses and more designers that want a highly sustainable material for use in specialist ranges or quality component parts. It is only with a committed supply chain, working together to convert more Welsh timber into high value products, that Coed Cymru can ensure that well managed forests maintain and increase supply. ”

### Hardwood availability forecast for Wales

Thousand m3 p/a	NRW	Private	Total
2013-2016	12	26	38
2017-2021	11	46	57
2022-2026	17	77	94
2027-2031	12	100	112
2032-2036	14	115	129
2037-2041	19	153	172
2042-2046	56	243	299
2047-2051	19	227	246
2052-2056	28	198	226
2057-2061	28	139	167

Hardwood timber availability is increasing. There is also a significant area of broadleaved woodland that is currently under managed in Wales. This presents an immediate opportunity to acquire timber suitable for furniture design and manufacture as well as other high value applications.



# Preserving Forests

## Mike Richards // Coed Cymru

Mike has a background in forestry and farm woodland management, and expertise in managing native woodlands. He is a specialist in ancient woodland restoration and an advocate of near to nature forestry techniques and timber utilisation. Mike is also an associate member of the Institute of Professional Foresters.

mikercymru@gmail.com

“ Understanding the potential for Welsh timber is a mindset change. It is not about trying to mimic the imports - it is about the protection of our ancient woodland and the ongoing health of our forests.

Coed Cymru exists to promote the improved management of broadleaf woodlands and the use of locally grown timber in Wales. From our beginning we took an interest in the economic viability of timber and the potential in specific markets such as furniture.

It is well placed to connect the missing links between landowners and those that can make high value use of the best grade timber they might have in their forests. Making these links viable can be complicated. It includes the consideration of felling licenses and documenting which trees are being cut down in which location. Information like this needs to travel with the timber, so (like the breeding of quality livestock) we can track where good timber stock is coming from and make sure the buyers are aware of that provenance.

Coed Cymru has long-held relationships with farmers and other landowners. There is a new generation of those families coming through. They appreciate the challenges of climate change and other issues. They themselves have young children and are enthusiastic about ways to create a better future. And one of those ways is connecting with other like-minded people through organisations like Coed Cymru.



A single farm on its own might have 20 trees with the potential for furniture making, which is not necessarily enough to be seen in terms of commercial viability. But in combination with other farms, the supply has potential for bigger buyers.

In the meantime, ongoing forest management can ensure more suitable trees are coming through to maintain and increase this supply. Connecting people in this way takes time and investment, but the reward is the ongoing viability of our network of forests.

We have so little woodland left, and yet areas of ancient woodland contain the highest and richest numbers of species within its eco-systems of flora, fauna and fungi. Working with the furniture industry is one way to protect that important natural resource for generations to come. ”

Imports accounted for 82% of all wood in the UK in 2017. This included 7.9 million cubic metres of sawnwood. Since 1993, Sweden has consistently been the principal country of origin for sawn softwood imports. Estonia was the largest single source of sawn hardwood imports (17%), followed by the USA (14%), France (11%), Italy (10%), Latvia (6%).

Source: [www.forestresearch.gov.uk/tools-and-resources/statistics/forestry-statistics/forestry-statistics-2018/trade-2/origin-of-wood-imports/](http://www.forestresearch.gov.uk/tools-and-resources/statistics/forestry-statistics/forestry-statistics-2018/trade-2/origin-of-wood-imports/)

## Designing With Nature

### Dylan Glyn Jones // Coed Cymru

Dylan trained in furniture design at Loughborough University. He went on to work in a variety of timber sectors from forestry to design and manufacture. With his own workshop in Caersŵs, he has worked on various value-adding and supply chain projects for Coed Cymru since 2010.

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“ There are constraints when designing with native timbers, but I see them as a positive challenge that can benefit nature, people and our communities here in Cymru. It isn't the easiest route to take if your objective is maximum turnover and profit, but experience shows that through using local or regional timber, it brings about broad benefits that are far reaching and longer lasting than using imports.

What seems on the surface as a simple decision to make better use of local timber can lead to a lifetime of learning and discovery of our environment and the people that it supports. Local communities who work in the timber industries are better placed to understand the regional supply chains and gain a deeper knowledge of maintaining and utilising their forest resource. Much of our timber isn't long, bland and straight-grained, but like the people of Cymru, is full of character born of the typography of the landscape, soil conditions and orientation to our changeable weather. We need to celebrate these unique attributes and work to their strengths.

A siloed approach to working does not create a smooth supply chain. Each element, from forestry, processing, manufacture, design and R&D need to work collaboratively if we are to produce products for the future that serve the needs of consumers in harmony with, and not to the detriment of, our woodlands. It is unfortunate that we

still see much of the Welsh timber supply chain fractured with many competing interests that hinder environmental and long-term economical outcomes. Investment in all areas of the industry is required urgently if we are serious in meeting both environmental targets along with creating good employment opportunities.

This way of working is a well-trodden path by our forefathers for which there are many great examples that we can be inspired by. Each of our native timbers has a positive structural and durable character that, once understood, can be applied to specific products and tasks. It is this unique potential that interests me most - and passing on that understanding to other designers. There is risk involved in research and collaboration due to the uncertainty of outcomes - but it is at this creative interface between forestry, design and research that brings about unexpected results and opportunities to generate new high value products and businesses.

Designers that specify materials for projects and products can have a big influence on improving the use of home grown timbers. I am encouraged to see designers engaging with our native timbers and shifting towards a more circular and regional approach that starts in our woodlands. A growing awareness of principles such as Biophilia, is also generating interest in specifying home grown timber and other natural materials.





Quite often it is the character 'Grade 2' and 'Grade 3' timbers with all their knots and wilder grain patterns that are desired (on non-structural components). But there is a knowledge-gap in understanding appearance grading of hardwoods, so work is also being done to improve this (see page 38).

It's also encouraging to see more tree planting happening across Cymru in recent years. To capitalise on this effectively in the future, we need to invest more in the processing and manufacturing sectors for equipment and skills training. This requires a national effort where all public and private partners in the forestry and timber sector work together. With clear intent and agreement in our shared future, significant improvements can be achieved over the next few years. Our woodlands have a story to tell and we need to honour it through good management and making the very best and efficient use of the timber nature gifts. ”



Since 2010, Dylan has been involved with a number of research and development projects for Coed Cymru.

#### **The Endgrain project**

[www.endgrain.org.uk](http://www.endgrain.org.uk)

A five year RDP funded supply chain and development project that specifically targeted the conversion of low value small dimensional woodland thinnings that would normally go into the firewood market, into high value and hard wearing endgrain floor tiles and cobbles. This saw unique work done on mensuration of standing timber volumes; unique production jigs developed and tested; research on drying and Thermal Modification of the tiles. Aims were to see a decrease in production costs whilst improving the financial benefits to woodland owners and contractors.

#### **The Wood Lab Pren project**

[@woodlabproject](https://www.instagram.com/woodlabproject)

A four year project for Caerphilly Council in collaboration with Coed Cymru. This saw the continuation of a design and research approach by Dylan to improve the uptake and use of regional timber in Caerphilly county. Notable projects were completed using timber directly sourced from the region and utilised by local businesses that benefited local communities. Information about the work can be seen on the projects Instagram page (above) and a number of webinars and short films were created for the Cwm a Mynydd YouTube channel.



## Forest to Furniture: Immersive Learning

By taking groups of designers into a managed forest, they can consider the potential for home grown timber from a fresh perspective. These immersive workshops create the opportunity to rethink design language, and they lead to new ideas for products and approaches that can address global challenges.

Led by Dylan Glyn Jones, with thanks to:  
Sarah Chapman - Coed Cymru  
Rob Goodsell – CAT Forester  
Dei John Watkin Jones – Mobile Miller  
Aled Lewis – Furniture Designer/Maker

On a cold winter day, eleven furniture designers and specifiers from Orangebox, MadeFine&co., and Osmose Studio came together for an immersive journey through the timber supply chain. It began in the woodlands, then onward to processing at a mill, and finally to a furniture workshop. The aim is to 'Inspire and Educate' people about the benefits of using home grown hardwood timbers. By engaging directly with forestry and timber practitioners, it encourages them to apply new ideas in their own projects.

Our first venue was the Centre for Alternative Technology (CAT) located north of Machynlleth, where a well wrapped-up group were led into the nearby woodlands by Rob Goodsell, CAT's forester. He explained:

- How trees grow
- Different species and where they grow
- How woodlands are managed for biodiversity and product viability
- How to visually grade standing trees
- The basics of felling and extraction

Although this type of introduction only scrapes the surface of the topic, Rob highlighted some of the most important elements that are relevant for designers. This stimulated many questions and created a discussion on the importance of good forest management through an approach known as Continual Cover Forestry (CCF). In summary, CCF aims to develop structurally, visually and biologically diverse forests in



which sustainable production of quality timber is achieved along with provision for a wide range of ecosystem services ([www.ccfg.org.uk](http://www.ccfg.org.uk)).

After a tea break and a warm-up, we moved nearby to a demonstration of timber milling by Bala-based Dei John Watkin and his son Harry, using their portable Woodmizer bandsaw mill. Dei took the group through the basics of each stage of milling a log:

- Cleaning bark of soil and stones
- Orientating a log onto the mill
- How a bandsaw mill operates
- Milling a log into slabs
- Various ways of milling a log depending on the end product required
- Stacking milled timber for air drying
- Appearance grading each board during processing

It was great to see the reaction of the group as the first slab was cut and the top board was removed to reveal the beautiful inner grain of the tree. A notable link was made between the standing trees of the woods and the magnificent grain of the timber. That moment of the full creative potential of a piece of timber being revealed for the very first time was greeted with broad smiles.

After a hearty lunch at CAT's café, we drove a short distance to the furniture workshop of Aled Lewis, located further up the beautiful Dyfi valley. Here, the group were in more familiar surroundings and could see the





progression of the milled and dried timber ready to be machined into component parts for furniture or products. Aled's years of experience of handling and converting raw timber into quality furniture came to the fore as he discussed:

- Selection and grading of timber for specific products
- Expansion/contraction across the grain
- Moisture content and drying
- Unique qualities of various species and the advantages/challenges
- Manufacturing techniques such as steam-bending, laminating, and jointing

Though the designers were aware of many aspects of the manufacturing process, with the morning's experience of the forest and milling still fresh in their minds, they gained a deeper perspective. There was a new level of appreciation from connecting the timber products they were now seeing at Aled's workshop with the direct impacts on our environment and the changes needed to improve the current supply chain.

The day ended with an evening meal in Machynlleth, providing an important opportunity for the group to relax, reflect and share what they had learnt. There had been a lot of information to take-in, but spending time outside in the woods, and witnessing a tree's journey to becoming a product, there was clear excitement from the designers about how they could now find new ways to engage directly with forestry.



**"The team was super enthused by this experience, and is now engaged in the wood conversation with fresh impetus. This has raised our knowledge and understanding."**

**Luke Palmer, Principal Designer, Orangebox**

**"An incredibly inspiring day. It sparked questions, conversations and was a thoroughly interesting and real perspective of the journey of a tree to wood to product."**

**Angela Gidden, Principal Designer, MadeFine&co.**

**"An awe inspiring mind refresh!"**

**Mark Partrage, Design Manager, Orangebox**







## A Community of Farm Forestry

### Heulwen Davies // Davies Implements

Logosol Agents  
Blaenteg, Trevaughan,  
Carmarthen, SA31 3QN  
01267 237726  
[www.daviesimplementsltd.co.uk](http://www.daviesimplementsltd.co.uk)



“ Established in the 1930s, we’re a family run company that began by servicing and repairing agricultural machinery. We continue to work with agriculture, but we now supply into arboriculture, forestry and horticulture as well. One of our more recent ranges is equipment for timber cutting such as planners, molders and sawmills.

Most farms in Wales have five-acre fields. The topography of the land involves significant slopes, higher altitudes and winds. It’s not suitable for large-scale farming equipment when it comes to managing hedges and other maintenance. Over the years we supplied those farms with wood chippers to make mulch rather than burning the hedge trimmings, and through that they’ve moved on to other forms of wood processing.

There’s an increasing number of farmers who realise that they can make better use of the trees that are coming down, or need to come down, on their land. Whereas they might have only considered turning it into firewood or chipping it, they are now understanding that with the Logosol range of equipment we offer, they might turn it into fencing or cladding rather than buying imported timber. The next stage on that journey is them understanding that some of their timber is suitable for furniture makers and therefore has an even higher value.

We need more people realising this, because some really good quality wood is going to waste. This new route enables farmers to be more creative about the ways in which they diversify. With connections to others with the right facilities, they can sell the very best of their timber for a premium.

Wales is not suited to the idea of one big milling company or timber yard. But Wales can capitalise on a community of farm forestry and milling. The bonus is that farmers being more closely connected to a community of furniture designers and manufacturers means they can see their timber being turned into wonderful products that last a lifetime – the legacy of that for agricultural families in Wales is such a positive opportunity. ”



# Welsh Forestry Network

Coed Cymru is part of a network of organisations and knowledge in Wales that supports the regeneration of woodland, forestry management, supply chain activity, and community engagement.



## National Forest for Wales

Welsh Government commitment to create new woodland and restore ancient woodlands. In time, this will form a connected network of woodlands for social, economic and environmental benefit.

[www.gov.wales/national-forest-wales](http://www.gov.wales/national-forest-wales)



## Cyfoeth Naturiol Cymru / Natural Resources Wales (NRW)

NRW is a Welsh Government Sponsored Body and principal adviser to Welsh Government about issues relating to the environment and its natural resources.

[www.naturalresources.wales](http://www.naturalresources.wales)



## Wood Knowledge Wales

With a focus on timber for housing and construction, Wood Knowledge Wales develops forest industries from tree to product to benefit the economy, the environment and people.

[www.woodknowledge.wales](http://www.woodknowledge.wales)



## Coed Cadw / The Woodland Trust

The Woodland Trust in Wales plants trees and campaigns for better protection for woodlands across the country. It also looks after more than 100 woods in Wales covering an area of 2,897 hectares.

[www.woodlandtrust.org.uk/about-us/where-we-work/wales/](http://www.woodlandtrust.org.uk/about-us/where-we-work/wales/)



## Coed Lleol / Small Woods Wales

The Small Woods Association in Wales improves the health and wellbeing of people through woodland and nature-based activities. It has a track record in managing Social Forestry projects.

[www.smallwoods.org.uk/en/coedlleol/](http://www.smallwoods.org.uk/en/coedlleol/)



## Llais y Goedwig

Established by Coed Lleol, Llais y Goedwig is a network organisation connecting community woodlands in Wales. It is a 300 member strong grassroots network that represents and supports community groups and practitioners across Wales.

[www.llaisygoedwig.org.uk](http://www.llaisygoedwig.org.uk)



## Wales Biodiversity Partnership

Brings together key players from the public, private and voluntary sectors to promote and monitor biodiversity and ecosystem action.

[www.biodiversitywales.org.uk](http://www.biodiversitywales.org.uk)



## Forestry and Woodland in Wales

This research briefing examines the current state of Welsh woodlands, who owns and manages them, and how they are changing.

[www.research.senedd.wales](http://www.research.senedd.wales)



## National Inventory of Woodland and Trees

The National Forest Inventory (NFI) provides accurate information about the size, distribution, composition and condition of forests and woodlands.

[www.cdn.forestresearch.gov.uk/2022/02/niwales.pdf](http://www.cdn.forestresearch.gov.uk/2022/02/niwales.pdf)

# Making The Best of Every Tree

## Chris Howell // Sawmill Owner

Chris Howell Timber and Landscape Supplies has been in business for over 20 years. The company prides itself in offering outstanding quality products at affordable prices. It is Caerphilly's number one supplier of timber and aggregates, and it specialises in a wide range of landscaping products.

[www.timber-and-landscape.co.uk](http://www.timber-and-landscape.co.uk)

“ I hate to see good timber being wasted or lazily sent off for something like biomass burning when it could be used for something more valuable. We've built our company so that we make the best of every aspect of a tree and get the best added value from it all. We maximise the timber we produce from each log.

We don't just buy-in any timber and sell it out, we know our local foresters and the majority of our timber is regionally sourced. We handle local hardwoods such as Ash, Beech and Oak and we will happily talk to furniture designers or other specialists about what they need. We can cut up to one meter by one meter in width and six meters in length to specifier's requirements.

We see a definite increase in the demand for local wood. We see that generally in the last few years and also in specific requests that come in.

I really feel that we offer something special, not just in the facilities we have here, but also in the way we approach what we do. I was brought up in a sawmill and I love the forest. Being in the forest, and working around the smell of timber, is something that once you do it you never forget it. It's not like working, it's a way of life. ”



Image: Artisan Media

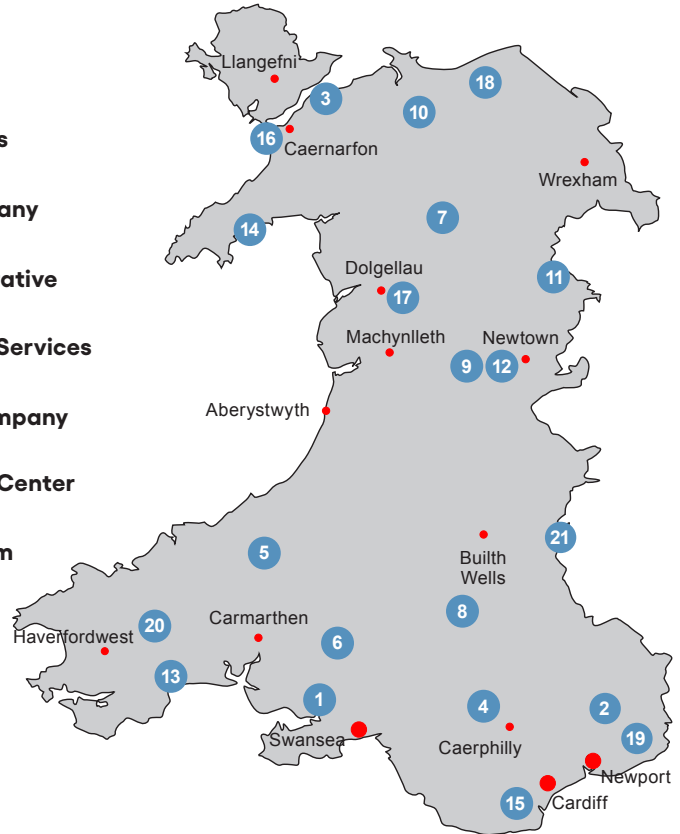




# Directory: Sawmills, Tree Services and Timber Stocks

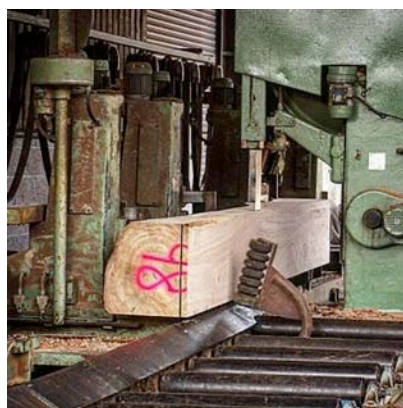
- 1 **A.W Hardwoods Ltd.**  
07885 729416
- 2 **C & J Barrett Ltd**  
01291 672805
- 3 **Cadwaladr Woodland  
Products**  
01248 605207
- 4 **Chris Howell  
Timber Supplies**  
029 2088 4974
- 5 **Coed Y Cardi Saw Mill**  
07970 963729
- 6 **Colwill and Co**  
07966783296
- 7 **Dei John Watkin Jones**  
07711337503
- 8 **Frazer & Small**  
01874 638827
- 9 **Heartwood**  
07711 454 943
- 10 **Hoyle Hardwoods**  
07880760804
- 11 **JM & EA Jones**  
07974 549712

- 12 **Lee Stoker**  
07831794500
- 13 **Little Love Farm**  
07506 698701
- 14 **Llyn Wood Products**  
07780 914785
- 15 **Milled Wood Company**  
07770511521
- 16 **The Timber Cooperative**  
07494966879
- 17 **Timber Valley Tree Services**  
07708 077549
- 18 **The Oak Frame Company**  
07989 526575
- 19 **Wentwood Timber Center**  
01633 400720
- 20 **West Atheston Farm**  
07771 515 530
- 21 **Whitney Sawmills**  
01497 831656



- 1 **A.W.Hardwoods**  
// Sawmill

Andrew Williams  
Castell Ddu Rd,  
Swansea, SA4 8DH  
07885729416  
awhardwoods@hotmail.co.uk  
@a.w.hardwoods.ltd



- 2 **C & J Barrett Ltd**  
// Sawmill

Cilfiegian Sawmill  
Llanbadoc, Monmouthshire  
01291 672805



- 3 **Cadwaladr Woodland  
Products**  
// Sawmill + Tree Services

Dafydd Cadwaladr  
Bethesda, Gwynedd  
01248 605207

These pages feature a selection of the sawmills and timber suppliers across Wales. Updates and others are featured on Instagram:

[@pren.cymru](https://www.instagram.com/pren.cymru)



**4 Chris Howell Timber and Landscape Supplies  
// Sawmill + Timber Stock**

The Mill Nantgarw Rd,  
Caerphilly, CF83 1AQ  
029 2088 4974  
chris@timberandlandscape.co.uk  
www.timber-and-landscape.co.uk



**5 Coed Y Cardi Saw Mill  
// Sawmill + Kiln**

Clinton Jones  
Rhoslwyn, Talgarreg, Llandysul,  
Ceredigion SA444HB  
07970 963729  
info@coedycardi.co.uk



**6 Colwill and Co  
// Mobile Milling**

Richard Colwill  
Carmel, Carmarthenshire, SA14  
01558 530530  
07966783296  
richard@colwillandco.co.uk  
@colwillandco



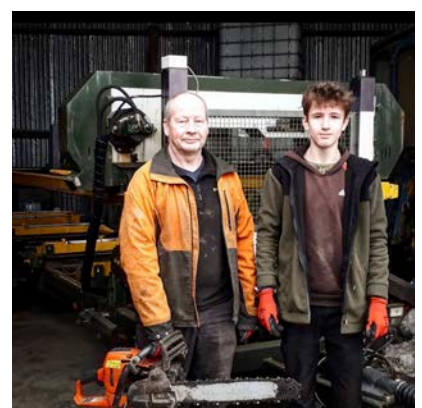
**7 Dei John Watkin Jones  
// Mobile Milling**

07711337503  
deijohnwatkin@yahoo.co.uk  
@deijohnwatkin



**8 Frazer & Small  
// Mobile Milling**

Martin Frazer  
Blaencamlais Fach Farm,  
Libanus, Brecon, LD3 8NR  
01874 638827



**9 Heartwood  
// Sawmill + Tree Services**

Dave Manuel  
Unit 2 Old Moat Lane,  
SY17 5SE  
01686 670 713  
07711 454 943

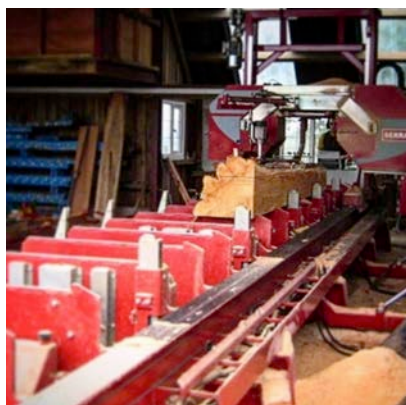


## Directory: Sawmills, Tree Services and Timber Stocks (cont.)



**10 Hoyle Hardwoods**  
// Sawmill + Kiln

Dave Hoyle  
Tyddyn Ucha Farm, Llangernyw, Nr  
Abergele, Conwy LL22 8PS  
01745 860 376  
07880760804



**11 JM & EA Jones**  
// Sawmill

Martyn Jones  
Plas Onn, Llansantffraid,  
Powys SY22 6TP  
01691 828346  
07974 549712



**12 Lee Stoker**  
// Mobile Milling

Caersws  
07831794500  
leestoker8@gmail.com



**13 Little Love Farm**  
// Mobile Milling

Chris Pearce  
Amroth, Pembrokeshire  
01495 769487  
07506 698701  
info@littlelovefarm.co.uk



**14 Llyn Wood Products**  
// Mobile Milling

Lewis Gwyn Jones  
Pwllheli, Gwynedd  
07780 914785  
lewis@llynwoodproduct.uk



**15 Milled Wood Company**  
// Sawmill + Timber Stock

Ewart Schofield  
Penllyn Estate Farm, Cowbridge,  
Vale of Glamorgan  
@milledwood  
@esatreecare  
07770511521



**16 The Timber Cooperative  
// Sawmill**

Units W7& W8, Peblig Mill,  
Caernarfon, LL55 2SE  
07494966879  
mail@timber.coop  
@the\_timber\_coop



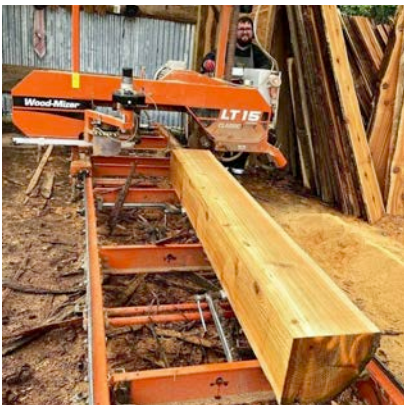
**17 Timber Valley  
Tree Services  
// Sawmill + Tree Services**

David Bradley  
Bryn Teg, Dolgellau  
07708 077549  
enquiries@timbervalley.co.uk



**18 The Oak Frame Company  
// Sawmill**

Simon Belfield  
Saint Asaph, LL17 0LH  
07989 526575  
theoakframecompany@gmail.com



**19 Wentwood Timber  
Centre  
// Sawmill + Timber Stock**

Gavin Hyatt  
Wentwood Forest,  
Monmouthshire  
01633 400720  
gavin@wentwoodtimbercentre.co.uk



**20 West Atheston Farm  
// Sawmill + Tree Services**

Valley Road, Narberth,  
Pembrokeshire, SA67 8BT  
01834 860 387  
07771 515 530  
info@athestonfirewood.co.uk



**21 Whitney Sawmills  
// Sawmill + Timber Stock**

Whitney-on-Wye, Hereford  
01497 831656  
enquiries@whitneysawmills.com



## The Next Generation

**Aled Lewis**

**// Furniture Designer/Maker**

Aled studied furniture-making at Rycotewood College in Oxford. His furniture is in private collections in both the UK and USA, and he was a Lead Instructor for the Center for Furniture Craftsmanship in Maine, USA. In 2019, Aled returned to his hometown of Machynlleth, and in 2022 he was commissioned by Coed Cymru to design and make a high value bench from Grade 1 Welsh timber. It is now at MOMA Machynlleth: [www.moma.cymru](http://www.moma.cymru).

[www.aledlewisfurniture.com](http://www.aledlewisfurniture.com)

@aledlewisfurniture

“ As makers and designers, we need to ask: ‘how can we work with Welsh timber allowing for it’s limitations without compromising the creative process?’. It’s about connecting more clearly – knowing where our materials come from and working with it appropriately.

We have the opportunity to make high quality objects from Welsh timber and if the product is right people will pay. There is a market for small-batch production and smaller contemporary products that connect with people’s values and lifestyles - whether that’s a skater that loves a wooden longboard, homeowners that want beautiful containers, or crafts people who want custom made hand tools. The buying public respond to the back story of the product they’re buying, it’s a strong marketing edge.

To have more and better timber available, land owners and farmers need to take care of their woodlands and forests now, and understand that we all benefit from that. Taking the longer-term view is essential - I’m talking 50 years and beyond. If Coed Cymru take steps now to improve woodland management in ways that consider high-grade wood as a valuable outcome, in time, that will lead to higher-grade timber for all trades, construction and manufacturing.

I won’t be around for the full benefit, but the next generations will, and they are already much more aligned with these ideas than we are. I work with students who understand



Dyfi bench, commissioned by Coed Cymru

carbon footprints, climate change and other issues. They want to find solutions and work differently. We have to be able to respond to that. In the same way as tropical hardwoods are no longer regarded as desirable or ethical, we can help to focus consumers attention to the advantages of locally grown timber, with all the environmental and economical advantages that may bring. ”

## A New Future

### David Colwell

#### // Furniture Designer/Maker

Based at his workshop in Presteigne, David trained in Furniture Design at the Royal College of Art. Having moved to Powys in the late 1970s, he went on to set-up Trannon Furniture in Wiltshire which batch produced steam-bent Ash furniture with home grown timber. His furniture has won many awards and is in permanent and private collections across Europe including London's V&A Museum and the Vitra Design Museum in Germany.

[www.davidcolwell.com](http://www.davidcolwell.com)

@davidcolwelldesign



“ I started thinking about sustainability over 40 years ago when it was obvious that we would need to take a radical look at the way we live, to take account of the finite nature of the planet. Now climate change is very much for real, and we have done depressingly little to alleviate the inevitable outcome. I still feel that an alternative future is possible, and potentially much more fun.

The wood that I use is unseasoned. That works well for me in terms of steam-bending and the designs I produce, so this is a reason why I seek local wood, such as Ash.

With green wood I can control the drying process, whereas imported wood is already dried. Because I'm seeking that, it takes me to the forests where I can get timber in that raw state. I get to visit forest owners directly, which also allows me to enjoy the woods and engaging with foresters. It also means that I can buy a whole section of a tree, which provides a much more flexible and affordable source material.

High value products suit local wood supply, but the suppliers and designers need to find each other. I see my work being an example of how a green economy could look, and how performance can be raised with a short supply chain. Design's challenge is to make the future fulfilling and exciting, for producers, consumers and the environment. ”



Designed in 1989, the C3 chair is made using 'thinnings', which are the saplings removed from managed forests to allow other trees to thrive. These are often thought too slender to be useful, but the steam-bent frames of this chair exploit their slenderness. The steaming process simultaneously seasons the green wood. The crisp look, derived from simple geometries, follows the tradition of vernacular furniture-making, brought up to date for a contemporary ecological agenda and sustainable production practices.



## Connections With Nature

**Phoebe Oldfield**

**// Furniture Designer/Maker**

Phoebe comes from Bargoed and went to Nottingham Trent University to study Furniture and Product Design. Among other achievements, she won a place at the Sylva Summer School, with a brief to explore home grown timber. The results were displayed at the V&A, and Phoebe went on to secure a position working for Benchmark Furniture.

phoebe.tm.oldfield1@gmail.com  
@phoebe\_oldfield\_

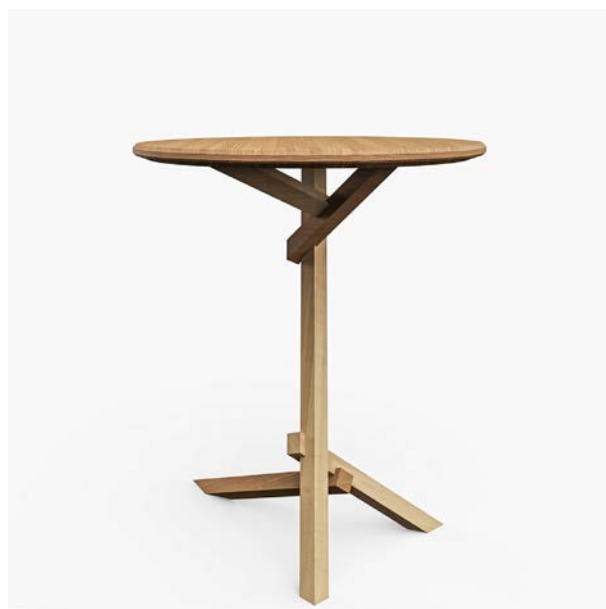


“ I’ve always been drawn to nature; I grew up in the Rhumney valley where the land is now regenerating after it was stripped bare of its trees by the mining industry, so I’ve always had a close connection to the natural environment. It is just obvious to me to view nature as a creative resource – a source for inspiration and that draws me toward natural materials like wood. I’ve never been interested in metals or plastics.

Using local wood, and walking in woodlands, gives me a deeper connection to the natural environment. I like to be more hands-on, more practical in my approach, so materials like wood invite me to do this.

When I entered the Joined + Jointed Generations 2022 competition to design a side table, I specified the use of home grown Ash and Oak; it was important to me that no manufactured boards were used. My initial ideas for the ‘Dendro’ side table came from celebrating solid timber and its characteristics. I was inspired by fractal patterns found in trees and the patterns of root systems to create the overall aesthetic.

It’s so important to be considerate about materials, where they come from, where manufacture takes place, and what the piece will say. Small-batch or limited edition production is where locally sourced wood can bring an aesthetic advantage as well as being a more sustainable material. Knots are no longer troublesome, they provide



character. Each piece becomes unique with those knots, the coloration differences and the grain changes.

I know where and how to source local timber, but I’m shocked at how many designers don’t. The timber furniture community is a close circle with a shared set of values. The sourcing of material is at the forefront – the sustainability of it. The pieces of work are high quality and have a strong sense of purpose and meaning. There is a passion for design and making, and the natural environment. There is also high regard for each other’s work. There is empathy, care – love is perhaps the right word. ”



## Prototyping furniture

Designing and making furniture has many stages and each stage typically involves numerous iterations depending on the complexity, aesthetics and technical difficulty.

1. Initial sketches and drawings  
To-scale drawings with dimensions.
2. Mock-ups  
Simple, three-dimensional to-scale models to assess the general overall ergonomics and aesthetics. It is usual that this stage reveals a number of changes to be made. Subsequent mock-ups are made, and the process repeated.
3. Final drawings  
Sign-off final drawings before prototyping begins.
4. Prototyping  
Components are assembled to create a working prototype. This is not a finished piece and further changes will be made. Materials, processes and finishes are suitable to make informed decisions to sign-off the final prototype.
5. Final design  
Made to the agreed final design including the specific timber, processes and finish.



Phoebe attended Nottingham Trent University to study Furniture & Product Design. Her tutor connected her with Dylan Glyn Jones while he was leading Cwm a Mynydd's Wood Lab Pren, a timber project run (2017-2021) by Caerphilly County Borough Council as part of a Rural Development Programme. Phoebe spent her placement year there and this led her on to become winner of the 2022 'J+J Generations'.

This initiative to nurture emerging furniture designers was created by Samuel Chan, an award-winning furniture designer and the founder of Joined + Jointed, a collective producing original furniture pieces by celebrated designers and artisans.

As the winner, Phoebe's side table 'Dendro' was produced by the Sylva Wood School and displayed at Milan Design Week. In 2022, Phoebe was also awarded the Chartered Society of Designers CEP Student Prize which recognises one student from each of the Society's endorsed design courses who has demonstrated exceptional work throughout their course and is in recognition of their talent and hard work.

"My placement at the Wood LAB Pren was an amazing experience that gave me opportunities to learn about timber supply chains as well as introducing me to so many creative individuals who have really inspired me."



## Origin Stories

### Mike Venables // Chairmaker

Mike initially trained as a carpenter/joiner and worked in that trade for many years before moving into stick chair making in the mid 1990's. He now has a workshop in central Cardiff where he makes custom built furniture and Welsh stick back chairs to order from regional timber.

mike.venables@yahoo.com  
@mvchairmaker

“ I specialise in making with Welsh hardwoods using traditional techniques and hand tools. I design Welsh stick back chairs with a contemporary feel - crisp lines with symmetry and balance to the overall proportions. Like many designers I'm always seeking a bit of perfection.

In terms of sourcing Welsh hardwoods, I work with an arborist who is equally passionate about his work and understands the quality of timber that I seek. When something suitable is on his radar, we'll discuss it together.

I can split Ash by hand and air dry that for chair legs – that will take a few weeks. Alternatively, a sizeable piece of Oak (perhaps one or two tonnes in weight) that is suitable for chair seats will be taken to a local sawmill. The sawmill will cut it to the size I want then I can air dry those pieces – with seats taking two years.

As I don't have the space to store timber in larger quantities, the sawmills are important because they can keep stock. But because of the way I work, I can use pieces that other manufacturers wouldn't be able to - narrower diameters, shorter lengths and pieces with more character. Hand-making creates a level of flexibility that machine processes can't deal with.

It's easy to get Ash, but not so easy to get Oak. We don't have as many straight tall Oaks as can be found in France or America. Our Oaks are often more 'gnarly', but that is



Two of Mike's chairs displayed at the 2022 Royal Welsh Show were made in Elm and a combination of Ash and Oak.

what gives it character. And where the tree came from is an important part of the story of each chair.

I show each customer how their chairs are made and which local forest the wood came from. That's a new experience for many people. They appreciate the style of the chairs and wood as the material, but they don't realise they can ask about where the timber was sourced. When we have those conversations, they can see it's another special and very significant part of the design process. ”



Top - David Jenkins and Kenton Jones (Snr) with Deputy first minister Mike German AM and Mick Bates AM visiting the Kenton Jones factory in Welshpool (2001).

Middle - David Jenkins, Director of Coed Cymru for 27 years.

Lower - David Jenkins, Kenton Jones (Snr), Roger Thomas and Mark Hawker with a Tŷ Unnos prototype.



Top - Prince Charles attended the 20th Anniversary celebrations of Coed Cymru at their headquarters, Tregynon (2005)

Middle - The endgrain project team: David Jenkins, Neil Howard, Jim Ratcliffe, Kenton Jones, Mike Richards, Dylan Glyn Jones (2010)

Lower - David Jenkins with a Tŷ Unnos model

## Coed Cymru Adding Value

Coed Cymru was first established in 1985 as a public sector partnership and charity. Since then it has instigated numerous commercial development projects and received national recognition for its achievements.

In the 1990's, Coed Cymru Director David Jenkins began a series of trials on endgrain floor tiles and cobbles. The trials cut and dried a variety of low grade, small diameter timber species using different methods, and identified market potential. Coed Cymru partnered with Kenton Jones at Woods of Wales, which specialised in solid wood floors, and produced a number of endgrain floors from regional timbers for many customers, a notable one being a floor for Prince Charles' Highgrove House

In 2006/7 a partnership between the Welsh School of Architecture, University of Wales Bangor and Coed Cymru, investigated the feasibility of producing social housing from home grown softwood. The result was a whole house construction system consisting of specially designed engineered components using Welsh grown Sitka spruce.

The design teams went on to prototype and build a broad portfolio of projects, with Kenton Jones as a manufacture partner. The knowledge, research and information gathered during this project, and others, are available online.

### The Endgrain Project

[www.endgrain.org.uk](http://www.endgrain.org.uk)

### Woods of Wales

[www.woodsofwales.co.uk](http://www.woodsofwales.co.uk)

Solid wood and hardwood flooring using Welsh timber.

### Tŷ Unnos

[www.tyunnos.co.uk](http://www.tyunnos.co.uk)

A whole house construction system using home grown timber components.



## Keeping-up With Common Sense

### Kenton Jones // Kenton Jones Ltd.

The Kenton Jones company has been designing, building and installing handmade kitchens and hardwood floors for over 40 years. Since 2009, they also design and build modular timber housing.

[www.kentonjones.com](http://www.kentonjones.com)  
@kentonjones\_collection

[www.unnosystems.com](http://www.unnosystems.com)  
@unnos\_systems

“ We have been working with local, Welsh and home grown timber from our beginning, over 40 years ago. My father (Kenton Jones Snr) was an architect with a passion for joinery, and his brother had a sawmill on the family farm. He started with a small company building houses, and added his own joinery products to fit them out. The local farming community then began commissioning him to design and build kitchens using trees from their own land. It just made sense to him, but he was ahead of his time.

Today, using Welsh timber is all about carbon credits and the marketing benefits of linking products with sustainability, but Welsh timber is our heritage – it's where we started. We only buy other timber if we can't accomplish something with Welsh timber. But we are lucky. We have access to forests, and we understand the milling and drying process. We also buy from nearby sawmills like Pontrilas Merchants that stock plenty of Welsh and home grown timber ready to go.

It's not easy for everyone to make the case for local timber. When timber yards stock imported timber and offer free and fast delivery with competitive prices, it takes extra effort to seek something different. There is also a customer desire for uniformity. Especially in kitchens, people like the look of European Oak, but they don't necessarily know why. Local timber comes with a much greater variation in colour and characteristics due to minerals and other



factors in the soil and terrain. We have to explain that. To me, those variations make it more beautiful than a generic finish, but it's not to everyone's taste.

So, it's not just a case of swapping imported timber to the equivalent species grown in Wales. Some Welsh species won't perform as well, and can cost more, perhaps even double. If you are only checking the like-for-like cost, it won't make sense. The added value of Welsh timber is in the story, the carbon reduction, and the sustainability of it. We can say where it comes from, including where the tree was grown and where it was milled. The whole approach requires a mindset that appreciates trees are living things - each one is unique. Timber is not a manufactured material like steel or concrete. People will want to touch a beautiful piece of wood, especially the pieces with character. We have a section of 'fiddleback' in our showroom – it's a grain pattern caused by the angle of the wood fibre reversing. The tight curves look like it should be bumpy, but it's perfectly smooth – people are drawn to it like an optical illusion and stroke it.

The industry is changing – people now want the story, companies want sustainability. And the economy is changing too. As Brexit and other factors drive up the costs of imported timber, local timber becomes more affordable. When we first started working with Coed Cymru in the early 1990s, they had to push hard to get people to listen. They just compared with easy/

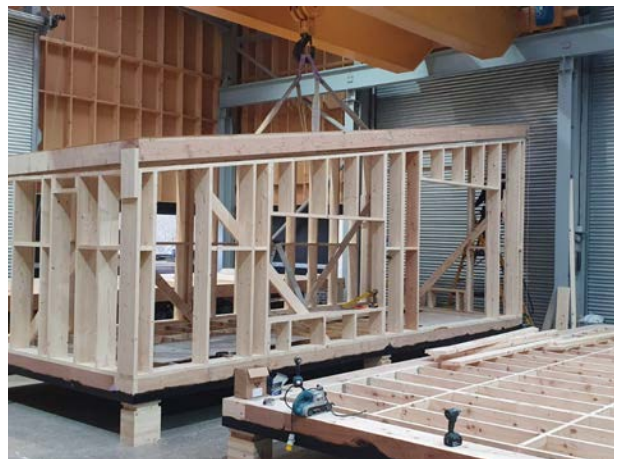


cheap imports, so local timber never stood a chance. Now, people better understand the wider issues and they want local timber for its added value. The questions people now have are about where to get it.

But a business shouldn't just swap Welsh timber into existing products. It works best if new designs come from making the best of the material and its story. We've experimented alongside Coed Cymru on this for decades. We began in the 1990s trying to make flooring products from forest thinnings, but it didn't work well – it was labour heavy and involved a lot of waste. The research into endgrain floor tiles that also began in 1990's is a different story.

We continue to produce endgrain flooring for some very prestigious projects including Kings College London, Selfridges and the kitchen floor at Highgrove. In 2008 we used Welsh and home grown softwoods in an engineered timber frame system named Tŷ Unnos. It is a fast build, high performance system to show what could be done in an industry dominated by imported timber.

The construction side of our business has since grown considerably and sits alongside the joinery company, with the same ethos of using homegrown timber as much as possible. We now specialise in modular timber construction and have recently completed a private house that is fitted-out with all our bespoke joinery products. We are very proud to be able to deliver the vision my father started with all those years ago. ”





## Getting Hands-on

### Huw Williams // Cardiff Met University

As a designer and lecturer at Cardiff School of Art & Design, Huw has a passion for applied design and making processes in relation to furniture and product design. His research relates to sustainable product and behaviour design alongside his expertise in product life extension strategies.

[www.cardiffmet.ac.uk/artanddesign/](http://www.cardiffmet.ac.uk/artanddesign/)  
hrwilliams@cardiffmet.ac.uk



“ At Cardiff School of Art & Design, sustainable practice is at the heart of our curriculum. For over five years, our collaborations with Dylan Jones and Coed Cymru have included ‘The Sustainable Artisan’ where multidisciplinary groups of 2nd year students were challenged to design and make items of furniture utilising local green Ash and the steam-bending process. Another is, ‘The Shelter Project’, where MSc Product Design students were required to develop a structure for a woodland setting aimed at enhancing wellbeing by encouraging users to reconnect with nature.

Dylan contributes to these projects via presentations, hands-on demonstrations, and immersive off-site experiences, including guided walks. Being in local woodlands enables students to learn about identifying indigenous hardwood species, woodland biodiversity, and sustainable forest management practices. We’ve also benefited from opportunities for students to experience the timber conversion process, allowing them to follow the raw timber on its journey, from felling to the final artefact.

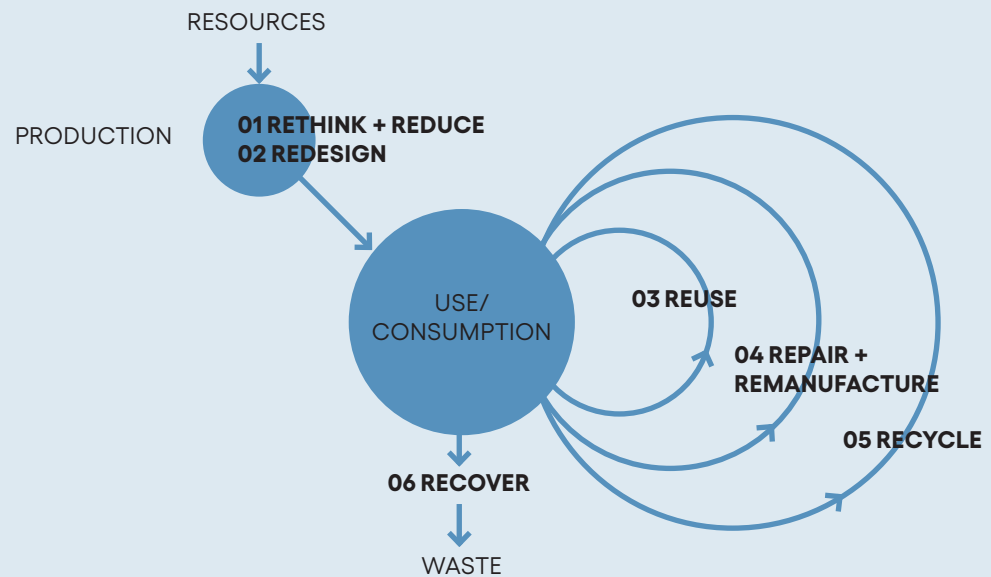
These projects deepen student awareness of the impacts of what and how they design. It helps them understand the implications of the complete supply chain and explore alternatives that can be more environmentally benign and have more positive social impacts.

Students have also benefited from learning about the network of expertise that exists in Wales in the form of wardens, foresters, hardwood suppliers, crafts people, designers and researchers. And we’ve connected with a broader community of makers from across Wales such as weavers, and those using natural fabrics and dyes, or mycelium.

Student feedback has shown that these opportunities have been particularly valuable in contextualising formal learning experiences in the lecture theatre and studio. With final year students commenting that as designers of the future, they will now make more informed decisions based on a deeper understanding of the interconnectedness of their activities. ”



# Circularity



The ‘circular economy’ approach as set out by Michael Braungart and William McDonough in their book ‘Cradle to Cradle’ describes two metabolisms: the biological cycle and technical cycle. The biological embraces the ‘no waste in nature’ principle where materials from natural resources can be returned to decompose, with their nutrients supporting the growth of subsequent resources. The technical cycle is an approach for synthetic materials such as plastic and metals (which are incompatible with the natural cycle) in a way that optimises their value and keeps them out of landfill. This can involve designing for long life, reuse, repair, reconditioning, remanufacture and recycling. The overall objective is to optimise the full value from products by understanding them as products, components, and ultimately materials. In examples of best practice, products become designed to incorporate multiple approaches that form a strategy for Product Life Extension.

While there is a growing community of product designers applying these strategies, taking them into commercial practice is still challenging. It poses difficult questions about business models that are still largely reliant on material ‘throughput’ for achieving financial growth.

But change is happening. Design for repair is a good example. A repairable product can be seen, not as a loss of a replacement purchase, but the enabler of new relationship between the customer and the company through return and reuse systems.

But new approaches also create new challenges. Products designed for long life by making them durable, modular, and repairable can require more resources in the initial production. So, if they are disposed of prematurely, they become even more harmful to the environment. It is against this reality that landfill sites are sadly full of durable objects, designers need to consider, not just material selection, but the behavioural complexity of people + object relationships.

As a natural material, timber is clearly compatible with the biological cycle. However, it’s warmth and character has the ability to evoke an enduring emotional connection, opening even more interesting possibilities when designing for sustainable futures.



## Moral Responsibilities

### Luke Palmer // Orangebox

Luke is a principal designer at the Orangebox head office in Nantgarw, and has been designing office furniture solutions at the company for over 20 years. The original Orangebox factory was built on his grandfather's land, so he always felt a strong connection with the area and the manufacturing capabilities in Wales. He is passionate about the collective responsibilities of designers to develop useful product solutions that have minimal impact on the natural world.

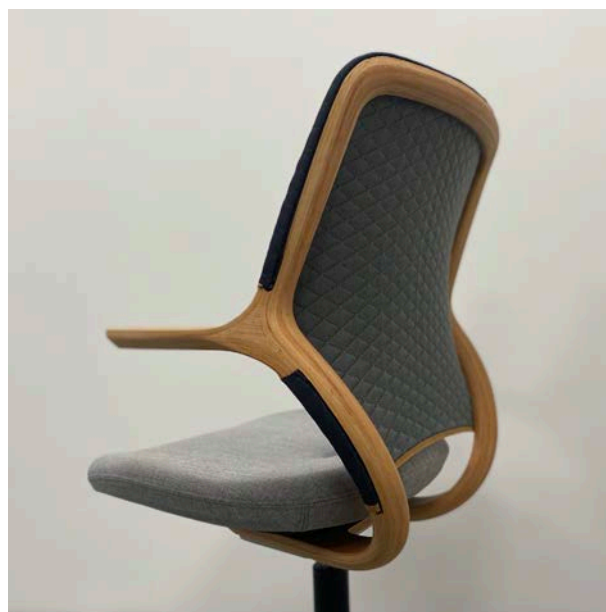
[www.orangebox.com](http://www.orangebox.com)

“ I've been discussing carbon accounting, carbon offsetting and carbon capture with the office furniture sector for the past 18 months. No surprise then that an obsession with CO<sub>2</sub> is sweeping every facet of commerce around the globe and rightly so.

Net zero targeting is the only gig in town and will remain so for the foreseeable. Strange though that we're drilling down on the data to give us the critical science based numbers required to accurately account for the embedded environmental impacts in everything we build or make. What troubles me is that no one in our client base is actively offsetting!!

Tree planting initiatives are still shrouded with a thin veil of uncertainty and risk. And carbon capture is currently prohibitively expensive and consequently not scaling at the speed necessary to mitigate our collective emission factors.

My advice in the short term: “wood is good”. Emission factors for this rapidly renewable resource are on average a 10th of that of other technical material groups like steels, alloys and polymers. My sketch book is currently full of wood based concepts as I morally have a responsibility to redress the material selection process in my own work. Can Orangebox transition to a higher percentage of wood based furniture product solutions across our portfolio?



That's the challenge we've set ourselves as a department, all underpinned with a new design manifesto that has sustainability and ergonomics set at its core.

Local supply chain development will have to be dialled-up if we are to succeed with this endeavour. The sourcing of UK timbers and consequent conversion in to furniture-grade components still remains a huge challenge at the scale required to service our needs. Working through this is a slow and arduous process but we're in it for the longterm and there's enough enthusiasm in our networks to make this a reality in the future. ”



### Orangebox Woods Mobile Planters

Developed with support from Coed Cymru to source home grown timber, the Woods mobile planter range is produced using small dimension pieces of Oak and Poplar through a newly developed supply chain.

The collection is designed to facilitate the creation of a natural oasis of plant life within offices and workplaces and are easy to install, move, and maintain.

The design is informed by the Biophilic movement, based on the benefits of being close to and surrounded by nature. Research shows that the more plants there are in interior spaces, the more beneficial they become – acoustically and environmentally. And, spending time in more natural environments increases feelings of vitality.

As well as adding a biophilic element to the workplace, the planters also act as a natural space division tool, whilst still allowing for an 'open' office feel without the need for harsher solid walls/dividers which can make workers feel isolated or segregated.

[www.orangebox.com/products/woods](http://www.orangebox.com/products/woods)

## Timber Products as Carbon Capture

Planting trees is a successful way to capture and store carbon as well as provide timber. However, although carbon sequestration is being enthusiastically pursued in policy, there is significant wastage of timber that is cut from forests in Wales, with 84% of hardwood being burned as firewood. In this situation, most of the carbon sequestered by these hardwood trees during their lifetimes is then released back into the atmosphere.

In contrast, when timber is used in high value and long-lasting products, the amount of carbon that can continue to be held is significant. The Intergovernmental Panel on Climate Change (IPCC) considers carbon to be sequestered for 30 years when felled timber is manufactured into products.

Despite Government policies that focus on planting trees, those same policies don't consider how many trees are felled or what happens to them. Similarly, the destination of felled timber is not accounted for in the Woodland Carbon Code (yet), so the connections and incentives between carbon capture and the design of high value long-life products are not being made. In the meantime, firewood and biomass become the easy solution. To change this, work with landowners and manufacturers to raise awareness and record the end use of timber harvested from their woodlands is important.

As well as supporting the carbon economy, developing a larger and high value market for Welsh timber ultimately drives investment into forest management. Generating increased revenue from selling Welsh hardwood incentivises landowners to manage their forests and harvest good quality timber. And, using homegrown timber reduces our reliance on timber imports (the UK is the second largest importer of timber in the world, with imports accounting for 82% of timber used in the UK in 2020), and with less transport, is an even less carbon intensive choice.

Extracted text from a report produced for Coed Cymru by Ella Furness (2022)  
ellafurness@cardiffwoodproject.org.uk



## Responsible Design

### Angela Gidden // MadeFine&co.

Angela is an award-winning furniture and interiors designer working with manufacturing, workplace/contract, retail and corporate clients locally and globally over a 37-year career. Her design studio's ethos has always been driven by its 'Future-Thinking' sustainability approach together with a passion for design for manufacture, a focus on harnessing and nurturing manufacturing skills, and a principal design strategy – 'making life better by design'.

[www.angelagidden.com](http://www.angelagidden.com)  
[www.madefineandco.com](http://www.madefineandco.com)

“ MadeFine&co. is a recently launched venture with one of my manufacturing clients, and has resulted in a new furniture and homewares online retail brand. It's a proud Welsh company born out of the desire to create timeless furniture with a sense of heritage and modernity. It draws inspiration from the beautiful rich landscape of Wales, which has informed much of my work. At the core of MadeFine&co.'s values are authenticity, honesty, provenance, collaboration, co-creation, and community spirit where everything is crafted with care and 'made fine'. Everything is under-pinned by a sustainable creative practice and business strategy, fundamentally focused on future-proofing with long-lasting positive effects and – 'designed for generations'.

MadeFine&co. is a brand owned by the parent company I work with. It has its own upholstery manufacturing facility, wood mill and frame making division in South Wales and celebrates decades of experience. In terms of wood, MadeFine&co. includes furniture frames produced using Birch ply and hardwood Birch pieces for strengthening and stress rails. All the timber is FSC certified, and the manufacturing company has invested significantly to meet and uphold these standards. All waste wood on site is used in the biomass green energy system that heats the factory.

The initial plan to create this new online retail brand began five years ago. During its evolution it was agreed that we'd deploy the



next levels of sustainability with soy-based foams, eco-fabrics, fibre backing that uses recycled plastics, with a keen eye on a 'show wood' collection that will highlight the timber and the story behind it.

Conversations with super-local suppliers is part of these next levels. I live very close to the Wentwood Timber Centre in the magnificently inspiring Wentwood Forest, Wales' largest ancient woodland. The supplies of local timber they keep are on our radar and of real material interest. Using local materials is something I've always championed and is a key criterion in any design brief – thinking local is first base thinking. But embedding it at scale into commercial supply chains requires a step-change approach with wider conversations and action. We need to know we can meet the demand and needs of customers and buyers, every day.

The hard reality is that sourcing and procuring the best and most desired material is challenging and difficult. We balance our decision making with deeper discussions and actions, around circularity, carbon mitigation, waste management, nurturing and keeping skills alive with apprenticeships and job creation. On top of this, we have the financial impact of the economic crisis here in the UK and globally to navigate and negotiate. And then we need the 'makers', the scalable manufacturers that can produce the show wood furniture pieces or component



parts here in the UK. To push forward this must all be part of the wider conversation as the appetite and movement to design and make using local, sustainable, indigenous 'good wood' is increasing and requires harnessing. Ultimately, the wood procured must be commercially viable through competitive pricing with access to sustainable supply chains.

We're continually exploring ways to implement sustainability in a commercial design and production situation. This requires not only a shift in thinking and doing through both the design and production processes, but in the company's culture also. As a responsible designer my role is to find the best possible solution that balances not only sustainability, functionality, aesthetics, material choices and quality of a design that's fit for purpose, but also the commercial viability and the market relevance.

I strongly believe there is scope to be responsible, proactive and make good use of this difficult economic time to explore the positive environmental potential in furniture design and production and come out of it better by design. Clients and customers are making more and more informed decisions. They expect care and attention paid to the products they invest in, requiring a greater understanding of the materials selected and used in the products they purchase. And where it's wood, it's not just wood, it's 'good wood'. ”



### House for the Future

Angela Gidden was responsible for the interiors in a project led by the National Museums and Galleries of Wales in 2000 that designed a 'House for the Future'.

Built at St Fagans National Museum of History in partnership with Jestico + Whiles as architects and Redrow as the builder, the house contributed to ongoing debates about how society might develop with new family structures and patterns of work, as well as respond to issues of energy efficiency, sustainability and accessibility.

Angela and her team created the interiors following a structure of principles that included recyclability, optimisation of materials and logistics, durability, partnerships with local businesses and renewable materials that replenish nature.

The collection included the 'Anwen' console table and 'Skylon' storage unit. Anwen used the Welsh angle construction detail, developed by Coed Cymru, and was made with small Welsh Oak forest thinnings that are often avoided by furniture designers because of their small size. The design for Skylon was based on a minimal footprint approach and used a simple blueprint that could be 'self-produced'. Skylon was also made using Welsh hardwood, provided by Coed Cymru, in sizes that would otherwise be considered waste.



## Pushing Back

### Marcus Beck // Freshwest

Co-founded in 2006, Freshwest is the award-winning design duo of Marcus Beck and Simon Macro. Operating from their studio and workshop in south Pembrokeshire, their output is an eclectic mix of furniture, interiors and design for the public realm that incorporates their passion for making, experimentation and play.

[www.freshwest.co.uk](http://www.freshwest.co.uk)  
@freshwestdesign

“ We’ve always designed with different approaches, and we use different materials, but because of climate change and other factors, we’ve changed the way we think about what we want to design. Although it might seem like a counter-intuitive thing for designers to say, ultimately, we live in a world with too many objects in it already. We don’t want to design new items that just end up being manufactured overseas and shipped around the world. This thinking led us toward projects that weren’t just about a ‘thing’ and were more about public installations or sculptures. For example, The Building Project, in collaboration with Oriel Myrddin Gallery, invited people to participate in the making of their own miniature settlement in which to experiment, play and debate. Since then, we found ourselves talking to a friend who had a farm, and that allowed us to consider our next stage of evolution.

We’ve built, and are still building, a shared space with all sorts of people working under one roof. So far, we’ve got film-makers, ceramicists, bike repair people, and others, as well as us. We’re very excited about bringing people together and the opportunities for collaborative working, and what that might produce. And in that mix, we have a sawmill in the barn next door which we have shared-ownership of. I also bought a small piece of nearby woodland, so this gives us a source of local timber just two miles down the road. The potential for creating local timber zero-carbon outdoor



seating or sculptures for public spaces is something we are now keen to explore. It keeps all the design and manufacture super-local for these types of one-off projects where we can engage more deeply with clients, other creatives, and end users.

It’s not easy to challenge the more typical approaches to design where we might create an item that is then licensed, produced and then retailed by other people. In this process, designers don’t often have the opportunity to specify materials and factor-in where they are coming from. The aesthetic appeal is often the primary focus, whereas we like to consider the whole story and all the decisions that are being made. Taking an ecological point of view means we have to push-back on some materials and some methods. It’s challenging to do, but the upside is that it creates a stronger, more authentic, story. For example, in one project we spotted an Oak tree on site that was dead, so we asked if we could use it. For us it was the obvious choice, but it had been overlooked. We took it, milled it, used it as the material, and the client loved it – it was a great story.

In terms of our designs that have been retailed, our flat-pack table (a design that uses no screws, nails or glue) and our Brave New World lamps (constructed with numerous small pieces of wood that are notched and pegged together) can be, and have been, made from local timber, and we are very happy to do that to order.



But, as with any piece of furniture produced in small numbers, these items are not cheap. We would love to sell to local people, but how many people could afford them? A shift toward well-designed and locally-produced items needs an economic change as well. It's something we've given thought to before. Back in 2007, we created a 'Karl Marx collection' for the London Design Festival. It was a cut-price version of our retail product range made from alternative materials like OSB board. This came from the reality that even we couldn't afford to buy our own pieces at the retail prices!

We believe these debates are important for designers. Collaboration, climate change and the circular economy are all on our agenda. Managing my own piece of woodland helps me focus on that. At the moment, we are extracting Larch and milling planks as we work on the studio build, but I look forward to using more Welsh timber in our future projects. ”





# Think in Systems

## Lynne Elvins // Design Rally

Lynne is an Independent Design Strategist, working with organisations to implement design-led innovation and sustainability. She teaches Design & Business on the MA Design at Plymouth University, and is a Design Coach on the InnovateUK Design for Growth programme. Lynne co-authored 'Sustainability Issue Mapping for Designers' and delivered training for the KOCles partnership of woodworking and furniture companies in Slovenia.

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“ What designers do, and what they might do, is critical to making our world what it is or what it could be. Through the design of products, services and brands we interact with every day, designers have a unique opportunity to influence how people live.

Taking on the challenges of environmental and social issues is not a new design consideration. In his book *Design for the Real World* (first published in 1971), Victor Papanek called attention to how any design must function within the wider social, ecological, and cultural context. He also argued that much design only serves to satisfy the wants and desires of 'fads and fashion' while deeper needs (often more difficult and less profitable to satisfy) get neglected.

Other design commentators, such as respected design historian and writer Victor Margolin, proposed that the ultimate purpose of design is to contribute to the creation of a good society: "...one that is fair and just. Insuring that all citizens can receive the goods and services they need to survive with dignity".

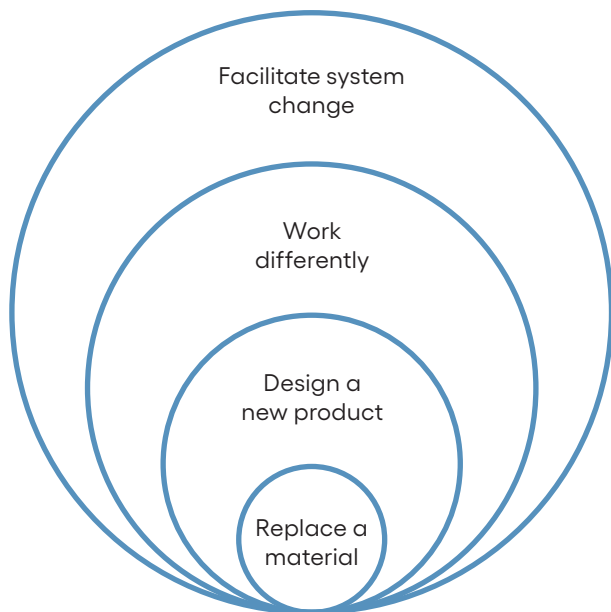
Before these voices, in the late 19th Century (before we had begun to grasp the environmental impacts of mass production), William Morris outlined his position on an ideal society built on craftsmanship and inspired by nature. And after World War I, when designers and architects in Europe were imagining ways to rebuild a battered continent, the hugely influential Bauhaus

design school developed a vision that wanted art and industry to work together for the needs of society.

Fast forward to 2021 and 'The New European Bauhaus' also has a vision. It was launched to translate the European Green Deal (the EU's plan to make the economy sustainable and the EU climate neutral by 2050) into tangible change on the ground that improves our daily life, in buildings, in public spaces, and in furniture. The New European Bauhaus aims to create ways of living that connects sustainability with good design - design that needs less carbon and that is inclusive and affordable for all.

So, designers are once again being called upon to address social and environmental challenges and build a better society. But are these challenges that we have been trained for? Protecting biodiversity or responding to climate change are fascinating challenges, but they are also problematic. They extend the boundaries of what most furniture designers might expect to get involved with and they change the end goals. Neither of which are easy in situations that still have to meet immediate commercial pressures of cost effectiveness, ease of availability, and profit margins.

Even the most well-intentioned designers can't make these types of changes on their own. We've got to do this together – collaboratively – because it is complex and involves multiple decision makers.



A designer's role here is not just to create new product ideas, but to foster a shared understanding of the whole situation and facilitate conversations between all the people involved.

Customers no longer become the central focus – nature does. It's a fundamental reversing of the supply chain. It asks us to imagine what we might design to regenerate the forest and then connect with customers that want to invest in that regeneration. This nature-based approach to designing asks us to live with, rather than off of, the Earth. It asks us to develop solutions not just with minimal environmental impact, but puts environmental protection and repair as the goal.

This new designer thinks in systems, not just objects. They sketch complex ideas and capture the perspectives of others with curiosity and empathy. Just like William Morris or Victor Papanek, they don't just design, they also serve as a facilitator that can share new visions of the future with their ability to experiment, prototype and engage. They develop ideas that go beyond dealing only with materials, or products, or addressing symptoms, and instead grapple with the root causes of why things are not working. ”



Lynne first engaged with Coed Cymru in 2013 whilst she was a Design Advisor at the Product Development Research Center (PDR) at Cardiff Met University. During the Endgrain Flooring project she helped businesses to see the new market potential for this high value product range and explore possibilities for new products using local timber (such as Woodcrete tiles manufactured by Specialist Precast Products that used Spruce chip mixed with cement).

Later, with the CCBC Wood Lab Pren project, Lynne advised furniture makers and other crafts people in marketing strategies that made the very best of story-telling and brand positioning that reflected the high-skill value of handmade objects.

In 2018, with Dylan Jones, she co-created a report that captured a series of face-to-face interviews from across the timber supply chain. The resulting document 'The Welsh Timber Supply Chain in Furniture Design & Manufacturing' brought together a collection of voices and resources in Wales, as well as from across the UK and globally. And during Covid-19 lockdown in 2020, she generated a business proposal for Coed Cymru to consider developing a 'Welsh Timber Design Center' that would act as a central hub for local timber supply, supporting new product collaboration, and promoting the collective stories of design and innovation success.



# Appearance Grading of Welsh Hardwoods

**Compiled by Dr Morwenna Spear**  
**// BioComposites Centre, Bangor University**

Morwenna's research focuses on Wood Modification, Timber, Natural Fibre Composites and Materials Science. She has a special interest in the physics and chemistry of solid wood and maintains a strong interest in the use of timber as a renewable and sustainable resource.

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Being a natural material, wood reflects the growing conditions and location of where it was produced. For example, fast grown trees will have open growth rings, while tighter rings indicate slower growth. These rings may be straight or meander, reflecting to the growth of the trunk. Trees may contain many or few knots, and the arrangement of these may be an attractive attribute, or may stimulate ideas to use the piece in a particular way.

As a result, it is important to have some way of ranking the number, size and distribution of knots and other features in wood, to allow designers and timber merchants to speak a common language when discussing parcels of timber for purchase. This process is called appearance grading, and appearance graded timber tends to be used in fine woodworking applications, joinery or cabinet making.

Appearance grading considers the number and frequency of features such as knots in one face of the board (always the best face). Grades from 1 to 3 (see over) indicate the appearance of the timber, not its strength. The process of appearance grading is very different from visual grading, which provides strength classes of construction timber. Unlike visual grading for strength, appearance grading is a system specifically for non-structural wood.



Above: Hardwood timber is usually air dried, cut and put 'in stick' to season. Below: Waney edged and square edged Cherry.

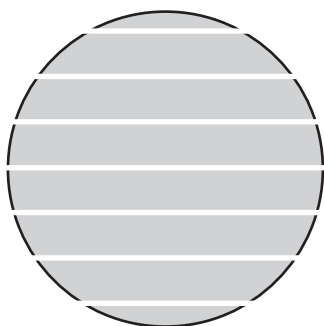
## Waney or square edged

Hardwood timbers are often sold with waney edge on one edge (if rift sawn or quarter sawn) or two edges (if plain sawn or through and through sawn). This means that the edge of the log, including bark, remains as part of the board. It is possible also to purchase square-edged timber, where the wane (or bark) has been cut off to give two squared edges to the plank.

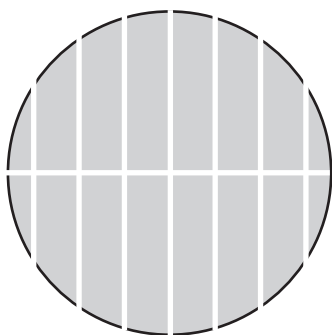
## Cutting patterns

There are three main cutting patterns (below). Plain sawn timber is produced by a succession of parallel cuts, with planks cut 'through and through' from the log. In rift sawing the log is cut in half, then rotated onto the flat face to be sliced. Quarter sawing is a name for various methods which seek to maximise the amount of radial planks obtained from the log. Some timbers have a distinctive grain pattern when cut in the radial direction, relating to the rays. One example is Oak, where the rays form prominent wavy silvery lines in the quarter sawn material.

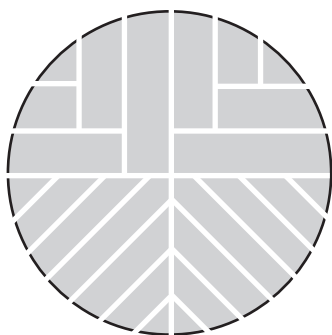
Plain sawn or  
'through and  
through' sawn.



Rift sawn



Quarter sawn  
(two versions)



These pages introduce the main concepts of appearance grading. A full explanation is available in the free document:

### **Making the Grade by Forest Research**

<https://forestry.gov.scot/publications/forestry-business/small-scale-wood-processing/345-making-the-grade-a-guide-to-appearance-grading-uk-grown-hardwood-timber>

Appearance grading rules were developed for UK timber to reflect the types of appearance most often available in the many hardwood species grown. The rules were based on a European standard for appearance grading of Oak (EN 975-1), but it was recognised that the other species available from UK woodlands were not covered by such a system. The new unified system of appearance grading also overcame difficulties in applying the EN975-1 rules for Beech.

The system can be used for all UK hardwood timbers, including Oak, Beech, Sweet Chestnut, Ash, Elm, Cherry, Sycamore, Birch. The document covers all the necessary detail for timber merchants to sort their products by grade, and contains images for specifiers to see examples of all the main UK hardwood species.



## Appearance grades

The presence, size, and frequency of knots is one of the key determining factors of appearance grading and only the best face of the plank is considered when determining whether pieces are graded either 1, 2 or 3.

### Grade 1

Has uniform appearance with few if any knots, splits or other features that would limit use if little variation in appearance is permitted. It is equivalent to what is sometimes called 'prime' or 'clear' grade.

### Grade 2

Will contain some knots, splits or other features, but will have areas of clear timber with some areas suitable for applications where some variation is acceptable.

### Grade 3

Will include all manner of knots, splits, colour variation and other features.

It is also possible to subdivide within these grades into class A and B, if desired. For example:

#### Grades 1A and 1B

Allow sorting by those pieces which are completely clear and those with small knots.

#### Grades 2A and 2B

Allow sorting according to knot size.

#### Grades 3A and 3B

Allow highly variable timber to be sorted.

## Special features

Features such as **shake and splits** may be tolerated in some grades, but not in grade 1. The **slope of the grain** is also limited in the highest grade but tolerated in lower grades.

Other features such as **ingrown bark** may be measured out (excluded from the area of board sold – see illustration below) so only the usable piece is allocated a grade.

Some special features are highly prized by some buyers, for example **ripple grain** in sycamore and Ash, or **burr** in Oak and Elm.

A **pippy appearance** can be recognised (where epicormic shoots of the tree have caused pips in the grain of the wood), for example pippy Oak and Sycamore are seen.

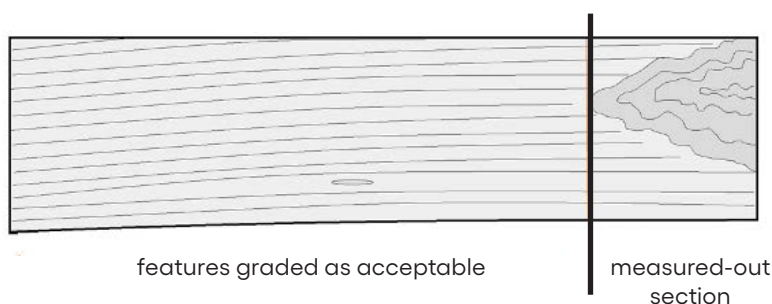
**Character grade Oak** is where the number and distribution of knots, shake and colour variation combine to give a pleasing rustic appearance.

**Colour variations** are sometimes desired, such as tiger or brown Oak, tiger Sweet Chestnut, olive Ash or coloured Sycamore. Coloured Beech is used as a term for the appearance sometimes known as red heart, flame Beech or kern.

**Spalting in Beech** is the unique pattern of patches interspersed with dark outlines, where fungi have competed within the log to colonise it, leaving sometimes white or multicoloured patches.

## The appearance grading system for all UK hardwood species

Grades	1	2	3
Sub-grades	A or B	A or B	A or B
Types of edge	square or waney edged		
Special features	e.g. pippy, rippled, quarter sawn, spalting, coloured, character		





Olive ash



Grade 1A oak



Pippy oak



Cat's paw oak

## How to name graded timber

Grades are described in a simple statement, always with the grade first, then whether the piece is straight edged or waney edged, then the species. For example Grade 1 straight edged Birch, or Grade 2A waney edged Oak.

The extra name of any special features can be added after the grade – where this is appropriate, e.g. Grade 2 square edged spalted Beech, or Grade 1 pippy Sycamore.

If the boards have been cut by a specific cutting pattern, this information can also be listed after the grade, e.g. Grade 1 quarter sawn Oak.



## Lessons From History: Brynmawr Furniture Makers Ltd.

Despite the Brynmawr Furniture company not surviving, it demonstrated a successful business model based on a set of values. At its heart was training and employment, a range of honest contemporary designs, and a co-operative approach that invests in local community and resources. For a full history, see the book:

The Brynmawr Furniture Makers - A Quaker Initiative 1929-1940, by Mary, Eurwyn and Dafydd Wiliam.



Quakers first took an interest in south Wales during the General Strike of 1926. When they arrived in Brynmawr they found many families suffering from the closure of collieries. They set to work with soup kitchens and other support, but there were bigger visions for self-sufficient communities. In 1929 Brynmawr Furniture Makers Ltd opened its workshops in part of the old Gwalia Boot Factory.

During this inter-war period, suburban house building was in full swing. Newly-weds were able to buy a home rather than rent, and this presented them with a need for furniture. Brynmawr furniture designs took on the honesty of the Arts and Craft movement and the modernity of Art Deco. Taking inspiration from other emerging designs of the time, they were created by Paul Matt, working initially with a team of unskilled young men that he trained.

By 1931, a team of twelve were proficient, busily employed, and working to a set of principles that were set out as 'Our Ideals'. This included the provision of creative employment, beautiful furniture of high quality that is fit for purpose and made in the best materials that expressed their natural qualities.

All unnecessary ornament was avoided, and designs aimed to enhance the qualities of the wood. Matt developed a process to incorporate ply, but with the pieces still giving the impression of solid wood, which

enabled the range to be more affordable and allowed the company's finances to go further.

However, the pieces were not affordable to local people or the workers. The retail furniture was for the more affluent middle classes that had the money to furnish their homes, and large orders came from Quaker societies, schools and libraries as well as the supporters of the venture (that were also often Quakers) or prominent Welsh people.

Taking the furniture to exhibitions, store displays, and eventually having a London showroom, became the most effective marketing strategy. By the end of the 1930s the company offered complete suites of furniture such as the Powys Dining Room or the Govilon range. Pieces could be bought in different sizes with a choice of seat covers. And by 1939 the factory employed 40 people, with profits being used to benefit the company and the community.

The outbreak of WWII saw orders drop significantly, with the company not even making enough to breakeven. Employees were conscripted and locals found work in the reopened Ebbw Vale steelworks. The remaining stock was sold in a matter of days at the final sale, and sadly, a large government order, that might of ensured the company's future, came through just after the closure.

## Lessons From History: 18th Century Design Thinking

Emyr Davies is Senior Furniture and Horological conservator at National Museum Wales.

Numerous examples of Welsh furniture can be seen at St Fagans: [www.museum.wales/stfagans/](http://www.museum.wales/stfagans/)

The Gweithdy gallery and craft workshop space celebrates makers past and present. Activities encourage visitors of all ages to experience traditional skills first-hand.



“ The arms of early 18th Century Welsh chairs were carved from a single piece of timber with a natural bend. That piece would not have been ordered, it would have been found in the forest. The material dictated the design.

The process behind these chairs involves an ongoing relationship with what nature gives you, and an understanding that you only use what is needed. It is a process, and a way of life, that has a gentleness and a humility about it. It is so very different from how we commercially manufacture now that it can be difficult to grasp. Without understanding this, we might look upon these early chairs and see something primitive and unrefined, but the skill and beauty of them is stunning when you appreciate what they represent.

Although the tree can be seen in the design, the look of the grain was not important as it can be with furniture that is made today. We like to see the beauty of the grain and we value that, but these chairs sat in dark cottages. Nobody would see the grain. It was the silhouette of the whole chair that was important and gave the piece its impact and integrity.

There is a simplicity and truthfulness in these finished pieces. Time was taken to add something a little decorative without needing to cover it with unnecessary pattern. They are chairs that encourage you sit and think. ”



Image courtesy of Tim Bowen from 'The Welsh Stick Chair' by Tim & Betsan Bowen. <https://timbowenantiques.co.uk/information/the-welsh-stick-chair>

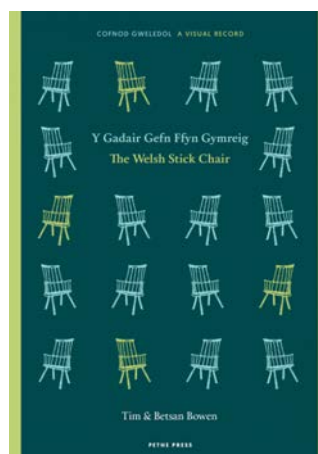






image: simon@simonclodefilms.com

## Transformation

by clare e. potter

Where once this land was ripped apart for coal,  
our rivers running black, steam blasting the sky above our valleys  
—this place a throng of industrial activity,  
it's now peace under canopies of trees bursting into leaf,  
silver birch, greengage, alders, beeches:  
branches for greenfinches pinching lichen for nesting;

the forest is the sky's lung, a poem for us, a song being sung,  
and we, too, are made new by tree roots underfoot;  
instead of being pressed into coal, sap rising free is worth more than gold  
—feel it healing, healing the land, and with each leaf unfurling,  
our hearts expand.

Growing Furniture in Wales  
Conceived by Dylan Glyn Jones & Lynne Elvins  
2023

