

The 'circular office' model aims to cut waste and put remanufactured second-hand furniture back into the system. **Liza Salazar** finds out what the process entails and how it works at CIWM's new premises

Turning the tables

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Every piece of furniture has a story to tell, and some – such as the desks at Public Health Wales' Cardiff HQ, which appeared in the James Bond film *Spectre* – have more colourful yarns than others. Intriguing tales of furniture provenance are common at Rype, an office furniture and design company that applies circular economy principles to its projects.

Rype uses these principles to create 'circular offices', giving good-quality second-hand furniture – usually discarded because of superficial wear and tear – multiple lives by replacing modular components. This process – called remanufacturing – has been undertaken at CIWM's new office in Northampton, which has been furnished with 2,600kg of remanufactured second-hand furniture, some of which hails from the head offices of Amazon, M&S and online fashion label Asos.

'If we're talking to our members about best practices, we need to be trying to live those values at CIWM,' says Sarah Poulter, CIWM CEO. 'It is core to our work in making sure we are not contributing to the bigger environmental issues by buying furniture made from virgin materials when we don't need to.'

Remanufacturing

An astounding 300 tonnes of office furniture is sent to landfill every working day in the UK. 'This is an enormous waste stream that includes valuable steel and aluminium, which will last thousands of years in an indoor environment,' says Rype founder Greg Lavery.

Remanufacturing entails making something to its original specification, using a combination of reused and repaired elements, as well as new parts. While a refurbished piece of furniture has had something added or changed – such as the upholstery – remanufactured furniture is disassembled and rebuilt according to the original design. So remanufacturing has the edge when it comes to reliability, says Lavery.

New items made from 'virgin' materials have not stood the test of time; design flaws, structural defects and flaws in materials – such as voids and microcracks – are difficult to identify during manufacturing. Remanufactured office furniture, on the other hand, has been stress-tested in use, so parts with structural flaws have been filtered out long before it gets to Rype.

'Some of the chairs we've supplied have had more than a million cycles on a test bed to prove the mechanisms are



Oak table previously belonging to ASOS



Table made of recycled chopping boards



Sustainable booths

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virtually indestructible,' says Lavery. 'The aluminium base is repowdered, the plastic can be resurfaced, and the foam replaced. We spend a lot of time figuring out the science and technologies to do this.'

The fabric – and fashion – are the main factors that 'kill' chairs, he adds. 'So we use fabric that's guaranteed for 10 years, and we replace it according to what the client wants using 100 per cent recycled polyester.'

Although most office furniture is designed to be modular – British Standards stipulate that most chairs must be able to be pulled apart into their components – manufacturers do not design for remanufacturing, says Lavery.

'The modularity is a good start because it enables us to pull furniture apart and replace some of the elements, which gets us part of the way to being able to remanufacture. But we've had to invent the remaining steps, almost on a model-by-model basis, to get it back to "as new" condition,' he says.

The deeper issue, adds Lavery, is manufacturers claiming furniture is recyclable but not doing 'anything to help the consumer take steps to get it recycled'.

'We see that as pretty awful greenwash, because you can, theoretically, separate the waste from a chair into its streams, but most customers wouldn't know how to do that.'

Furniture provenance

'If you come into our office, you wouldn't believe anything had had a life before,' says Poulter. 'It all looks new and modern.' Despite its appearance, CIWM's furniture has not just come off a factory conveyor belt: the desk chairs are from large digital marketing agency WPP; the oak table is originally from Asos; and the Herman Miller desks are from Amazon – its office, not its website.

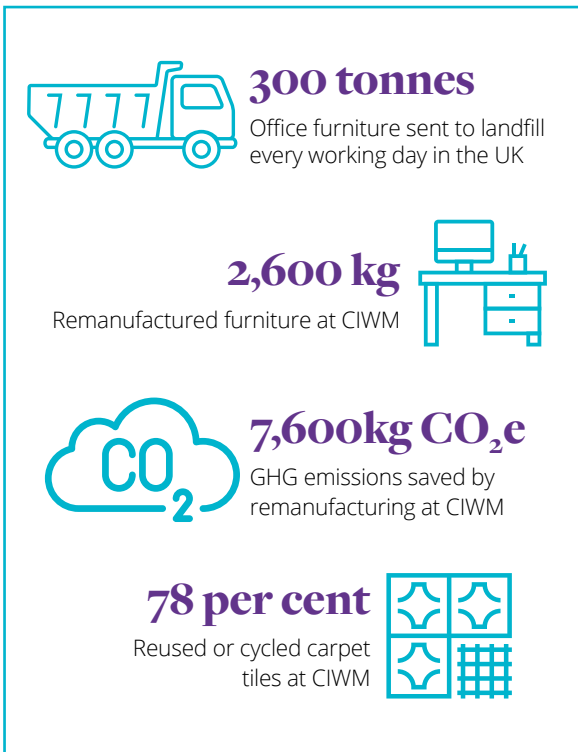
The white frames for the boardroom and the hot-desk tables originate from M&S, and the table tops are manufactured from post-consumer waste yoghurt pots, kitchen chopping boards and bin bags.

'If you heat some types of plastic to the right temperature, you can reshape it, with no loss of quality of the product and no toxic off-gassing, as long as the temperature stays within a tight range,' says Lavery.

'Post-consumer waste – especially plastic – is a big problem for the oceans and for landfills so, turning it into new products that can be remanufactured, over and over again, gives it a circular life and starts a conversation about values and purpose.'

As well as experimenting with different plastics, Rype is testing 100 per cent recycled foam for chairs, and repurposing hard-to-recycle table tops.

'Most desk tops are made from melamine-faced



furniture, Rype ‘closes the loop’ by taking it back and remanufacturing it again.

The company has also partnered with Armstrong Ceilings, which recycles ceiling tiles, and UK office-carpet reclamation organisation Greenstream Flooring, which supplies grade-A reclaimed carpet tiles.

‘We see many landlords go to the great expense of putting down new carpet tiles when they refurbish a space – then the tenants walk through the door and say they want different flooring. So all those tiles get pulled up and, mostly, end up in landfill,’ Lavery says.

Fortunately, he adds, organisations such as Greenstream Flooring reclaim them and look after them, and Rype specifies the company for its clients.

At CIWM, 25 per cent of the carpet tiles Rype installed were recycled and integrated with the Institution’s existing tiles. ‘They’re not perfect – some have flaws in them, which are so tiny you would never notice – but they just can’t go on sale in a shop as “perfect”. They have been diverted from landfill and cut into patterns,’ says Poulter.

Challenges

One of the biggest challenges that Rype faces is the stigma associated with second-hand furniture. ‘People associate it with lower quality and a shorter life,’ says Lavery. ‘That’s why we try to differentiate what we do – remanufacturing – because that’s a high-quality, engineered process, with quality checks.

‘We promise, if it doesn’t look exactly as we agreed it was going to, we will take it back and do it again.’

While the term ‘second-hand’ has some negative

chipboard,’ says Lavery, ‘which uses a lot of forest product and nasty glues that are very difficult to recycle once they get scratched or damaged, so most of them end up in landfill.’

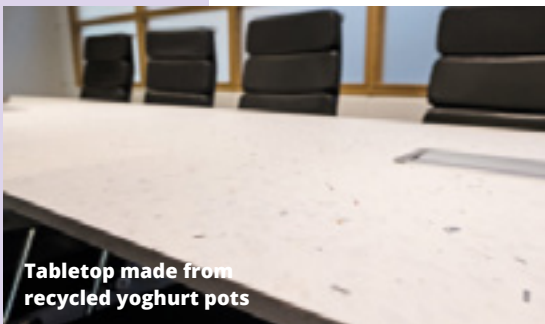
To combat this, Rype has created a bookcase range made from cut out and re-edged old desk tops. ‘As well as finding better uses for chipboard, it’s important to minimise its use in the first place,’ says Lavery. ‘That’s where we hope post-consumer waste plastic will step in and replace melamine-faced chipboard, which makes up a large part of the 300 tonnes of furniture that goes to waste.’

The firm also creates sustainable booths, the boxing for which is manufactured by the Merthyr Tydfil Institute for the Blind, a registered charity that supports more than 250 people with disabilities from South and Mid Wales. When an office no longer needs this



Top tips for a circular office

- 1** You need to know – or employ someone who knows – about circular economy solutions, because remanufacturing and circular economy products are new to most designers.
- 2** Don't let your contractor supply your furniture; make it a distinct part of the construction process, and separate out the furniture and flooring.
- 3** Think laterally and research resources from organisations such as the UK Green Building Council, the London Waste and Recycling Board, and Business in the Community, which has a circular offices guide.
- 4** Be flexible about when things are taken away and delivered, and in your choices of furniture.
- 5** Be organised, because coordination is key.
- 6** Communicate what you are trying to achieve with all your suppliers, right from the very beginning, to get everyone on board and buying into the vision.



Tabletop made from recycled yoghurt pots

connotations, the word 'new' also comes with a lot of baggage, Lavery adds.

'New furniture is made from virgin resources, which is a negative thing. We should be calling things what they really are – and furniture that comes from virgin resources should be called furniture from virgin resources,' he says. 'Language is really powerful and, if we're getting furniture to the same quality as new, the word "new" is not a very good differentiator.'

Poulter came across similar views among her staff, who were unenthusiastic about using second-hand furniture at first. 'There is definitely a stigma out there,' she says, 'which is why we changed the language and started talking about remanufactured furniture, and sharing the stories of where things had come from – and people got excited about that. It's about changing perceptions.'

Being flexible is also key, says Poulter. Delays in the sale of CIWM's old building meant that its chosen remanufactured furniture went to another buyer, so Rype had to source similar alternatives.

'You can't be adamant you want a particular piece of furniture, or that it must look a certain way – you must be prepared to be flexible around your choices,' she adds.

Another challenge, Poulter says, is getting suppliers to work together. 'Rype was very clear about its vision for CIWM, but we were also working with an organisation that did the basic office fit-out, which had no understanding of what we were trying to achieve and why.'

Working to a budget was restrictive too, and ambitions of installing partitions made from waste materials were quashed when the only supplier in Europe quoted a hefty £220 per square metre, compared with £20 for standard dividers.

The furniture from CIWM's old office – which was too big and bulky for the new workplace – has been donated to community groups, including Northampton School for Girls and Northampton General Hospital NHS Trust.

Items were collected by different people at different times, adding another level of complexity to the operation. 'About three weeks before we moved, someone arrived to pick up my desk. We literally took everything off it, and away it went,' says Poulter.

But the process was worth it, she adds, because 7,600kg of carbon dioxide equivalent greenhouse gas (GHG) emissions were saved by remanufacturing the furniture at CIWM, compared with buying things made from virgin resources.

'It's been a very exciting process, and it's great knowing we haven't walked into a shop and purchased everything new. It hasn't been easy, but we've proved that it can be done,' says Poulter, who admits, at the beginning, she was apprehensive about the aesthetics.

'I wanted to live by CIWM values, but I wasn't sure it would look good. So being able to create a nice environment – knowing that we've done it sustainably – is truly rewarding.'

She adds: 'It is about leading by example and showing there is a way, even if it's difficult. And, if we share our story, hopefully we can inspire others to do it, too.' ●