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MATERIALS RECYCLING WORLD  
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# NOT OVER YET

CIRCULAR TRANSFORMATION PLAN FOR  
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## Cricket traditions are holding back recycling

While England's cricketers were unable to sustain their winning form at the World Cup, researchers are working to improve the game's broader sustainability. **DANIEL BOSLEY** reports

The ICC Men's Cricket World Cup final will take place in India just days after *MRW* goes to print. While we cannot be sure who lifted the trophy on 19 November, we already know it was not the reigning champions, England.

As Jos Butler's team pack up their kit and head home after a disappointing tournament, it is unlikely that too much of their gear will become collectors' items. In fact, not much of it will be reused at all.

The England and Wales Cricket Board (ECB) estimates that 2.6 million people played cricket across the two countries in 2022, and the latest research suggests they are producing 1,624 tonnes of kit waste a year.

The Centre for Sustainable Design (CfSD), at Farnham's University for the Creative Arts, has made what it believes is the first estimate of the sport's waste, suggesting 351,000 sets of pads, 364,000 bats and 496,000 pairs of batting gloves are discarded each year.

"It is one of the most kit-intensive sports," says Martin Charter, CfSD director and professor of innovation and sustainability at Farnham. "Effectively, we found there is virtually no research that has been completed around sustainability in cricket gear."

After producing a number of reports, culminating in a white paper on the subject, published in August, the centre made a series of recommendations for the game concerning the reuse, repair and redesign of equipment.

It found that most cricket gear is produced overseas, often in India or Pakistan, and is stored away in attics, garages and wardrobes after use, with only a limited amount being donated to the Lord's Taverners, a UK youth cricket and disability sports charity, from where an estimated 95% of it is returned overseas.

"What you're seeing is a lot of that other equipment either going to landfill or going through the relatively small reuse scheme," explains Charter.

Among the recommendations made by the



Made in India: workers packing cricket pads at a factory in Meerut, the sports capital of India

CfSD was increased access to second-life gear in the UK and addressing barriers to product innovation.

Joe Cooke, a sustainability consultant and former player for Glamorgan County, co-authored the white paper. He was appointed the club's sustainability champion and feels the ECB is eager to focus more on sustainability, even if the issue of cricket kit is yet to be addressed.

"The focus is on the operations side, on stadia, how they can reduce their carbon footprint, among other things, and not so much this whole world of cricket gear that is really carbon-intensive," says Cooke.

The CfSD's work has focused on 'soft' cricket gear such as gloves and pads, finding no examples of repair or refurbishment of this kit. It often incorporates leather, synthetic rubber,

and a high-density foam whose replacement or reuse could significantly reduce embodied carbon.

Experimenting with new materials, the centre is working with vegan leather, developing a prototype batting pad using Piñatex, which is based on pineapple fibres, alongside a 3D-printed biopolymer called Fishy Filaments, created from old fishing nets, to replace polystyrene kneecaps.

But issues persist with the durability of leather alternatives, particularly for batters' gloves, which undergo greater friction than wicketkeepers'. Worn palms appear the most common reason for replacement of gloves, with the research finding repair possible but time-consuming, perhaps requiring redesign. For pads, the most common wear was found to be on Velcro straps, which



are comparatively simple to fix.

With most equipment being produced in south Asia, cricket gear sold in the UK has a large carbon footprint on arrival, so the CfSD team is looking for locally sourced alternatives. Even the bats, for which the UK continues to provide much of the willow, are shipped across the world and back again during production.

"What you see for bats is the so-called clefts are often produced here," says Charter, "then that is sent to India to have the handles added, and you have rubber and twine coming in from other parts of the world, and then it's shipped back here again.

"A lot of the craft-based skills that are related to the production of cricket gear have been lost."

While this, combined with labour costs, may prohibit the manufacture of commercially viable first-life gear in the UK, Charter notes that reuse and repair projects do not always have to be about profit margins – suggesting wider mental health and societal benefits.

But attempts to work with manufacturers has been tough, he says. The CfSD found no life cycle analyses of cricket gear anywhere, with some producers refusing to reveal how their products were made and others reluctant to embrace circular innovations.

"There seems to be some sort of restrictions put on by manufacturers," suggests Charter. "They don't necessarily like reuse because they think they are cannibalising first-life sales."

Observers from the wider waste sector might empathise with one barrier to circularity in the sport: the law, of both the UK and the game itself. While developers in Cambridge have been working on a bamboo cricket bat, to replace the traditional willow, the current laws of the game state a bat must be made of wood (bamboo is a grass).

Even legacy EU legislation concerning PPE technically requires leg pads, gloves, body protection and helmets to be assessed by an independent party before reuse, which, Charter says, becomes another "perverse barrier" to circularity.

After UK manufacturer Gray-Nicolls produced a multi-coloured glove using offcuts from its production process, the international authorities banned their professional use, saying the number of colours contravened broadcasting rights, he explains.

The CfSD's research notes that sustainability of cricket gear is also linked to issues of inclusivity, for which the game has come under pressure after a review this year found institutional racism and class-based discrimination in the sport.

"I feel it is really important for this report to tie into the findings of the independent com-

mission's review," says Cooke. He suggests that reusing and refurbishing otherwise expensive gear can be crucial in bringing new people into the sport.

"Cricket kit and equipment is one of the big barriers to entry because it is such an expensive sport," he adds. "Why is all that kit going abroad when we could use it to engage kids, and younger people from different backgrounds, in cricket?"

With the Independent Commission for Equity in Cricket calling for root and branch reform, Charter says the CfSD's research into the sport had also been hindered by this unsustainable culture.

"Because of the conservatism of the cricket sector, it has been very difficult to really have dialogue with people in the game – whether it's manufacturers or the ECB – it's quite a closed shop," he says.

Both Charter and Cooke see the greatest

potential for both circularity and inclusivity at the grassroots and community level, with the CfSD planning to replicate reuse schemes such as Yorkshire Cricket Foundation's Cric-kit recycling hubs, launched last year.

"I think the most important first step will be trying to get a better system in place," says Cooke, "working with Lord's Taverners and other organisations, counties and the ECB to get more of a system of reuse within the game."

While Charter notes that football's central authorities are gradually moving forward with circularity, in the world's second most popular sport he sees a "vacuum". He suggests that local club foundations, working closely with communities, will be a better route into repair and refurbishment.

While England's players will return home from India thinking hard about wasted chances, it seems the wider game needs to think more about its wasted equipment. ♻️

## VIEW FROM THE FOOTBALL PITCH

### PEOPLE HANG ON TO RETRO UNITED KIT

Moving from one Old Trafford to another, researchers at the University of Manchester have been working with the Manchester United Foundation as they seek solutions to textile waste in sports.

Manchester United, which sells just under two million shirts every year, are providing used kit for schoolchildren in the Greater Manchester area to turn into tote bags, using a design created by a University of Manchester student.

Lindsay Pressdee, a senior lecturer in the university's faculty of science and engineering, says such projects could work with any sports kit.

"The idea is there are communities associated with sports, so we can work with community groups to help them understand the recycling process," she says. "Because there is a real lack of knowledge and understanding in that area."

As with cricket, she has found that sportswear brands, which create demand for new products with frequent redesigns and sponsorship changes, can be fiercely protective of these lucrative

revenue streams.

"There is a massive waste problem but it is also quite controlled by the industry," she says. "That is part of what we are looking at: where is all the waste, where does it go and how can we get hold of it?"

While the growing popularity of vintage football shirts is positive, says Pressdee, only a small fraction are of sufficient quality for resale.

"The fun thing with sports is people have an emotional attachment to the garment, particularly football, and so they don't want to throw them away. But then we also have this hidden waste problem as people are keeping things in their loft."

Pressdee and her colleagues have expressed dismay that standalone textiles were removed from the GCSE syllabus in 2017, further reducing the skills needed for reuse in the UK. She argues that more

positive approaches are needed and has plans to reach a wider audience through other sports, asking: "Is there a way we can encourage the next generation to repair, fix and tackle things in a different way?"

