

Plastic that's good for the environment

Plastecowood has developed a long-lasting, low-carbon alternative for wood, concrete and steel made of mixed plastic packaging waste that normally ends up in landfill or incinerators.



In brief

Plastecowood produces SMARTAWOOD™, a wood alternative created from recovered plastic packaging waste usually bound for landfill or incineration. Unlike wood, SMARTAWOOD™ doesn't rot, requires little maintenance, will last for decades and is fully recyclable at end-of-life. Each tonne uses over 25,000 plastic pieces, saves at least 700kg of carbon from landfill or incineration, and saves approximately 2.5 trees from felling. SMARTAWOOD™ is used across various industries, with clients including Carlsberg, Airbus and Balfour Beatty, promoting eco-friendly solutions in manufacturing.

Henning von Spreckelsen, Director of Plastecowood

Longer in use and re-use

The Innovate UK vision for materials and manufacturing is a future in which the UK is a leader in the development of sustainable materials. In the coming decades, UK manufacturing will be net zero and resource efficient, with materials lasting longer in use and re-use.

Plastecowood has developed a wood alternative that can help achieve this vision. SMARTAWOOD™ is made by recycling recovered plastic waste that is usually dumped in landfill sites or sent overseas to be incinerated. Unlike wood, it won't rot, it does not require maintenance (aside from the occasional jet wash), and it can be recycled at the end of its life and processed back into pristine SMARTAWOOD™.

From waste to 'wood'

The company estimates that each tonne of SMARTAWOOD™ manufactured uses more than 25,000 pieces of plastic packaging waste, saves at least 700kg of carbon from landfill or incineration, and prevents, on average, two and a half trees from being felled.

Plastecowood was a winner in the Santander X Global Environmental Challenge in 2021. The business used the

£2 million funding package it received from Santander to grow its production by 300% and is now capable of producing 6,000 tonnes of SMARTAWOOD™ a year.

SMARTAWOOD™ is used in a range of products offered by Plastecowood, from soundproofed construction hoarding to multi-purpose sports facilities. Carlsberg has bought over £1 million's worth of pub tables from the company. Clients in other sectors include Airbus, RSPB, Balfour Beatty, Ineos, Tesco, Marks and Spencer and Knorr-Bremse.

Shaping a carbon-neutral, resilient UK manufacturing industry

Plastecowood's low-carbon manufacturing process is an excellent example of how the UK's manufacturing sector can help address the urgent challenge of climate change. There is also an urgent need to reduce reliance on imports and to make the UK's supply chains more resilient. By using plastic waste instead of timber, the UK would not have to rely on imported trees for feedstock, instead using plastic waste generated domestically that would otherwise be destined for disposal or incineration.

Companies like Plastecowood are opening up markets and creating job opportunities in an exciting area of manufacturing.

Bruce Adderley, Director for Make & Use at Innovate UK, said: "Like every other nation, the UK has the challenge of dealing with mixed plastic packaging waste. Diverting waste materials from landfill or incineration to enable life extension and re-use will be critical for the resilient, net zero future we are all working hard to deliver."

Good for the environment, good for society

Innovate UK granted Plastecowood £78,974 in 2022 to develop a prototype of its reusable SMARTAWOOD™ construction hoarding. Plastecowood partnered with the University of Surrey's department of engineering, which provided technical studies of the material and the assembled hoarding.

The company's Director, Henning von Spreckelsen, said: "It enabled us to do things we would not have done by ourselves. We learned about our own products through our partnership with the university. We engaged with a new customer demographic, the construction industry. And the project created a spin-off, the sports facility, that's a benefit to society.

"We're also interested in working with local authorities as well as authorities in rail and road transport, as we see value in reducing noise and providing resources such as fences or acoustic barriers that will last and not need replacing again and again."

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