



Grŵp Herio Cymru  
**Sero Net 2035**

**Wales Net Zero 2035**  
Challenge Group

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**Wales Net Zero 2035 Challenge Group - evidence submission form**

Please complete and email this form to [stan.townsend@wcpp.org.uk](mailto:stan.townsend@wcpp.org.uk)

1. Please provide the following contact details

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2. Are you content for your evidence submission response to be formally published?  
NB – All responses will be acknowledged. Only responses we wish to take further will be contacted. The Group does not intend to publish a synthesis of responses.

Yes	Yes
No	

3. Which of the Group's Challenge Areas you would like to talk about/provide evidence on  
1.How could Wales feed itself by 2035? 2.How could Wales meet energy needs by 2035 whilst phasing out fossil fuels?; 3.How could Wales heat and build homes and workplaces by 2035? 4. How could people and places be connected across Wales by 2035? 5. What could education, jobs and work look like across Wales by 2035?

3. How could Wales heat and build homes and workplaces by 2035 mainly. However, this information is also connected to Challenge Areas 2, 4 and 5.

4. Summary

In up to 500 words, please give us a short summary of your submission

Woodknowledge Wales (WkW) is a charitable Community Benefits Society with a vision of Wales as a zero carbon, socially just, high value forest nation. Inspired by regenerative thinking, we collaborate with our growing membership network to build trust and accelerate learning to proactively drive systemic change across construction, timber manufacturing, forest industries and land-use.

This submission champions retrofit first, biogenic first and fabric first approaches. We can support Welsh Government (WG) in accelerated implementation of all recommendations below, either directly or through one of our partner organisations: [Alliance for Sustainable Building Products](#), [The Good Homes Alliance](#), [The Passivhaus Trust](#), [The Sustainable Traditional Buildings Alliance](#).

1. **BUILDING PERFORMANCE:** Evolve current WG targets included in the new WDQR and WHQS to:
  - Significantly reduce dependence on SAP assessment (EPCs). These often encourage the integration of new technology before minimising energy demand.
  - Prioritise assessment methods which encourage the use of natural materials in a fabric-first approach, whilst focusing on reducing energy use, improving space heating efficiency, overheating prevention, IAQ (Indoor Air Quality) and health & wellbeing. For this we recommend a wider use of the PHPP tool, AECB Standard, LETI Guidance and RIBA Plan of Work. Note: the Passive House Planning Package (PHPP) is not limited to Passive Houses only, it can be used as a design and compliance tool to assess any new and existing building.
  - Manage the above using, for example, the [WkW Building Performance Evaluation toolkit](#).
  - Our proposed energy efficiency targets:
    1. Total Energy Use Intensity of less than 35 kWh/m<sup>2</sup>/yr
    2. Space Heating Demand less than 15 kWh/m<sup>2</sup>/yr (at least for all new buildings)
  - *[Further details in Net Zero Whole Life Carbon framework attached]*
2. **EMBODIED CARBON:** Create policies to mandate whole-life embodied carbon assessment and targets across all construction projects. See [guidance](#). Our proposed embodied carbon targets:
  - Upfront carbon (A1-A5 excluding sequestered carbon) of less than 300kg CO<sub>2</sub>e/m<sup>2</sup>
  - Embodied carbon (A1 to C4) less than 400kg CO<sub>2</sub>e/m<sup>2</sup>
  - *[Further details in attachment]*“The carbon we emit now has much greater impact than carbon emitted in the future”. We propose the above targets to be dynamic and become more demanding as these are being implemented/regulated.
3. **ENVIRONMENTAL PRODUCT DECLARATIONS:** Create a well-governed, standardised, free access UK embodied carbon product database to:
  - reduce data ‘cherry-picking’.
  - encourage the creation and use of Environmental Product Declarations (EPDs).
4. **GREENHOUSE GAS REMOVALS:** Support biogenic carbon storage in the built environment as a Greenhouse Gas Removal (GGR) solution. Afforestation and timber in construction are impactful, low cost, and technically ready GGR solutions. See [BEIS commissioned research](#). Through the WG funded Home-Grown Homes project, WkW is researching policy levers to improve carbon storage in the built environment. We also wish to challenge the biomass subsidy that currently

disincentivises timber in construction and tackle ‘societal resistance’ through better communication around afforestation and timber construction as GGR solutions.

5. **LAND USE CHANGE:** Enable integrated land use governance across the natural and built environment. The carbon benefits of productive timber are outlined in academic papers published in *Nature* [here](#) and [here](#). See WkW WG/NRW commissioned recommendations on land use (provided on request). Wales has suitable land, climate, and forestry to produce the timber raw material necessary to decarbonise the creation and retrofit of buildings with afforestation, while providing income and employment opportunities. See [WkW guidance](#).
6. **ECONOMIC DEVELOPMENT:** Bold intervention to reduce dependencies on imports and ensure Wales can leverage increased demand for timber to support decarbonisation strategies. Economic opportunities include Welsh production of biogenic building materials such as woodfibre insulation (see [WkW investment prospectus](#)), timber windows, and engineered timber products such as I-beams, glulam and cross laminated timber.
7. **RECRUITMENT AND SKILLS:** Increase recruitment for forestry, low-carbon construction and wood science, through awareness raising, incentives, education and training programmes.
8. **OTHER SUGGESTIONS:** Explore demand-side policies (e.g. tax incentives) to encourage more efficient occupation of buildings we already have. Facilitate standardised methods of timber housing manufacturing to enable higher performance at lower cost (read [Zero Carbon Homes](#)). Finally, we fully endorse the concepts published by UK Architects Declare ‘[Building Blocks to transform the Built Environment](#)’.

5. Wellbeing of Future Generations (Wales) Act (see Annex)

Please demonstrate how your proposal and evidence can maximise the contribution to the Wellbeing of Future Generations (Wales) Act's Goals and Ways of Working.

Our proposal aims to align the **Wellbeing Goals** with the **Ways of Working**, in order to maximise contributions across sectors. This is briefly detailed below:

1. **A Prosperous Wales:** Outlined in the section above, there are several areas with compelling economic opportunities for Welsh production of biogenic building materials, particularly focused on improving the building fabric (which should be incentivised). Similarly, investment in Greenhouse Gas Removal Solutions (GGR) opportunities should be explored, as well as investment in forestry and timber production for the construction sector and high-end products. These are some of the many key areas where Wales has the potential to take a leading role in the sustainability sector.
2. **A globally responsible Wales:** This proposal follows the science. All the processes described are based on solid data gathering and analysis, which supports the decision-making process. This provides transparency to share information and learning with nations across the world. Demonstrating the commitment made by Wales, including

specific impact on the planet. This will encourage a common language to communicate internationally, based on real-data and measurable targets.

3. A resilient Wales: This proposal will make Wales more globally responsible, but also more self-reliant across the aforementioned sectors (i.e. construction, timber manufacturing, forest industries and land-use). This will make the country less vulnerable to the international market fluctuation, but also more resilient to changes arising from volatile political and economic influences across the globe.
4. A healthier Wales: The targets included in this proposal are directly linked to achieving a healthier Wales with regards to the wellbeing of humans (i.e. building performance targets to deliver improved conditions, by integrating overheating prevention strategies, as well as better indoor air quality and reduction of mould risk through good ventilation and breathable natural materials) and the protection of the natural environment (i.e. Embodied Carbon, environmental footprint, GGR, etc).
5. A more equal Wales: This proposal endorses key items such as achieving affordable warmth for all buildings in Wales, equal training and learning opportunities, supporting the local communities through circular economy, etc.
6. A Wales of cohesive communities: Our work follows the regenerative principles (i.e. reduce/eliminate waste and pollution, circulate products and regenerate nature). These bring cohesion to Welsh communities as they work together towards common goals to develop within.
7. A Wales of vibrant culture and thriving Welsh Language: All the activities proposed above include a significant increase of locally grown materials, skills & training and engagement with local communities. This simultaneously encourages positive pride in the Welsh culture and has the potential to nurture strong sense of ownership to protect the environment, linking these steps towards achieving sustainability in Wales and the Welsh culture.

This is how WkW's work overlaps with the Ways of Working in the sustainable development principle highlighted in the Wellbeing of Future Generations (Wales) Act:

- Collaboration**: At WkW we run a number of Communities of Practice (CoP) and work closely with our growing membership network from the ground up at the coal face of delivery across the built and natural environment to build trust, accelerate learning and forge new collaborations.
- Involvement**: Our work focuses on driving change through doing, not lobbying, to proactively find ways to implement the proposed systemic change.
- Integration**: We believe this radical change must take place in tandem across industries, to ensure wellbeing objectives are being considered and implemented. WkW main focus is on driving this change across construction, timber manufacturing, forest industries and land-use.
- Long-Term**: Our method of driving change across the natural and built environments aims to follow the regenerative principles (as mentioned above). We believe this is the way to ensure we don't compromise the needs of future generations.
- Prevention**: All our gathered evidence demonstrates the severity of the current problem. We believe we have a good handle on the scale of the problem and the

required actions. We need to take prompt, well-informed decisions as soon as possible to undertake the drastic interventions required.

6. Quantifiable emissions reductions

Please demonstrate the quantifiable evidence of your proposals potential emissions reductions, from 2025 to 2035

There is overwhelming evidence for the environmental benefits of the recommendations contained in this submission. In particular note the two Nature papers referenced in the land-use change section. We have linked to other key evidence that WkW has created, inspired and been involved with. Other important supporting documents have been published by the IPCC and many others.

Additional evidence is being provided through the Home-Grown Homes project and the soon to be published Timber Industrial Strategy.

Further WkW references include:

Five Essential Strategies for an Emerging Forest Nation. Accessed here:

[https://woodknowledge.wales/wp-content/uploads/5\\_Essential\\_Strategies\\_v4-1.pdf](https://woodknowledge.wales/wp-content/uploads/5_Essential_Strategies_v4-1.pdf)

The Zero Carbon Homes report, offers a comparative study of different methods of construction, including the carbon emissions potential for the different scenarios.

Accessed here: <https://woodknowledge.wales/wp-content/uploads/WP6-Zero-Carbon-Homes-web.pdf>

We would be delighted to provide more detailed evidence for each recommendation if requested to do so following this consultation.

7. If you wish to provide written evidence in the form of a PDF file or upload a report, please attach alongside this form to: [stan.townsend@wcpp.org.uk](mailto:stan.townsend@wcpp.org.uk)