

The **Wood Window** Alliance

Press release

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WOOD WINDOWS CO₂T LESS

New Life Cycle Assessment (LCA) research revealed at Ecobuild on Tuesday 3rd March shows that Wood Window Alliance (WWA) branded windows are carbon-negative. The study, carried out by the consultants Davis Langdon and commissioned by the WWA, is one of the first studies that measured empirically the embodied carbon of modern high performance wood windows applying recent developments in methodology.

Davis Langdon measured the embodied carbon of a selection of WWA windows with BFRC A and C energy ratings over 30, 60 and 100 year building service life periods using different exposure conditions and maintenance regimes^{1,2}. The groundbreaking study used a methodology for calculating the embodied carbon for wood products derived from discussion and work within the Construction Emissions Community of Practitioners (CECoP) - an informal group of LCA practitioners and methodologists in the construction industry.

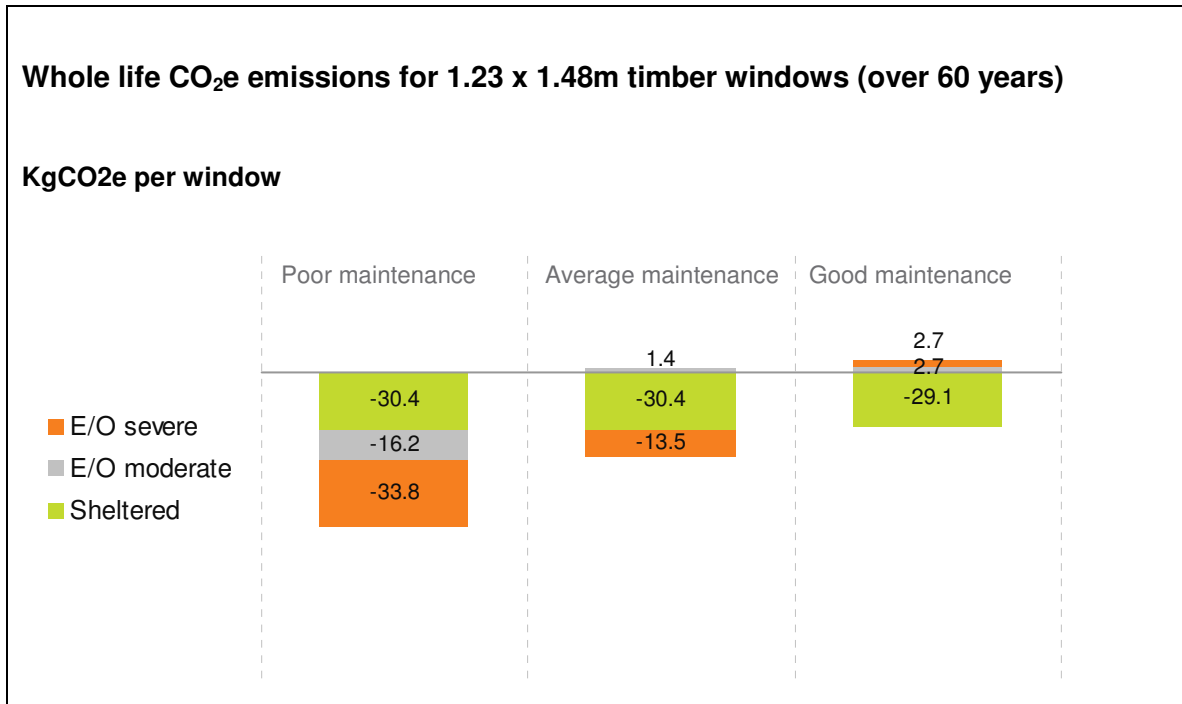
The study broadly applied the new PAS 2050 methodology, which was developed by BSi at the request of the government to provide a common approach for the assessment of the life cycle greenhouse gas emissions of goods and services. PAS 2050 is predicted to become the standard in the industry over the next few years for the carbon labelling of products and materials. The study used new information supplied by the WWA on CO₂e emissions from waste management practices used in forest product processing as well as recently gathered data on end of life carbon emissions from recycling and landfill.

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And the results are noteworthy. Despite carbon emissions from transport, production, maintenance and end of life, the overall lifecycle of the wood windows measured in the study is carbon negative, provided the timber is from a sustainable forest and end of life issues are taken into account. The wood used in WWA windows is sourced from sustainably managed forests that sequester more carbon than they produce because the trees are used for window production are continually replanted. Ironically the new information means that each time you replace a wood window with another new wood window the more carbon you save (see graphs below), although there are clearly other environmental impacts to consider when aiming for a completely sustainable solution.



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The results could have a big impact on the fenestration and construction industries as a whole. For instance, calculations carried out by WWA suggest that if all the seven million windows replaced in Britain in 2007 had been made from sustainably sourced timber, the country could have saved around 750,000 tonnes CO₂e³ over a 60 year building service life. Based on £26/tonne CO₂e, the 2008 value for the shadow price of carbon, the financial value of the carbon saved would have been just under £19.5million. With carbon trading set to become more popular as well as legislation for all UK buildings only likely to get tougher, wood really could become the window to a sustainable future.

For more information on the WWA visit www.woodwindowalliance.com or contact Ruth Odunuga on 0870 458 6939.

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Notes to Editors

The Wood Window Alliance

Since its launch in September 2007, the WWA has forged ahead with its plans to highlight the thermal efficiency, durability and beauty of 21st century wood windows, targeting professional, trade and consumer audiences. A real breakthrough for the wood window industry in the UK, the formation of the WWA marked the first time that so many companies have come together to create a powerful marketing campaign for wood windows, placing product quality, industry standards and sustainability at its core. And because the WWA puts quality at the heart of its campaign, and all members must meet high standards to be able to display its heart and tree brandmark³.

To earn the right to become a member, WWA members must make windows which:

- Meet the minimum standards set out in BS 644, the main British Standard for wood windows, or equivalent standards from other countries
- Meet the performance standards for wind and weather resistance of BS 6375 Part 1
- Meet the minimum performance standards for operational aspects of BS 6375 Part 2, or equivalent standards from other countries
- Are accredited by an independent UK or European body to prove compliance with those standards
- Are manufactured from timber, sourced legally from sustainably managed forests
- Have service life warranties for durability, paint life, ironmongery and insulated glass units

Meet or better the UK Building Regulations recommendations for energy efficiency

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¹ **Notes on methodology**

- The model for calculating the embodied carbon for wood products was derived from discussion and work within CECOP: an informal group of LCA practitioners and methodologists in the construction industry, a number of whom have contributed to the methodology and helped calibrate the data
- The methodology is broadly consistent with PAS 2050 (The BSI British Standards PAS 2050:2008 - Specification for the assessment of the life cycle greenhouse gas emissions of goods and services (PAS 2050), which provides a common approach for the assessment of the life cycle greenhouse gas emissions of goods and services) and should be considered as work in progress
- One of the key aspects of this new methodology is to take into account the end of life scenarios for timber, not least being the accounting of emissions from landfill.
- The sources of data are documented in the model and use a wide mix of scientific papers and sources such as Ecoinvent, databases in SimaPro, DEFRA etc.

² **Notes on service life**

- At present the proven lifetime of a wood window is 35 years (BRE Green guide, 2008) but if properly maintained wood windows should theoretically be able to last a lifetime.
- maintenance and replacement regimes are detailed below:

Exposure Rating	Sheltered			Moderate			Severe		
	Poor	Average	Good	Poor	Average	Good	Poor	Average	Good
Level of care in use	(Years)			(Years)			(Years)		
Wash down/clean	3	2	1	2	2	1	2	2	1
Rub down, prepare & repaint (1st renewal)	10	10	7	7	7	5	7	5	5
Rub down, prepare & repaint (Subsequent cycle)	8	7	6	6	5	4	5	4	3
Replace unit	35	45	45	30	40	45	20	25	35

³ **CO₂e Definition**

Carbon dioxide equivalency is a quantity that describes, for a given mixture and amount of greenhouse gas, the amount of CO₂ that would have the same global warming potential (GWP), when measured over a specified timescale (generally, 100 years)

For further information, please contact:

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