PROSIECT CARTREFI O BREN LLEOL

THE HOME-GROWN HOMES PROJECT

5 Essential Strategies for an Emerging Forest Nation

Cefnogir y prosiect hwn gan Gronfa Amaethyddol Ewrop ar gyfer Datblygu Gwledig
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woodknowledge WALES

5 ESSENTIAL STRATEGIES FOR AN EMERGING FOREST NATION

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CONTEXT

Wales is not a forest nation. Wales is a sheep, beef and dairy nation. Wales is a steel nation.

Like many nations, Wales is the economic country it is, not by political design but largely because of historical accident. Additionally, Wales has been held back by financial subsidies that have maintained the status quo (particularly but not exclusively through the Common Agriculture Policy) and the fashion for laissez-faire economic policies.

There has never been a better time or more reason to change. We have left the European Union and have also declared a Climate Emergency. A more purposeful approach is now required to achieve the net zero carbon goals set by Welsh Government.

Therefore, we are proposing five integrated strategies for how Wales can achieve a just transition to become a new high-value forest nation. A transition that would create substantial employment (particularly in rural areas) and a transition for which Wales has many natural advantages.

Wales has suitable and available land for afforestation, fantastic climate for growing the kind of trees that industry needs, the land and workforce for new industries and proximity to almost limitless export markets for high-value timber products. The UK is the second largest importer of timber and timber products in the World after China. Any assessments of what a more sustainable low carbon future World might look like will have abundant forestry and timber as a critically important raw material at its core.

In our opinion, the risks and costs associated with maintaining the status quo are far higher than those associated with the transition to a forest nation. Ref. *Serious About Green: Building a Wood Economy through Coordination*

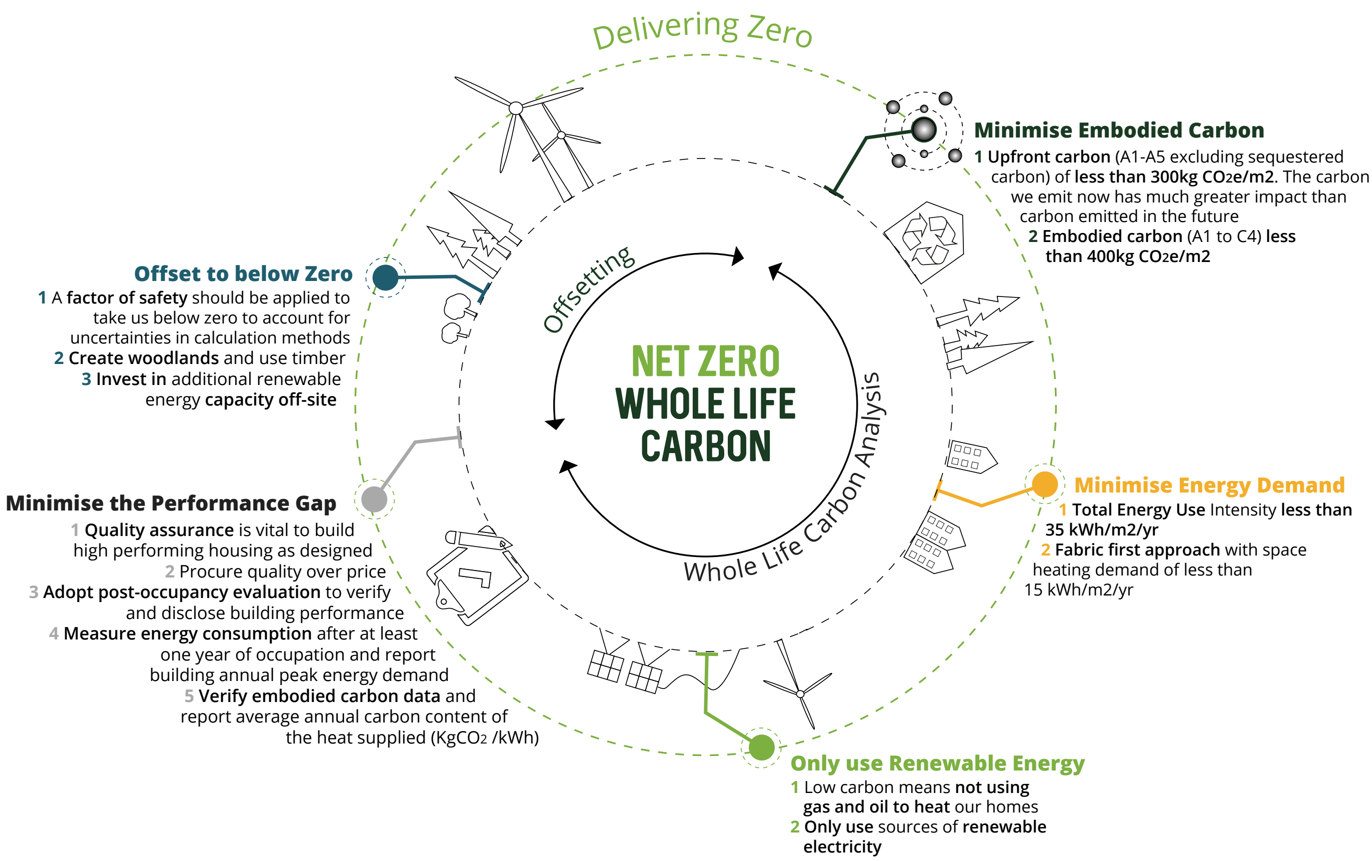
Wales must move away from high-carbon activities, which in recent years have also been heavily subsidy dependent. Wales must move towards more sustainable low-carbon industrial and land-use options that are geared to meeting the resource needs of the low-carbon society and that are economically viable.

Wales is starting from a long way back. Most European countries have well developed forest industries and in recent years Scotland and Eire have pursued more successful afforestation policies than Wales. This paper sets out how our slow start can be turned to our strategic advantage if Welsh Government decides to lead in the adoption of integrated economic policies outlined in this paper that are purposefully aligned across our construction, manufacturing and land-use sectors.

STRATEGY 1 - CONSTRUCTION

Introduce policies to deliver net zero whole life carbon construction

Welsh Government should adopt a clear framework for delivery of net zero carbon housing by changing the Welsh Building Regulations. Our proposal is below. This framework aligns with the Net Zero Whole Life Carbon definitions developed by the World Green Building Council and aligns with the RIBA 2030 challenge. Clear policies focused on delivering this framework to decarbonise construction will lead to a substantial increase in demand for timber. The following requirements should be introduced in full into the Welsh building regulations for all new developments announced in 2021 and fully implemented by 2025. Social housing new build should with Welsh Government grant be first exemplars of the efficacy of the new regulations.



STRATEGY 1 - CONSTRUCTION (Cont.)

Introduce policies to deliver net zero whole life carbon construction

POLICY RECOMMENDATION 1.1
Minimise Embodied Carbon

Timber is the exemplar low carbon construction material. Policies should initially demand measurement and then introduce embodied carbon reduction targets. In particular we recommend the adoption of an Upfront Carbon emissions target of <300kgCO2e/m^2 as per the RIBA 2030 Challenge *(See Embodied Carbon Reduction Guidance).*

POLICY RECOMMENDATION 1.2
Minimise Energy Demand

Timber is proven as the exemplar structural material for high performance homes built to the Passivhaus standard. Part L should be amended to require a space heating demand of 15kWh/m2/year *(as per the RIBA 2030 Challenge)*.

POLICY RECOMMENDATION 1.3
Only use renewable Energy

Net zero means not using fossil energy. However, we recommend Welsh Government review the support given to wood burning (as the least carbon efficient use of timber) in favour of wind, solar and tidal alternatives. Equally, the biomass subsidy as currently applied is diverting timber away from the manufacturing and construction sectors and doing little to bring under-utilised woodland into management.

POLICY RECOMMENDATION 1.4
Minimise the Performance Gap

To encourage better building and more manufactured approaches to delivery construction policies and regulation should move away from design standards alone and require post completion performance measurement (*See Building Performance Guidance*).

POLICY RECOMMENDATION 1.5
Offset to Below Zero

To deliver net zero whole life carbon an element of offsetting is required. Afforestation is widely recognised as a robust means to offset emissions. We believe that stored biogenic carbon in the building should also be recognised as an equally robust means of offsetting. In that respect we recommend that Welsh Government seek a one-year moratorium on ratifying the Emissions Trading Scheme to enable the Welsh Government to take evidence in favour of carbon credits for wood in buildings *(See Illustrative Carbon Storage Contract).*

POLICY RECOMMENDATION 1.6
Fund the Creation of a Zero Carbon Building Performance Hub

Welsh Government have funded a scoping study for a Zero Carbon Building Performance Hub under Innovative Housing Programme (IHP) year four funding. However, it is essential to provide ongoing revenue funding for such a hub. The hub will act to provide the necessary definitions, training, guidance, methodologies and benchmarks so that all actors in the construction supply chain in Wales can have a common and shared understanding of the zero-carbon journey (for both new build and retrofit, domestic and non-domestic). The hub funding could be enabled through the Social Housing Grant (SHG).

STRATEGY 2 - MANUFACTURING

Enable high value timber manufacturing & integrate with construction demand

Without interventions, the demand for timber products that will flow from decarbonisation strategies outlined above will be met almost exclusively by imported products. The lack of added value processing of timber in Wales represents a substantial market failure. We produce no structural Glulam. We produce no Cross Laminated Timber. We produce no timber I-beams, no Laminated Veneer Lumber, no Oriented Strand Board and no Wood Fibre Insulation. The list goes on. All these products have two key features in common. Firstly, they are all critical components in high-performance low-carbon buildings that displace steel, plastics, concrete and other high carbon and often toxic materials. Secondly, they are all made from the type and grade of timber we grow in Wales.

POLICY RECOMMENDATION 2.1

Create an Industrial Strategy for Wood

As a matter of urgency, Welsh Government should recognise forestry and timber as a foundational industry and create a green industrial strategy for wood. Such a strategy must integrate new and expanding timber growing, processing and manufacturing with the substantial demand within the Welsh Government construction and infrastructure programme. However, we should also aim to supply the export market to England to help address its own chronic shortage of home-grown timber products and to build capacity and scale that is possible in Wales.
NOTE: Timber frame manufacturers are already choosing to locate in Wales due to proximity to larger English markets and the availability of labour.

POLICY RECOMMENDATION 2.2

Establish Added Value manufacturing

Welsh Government should seek to create strategic public private partnerships, or targeted procurement and supply agreements, with Welsh companies and or European producers to establish advanced product manufacturing in Wales to service both the Welsh and wider UK markets. Three of the many opportunities are outlined below.

STRATEGY 2 - MANUFACTURING (Cont.)

Enable high value timber manufacturing & integrate with construction demand

Opportunity 1:
Wood Fibre Insulation (WFI) Factory
Currently WFI has between 5% and 10% market share in France and Germany. In the UK these products represent less than 0.1% of what is in excess of a £1 billion insulation market. UK customers are being poorly serviced by a European market for which demand is outstripping their ability to supply. Furthermore, transport costs of low-density products like insulation means high prices to UK customers. The retrofit programme, required for existing homes, is a great opportunity to deliver healthy and low-carbon homes by investing into the healthy and low carbon building material supply chains.

Opportunity 2:
Wood Windows Factory
We estimate that the Welsh Government and Welsh housing associations pay for the installation of approximately 85,000 new plastic windows every year in their retrofit and newbuild programmes. This also means that approximately 70,000 plastic windows go to landfill each year. Currently no Welsh timber window manufacturer can supply this market as they lack the certification requirements of Secured by Design.

Opportunity 3:
Glulam Factory
Glulam is a wood based structural material which can and is being used as an alternative to structural steel for low and medium rise (particularly non-domestic) buildings. Glulam should become the healthy, low carbon material of choice for hospitals, schools and other low rise non-domestic buildings.

STRATEGY 2 - MANUFACTURING (Cont.)

Enable high value timber manufacturing & integrate with construction demand

POLICY RECOMMENDATION 2.3

Support for the Timber Frame Manufacturing Sector

The timber frame sector in Wales is expanding. The timber frame sector represents the manufacturing bedrock for the rapid evolution of offsite MMC net zero housing in Wales. However, in part as a result of the timber frame sector operating as a subcontractor to the main contractor, manufacturing margins remain below 5%. This limits the timber frame manufacturers' ability to invest in automation, training and innovation and leaves the sector vulnerable to economic downturns. Welsh Government should introduce targeted and specific policy interventions to enable manufacturers to be at the heart of housing delivery in Wales, rather than the periphery. Welsh Government should also proactively position Wales as a nation of excellence in timber frame manufacturing specifically targeting the English market. This can be achieved through procurement of timber frame to a national performance specification as currently being developed by Woodknowledge Wales in collaboration with Welsh local authorities and the timber frame sector. This should be supported with an allocation of timber supply from NRW and/or local sawmills, allowing wood processors and timber frame manufacturers to establish a baseline production at lowest risk to all. This approach will help to position Wales as a nation of excellence (and leadership) in advanced timber frame manufacturing, delivering necessary scale by strategically targeting the English market.

POLICY RECOMMENDATION 2.4

Align Public Building Programme to Timber

To reflect the economic, social and environmental benefits for Wales of using timber in construction and stimulating afforestation, we believe that the Welsh Government should adopt a Wood First Policy (e.g. In France by 2023 50% of all public buildings must be based upon timber) and create a 'Charter for Timber' in a similar manner as the charter for UK manufactured steel. This would liberate markets for products such as Glulam as a key structural material in non-residential construction.

STRATEGY 3 - WOOD PROCESSING

Influence primary processing decisions to better benefit Wales

The Welsh state has historically subsidised forestry. The Welsh Government Woodland Estate provides the majority of the timber to industry and Welsh Government provides the grants to landowners to incentivise planting and management. But the private sector (in the form of the primary processor - the sawmiller) determines what happens to the trees. In our opinion, wood processing in the UK is a de-facto public private partnership. To date the Welsh Government has never sought to influence what happens to this critically important resource. Partly as a result, the vast majority of Welsh timber that is grown for industrial applications is used for relatively low-value fencing, packaging and garden products. These timber markets are important, but the absence of the higher added-value construction materials should be viewed as a both an industrial failure and a failure of policy. We estimate that only 4% of Welsh timber is used as construction sawnwood. This low value outcome matters. Not only are the returns insufficient for Welsh landowners to invest in tree planting without the need for grants, but also the current markets, although essential, are massively sub-optimal in terms of climate change mitigation and social returns. The Welsh Government needs to use its role as both the regulator and the grower to achieve better outcomes for Wales.

POLICY RECOMMENDATION 3.1

Change Timber Sales Regulations

Natural Resources Wales (responsible for managing the Welsh woodland estate) have just completed a consultation on their sales and marketing plan for 2021-2026. The proposal is to move from a sales strategy based on the highest bidder to a triple bottom line approach. We believe that NRW should go beyond the difficult to police triple bottom line approach and proactively ring-fence a proportion (e.g. 10% per annum of the 525,000 m^3/annum in 2019) for strategic adding-value processing by Glulam, timber windows, and wood fibre insulation factories, into the valuable products required by a low-carbon UK.

POLICY RECOMMENDATION 3.2

Support the Establishment of a Coordinating Agency

Welsh Government should support the establishment of a coordinating agency to ensure that Welsh grown timber is available for the use of the timber frame manufacturing and joinery and other value adding sectors. This coordinating agency could for example consolidate demand from the Welsh timber frame sector and the housing association retrofit programme and link this demand directly to the provision of timber from the Welsh Woodland Estate. This coordinating agency will in essence bring supply, demand and processing into more purposeful alignment.

NOTE: Woodknowledge Wales has established that housing associations are prepared to demand Welsh timber and timber frame manufacturers are prepared to use Welsh timber.

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STRATEGY 4 - FORESTRY

Increase forest area and incentivise forest management for high value applications

The failure of Welsh Government to achieve a significant expansion of forest area in the past 10 years has been well documented and is in stark contrast to our near Celtic neighbours (Eire and Scotland). The production of timber in Wales is forecast to fall over the coming decades whilst that of Eire will double. This decline needs to be addressed through a huge afforestation plan for Welsh landowners of all sizes, particularly farmers.

There is no shortage of private funds available to purchase Welsh land to grow trees. Growing trees already makes economic sense to the longer-term institutional investors with deep pockets. A laissez-faire approach to afforestation will likely mean the sale of Welsh land to wealthy individuals and pension funds, especially given the anticipated post-BREXIT economic challenges likely to be faced by livestock farming.

A key challenge in becoming a successful forest nation is therefore to ensure that our woodlands are both expanded in area and managed in a way that maximises the benefit to Welsh farmers, communities and broader society. Directing investment, both public and private, into partnership with existing farmers to plant a range of woodlands including, crucially, those managed for timber production, will deliver the timber supply needed by new housing and value-added industries, while offering them the opportunity and means to adapt for the future. We believe that private investment is available and ready for deployment.

That of course means we need a balance between the management of woodlands for timber production and for biodiversity, recreation and other benefits such as carbon and water management. It also requires that the productive output is put to best use. Critically, it means that Welsh people should have an economic interest in the trees as well as being able to access woodlands for their wellbeing. Otherwise, we fear that the productive forests will continue to be regarded with suspicion by a society that has little stake in them. Welsh society currently views degraded treeless landscapes as 'natural' and coniferous woodlands as 'alien'. This is in stark contrast to most other countries in northern and central Europe, despite the comparability of their environmental conditions. It goes without saying that every effort should be made to ensure Welsh society is fully supportive and engaged in the changes ahead. In that respect the National Forest presents a great platform for education and change. But the opportunity for Wales is much bigger to become a high-value forest nation. We support the BBC Wales initiative with the endorsement of the Prince of Wales to plant Britain as well as Wales specifically, but the key is not only combating climate change. It is to provide a low carbon resource and meaningful jobs for the future.

STRATEGY 4 - FORESTRY (Cont.)

Increase forest area and incentivise forest management for high value applications

POLICY RECOMMENDATION 4.1

New Financial Models for Tree growing

Welsh Government should explore the alignment of both public and private investment to enable the scale of investment necessary for substantial afforestation on Welsh farmland (preferably without transfer of land ownership). We believe that the private investment is available, and equitable partnership models between investors and landowners are readily available.

POLICY RECOMMENDATION 4.2

Carbon Offsetting

Review the operation of the Woodland Carbon Code, to make it possible for Welsh organisations (e.g. housing associations) to directly invest in Welsh afforestation as part of their offsetting strategies.

(See Capturing Carbon: Investing in Woodlands)

STRATEGY 5: SOCIO-CULTURAL CHANGE

Maximise the benefit in becoming a high-value forest nation to Welsh communities

To help overcome barriers to change, to increase the understanding of woodland in general and the acceptance of productive forestry in particular it is essential that the benefits flow explicitly to Welsh communities - particularly those communities surrounded by trees. Woodlands have proven benefits for education (nature-based learning), well-being and leisure (walking and cycling etc.) as well as the meaningful employment that is implicit in the other four strategies.

POLICY RECOMMENDATION 5.1

Better Leverage of the Power of the Welsh Government Woodland Estate

Where the Welsh Government Woodland Estate is located near to communities, parcels of forest land should be sold or leased to local organisations in a way that leverages increased social, economic and environmental value (*e.g. as demonstrated successfully by the Skyline project).* Such an approach would draw more communities into forestry and create greater diversity in forest management and timber processing. NRW should then also be tasked with procuring land to enable the agency to maintain overall productivity levels from their directly managed forest.

Image courtessy of Skyline

POLICY RECOMMENDATION 5.2

Create Designated Forest Towns

Welsh Government should support the creation of designated Forest Towns. Such a designation should come with responsibilities and rewards. Once a designation is achieved, it should enable access to investment in community-based forestry related activities that would benefit the community in terms of employment, wellbeing, education and leisure. The first designated forest town could be Treherbert (which is behind the skyline concept).

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