BUILDING INSIGHTS LIVE

Practical Solutions for Harnessing the Circular Economy at Scale

The circular economy has seen piecemeal growth in the mainstream construction industry, given it's believed to be the country's largest producer of waste. This patchy progress (we are still awaiting the Government's delayed circularity strategy) is out of kilter with the powerful case for circularity – financial, carbon and reputational. Demolition often remains the default option for buildings deemed at end of life, rather than reuse.

Our round table, sponsored by Soprema UK and Amtico, brought together trade bodies, specifiers, consultants and manufacturers to share knowledge on practical approaches to circularity, from recycling products to reusing structures. Delegates highlighted positive examples, but also said there was a lack of sticks and carrots to pursue circularity at scale currently. While ESG policies remained a driver for some major commercial clients, there was much to do in order to see comprehensive adoption.

Manufacturers have long been pursuing LCA (Life Cycle Assessment) and recycling on their product lines, but how realistic is specification of truly circular solutions currently, and what are the risks and rewards? Also, are the rewards being apportioned to the right parts of the supply chain? This edition of Building Insights LIVE was a key opportunity to hear about how the industry can transition from its linear "take-make-waste" model to one that foregrounds recycling and reuse.

In November 2024, the Government set up the Circular Economy Taskforce to provide our first comprehensive national strategy for growing the circular economy; this is now expected at some point in 2026. Construction lacks the intervention that has been seen on circularity in the food industry and textiles, for example, with no mandatory regulation. Instead it has been left to enlightened clients supply chain members, and architects including bodies like ACAN to iron out the business benefits. It's estimated that full embracing of circularity could see UK businesses billions richer through greater resource productivity, but means a culture shift in the sector. What are the cost-effective approaches for 'squaring the circle' that specifiers should consider, and the data required? Our round table delved into these and other issues.

Making circular arguments

Our round table delegates highlighted the circularity challenges the industry was facing, but also the solutions it was innovating. Several said that Government targets were needed, but not prescriptive regulation. According to Ian Pritchett from eco-focused residential developer Greencore, regulation and drivers such as clients' ESG policies carried "dangers of unintended consequences if people don't

ATTENDEES

- **James Parker (Chair),** Managing Editor, Architects' Datafile and Housebuilder & Developer
- **Ian Pritchett,** Co-Founder, Greencore Homes
- **Nikhil Doshi,** Director, Hodkinson Consultancy
- **Nick Haughton,** Brand Director, Sapphire Balconies
- **Mike Leonard,** Construction & Manufacturing Professor, Birmingham City University
- **Pauline Metivier,** Head of Business & Sector Support, ReLondon
- **Debbie Ward,** Circular Economy & Reuse Associate, Alliance for Sustainable Building Products
- **Simon Foxell,** Owner, The Architects Practice
- **Stephanie Palmer,** Head of Sustainability at Wienerberger
- **Edward Jezeph,** Senior Manager, Homes England
- **Olivia Daw,** Materials Audit Lead, Material Index
- **Chris Halligan,** Chair of the Climate Society, CIAT
- **Thomas Hesslenberg,** Structural engineer, Elliot Wood
- **Michelle Sanchez,** Sustainability lead, RSHP architects

SPONSORS' ATTENDEES

- **Umendra Singh,** Sustainability & Impact Lead, North Europe, Soprema UK
- **Gary Wilson,** Head of Technical, Amtico

amtico flooring

SOPREMA

CIRCLING BACK, BUT PUSHING FORWARD
The multi-disciplinary round table reasserted some of the issues for the construction industy, but offered some exciting examples of circularity success

really understand what the fundamental problem is." Delegates emphasised the importance of ensuring the term circularity itself was not misunderstood, for example that recycling wasn't mis-sold as 'reuse.' Debbie Ward of the Association of Sustainable Building Products said that although recycling was laudable in some respects, it faced more constraints than full material reuse; therefore 'greenwash' was a risk.

She told the group: "Where with recycling, you get the intensity of the energy and processes, reuse in situ is very low carbon." However, she added that there also needed to be differentiation between reuse in situ and putting reused products back onto the market – essentially circularity could not be seen as one catch-all, and there were a variety of relative carbon saving possibilities. And, added Ward, the overarching problem is that where the industry may "design with circularity in mind, we have to do something with all the existing buildings and materials that haven't."

Chris Halligan of the Chartered Institute of Architectural Technologists asserted that currently, most material reuse was "downcycling," i.e. products converted into others of lower value, and there was "a lot of greenwash" about buildings' circularity credentials. "There are thousands of buildings out there with ticks and badges saying how sustainable they are, but if you look closely, they're not." He also cited major ratings systems such as BREEAM in this context, which could lead to performance specifications of products which in themselves were less sustainable.

Success stories like circularity in modular construction and reuse of entire buildings were cited, but also the fact that the industry was working at low margins, and was resistant to the systemic change required to increase reuse of buildings and materials. Halligan: "The industry is conservative, and moves very slowly; it fears change. A lot of the answers are out there already, but aren't being adopted."

He offered the suggestion that, with "climatic catastrophe" a possibility by the end of the century, circular approaches were urgently needed in the mainstream, but wouldn't happen without major interventions in the market. "At the moment, end of life options are not costed, there's no profit in it." Instead, said Halligan, "If every material, every project, was forced to take into account the cost of the end of life situation, all of a sudden everything will be sustainable." He said however that currently, "hardly any guides or accreditation systems take end of life options into account."

Following London's lead

Delegates celebrated the successes which London clients and boroughs have achieved on circularity, with the GLA promoting retrofit and reuse over recycling for developments. They also acknowledged a contrast with the rest of the country. However, Pauline Metivier of ReLondon said that while there were "front runner developers" in the capital who were proving the concept by measuring circularity on projects, even London was only doing reuse in a "very minor fashion, because there is no market at scale."

She said a lack of demand meant a lack of supply, with the former stemming from "a lack of [central] planning," and that the industry was "at a juncture where there needs to be much more alignment about what good looks like."

Nick Haughton referred to a Government circularity scheme in the Netherlands which had been "fairly widely adopted on larger residential schemes; they get extra points for certain sustainability credentials – one of the big factors is reuse of materials."

Delegates such as Haughton cited "commercial barriers" to building reuse, which could be as straightforward as building elements not meeting architects' aesthetic requirements, and their refurbishment leading to a "bunch of other challenges." Haughton added that "getting reused elements underwritten by structural engineers" wa a further constraint.

Stephanie Palmer, head of sustainability at Wienerberger, and also chair of ISEP's Circular Economy Steering Group, explained how London was setting the agenda. "It is pretty far ahead because the GLA has provided a clear framework for decision making." She said this was setting a precedent on projects meaning design teams "are expected to go through the same process in the next application."

However, she said that more broadly, across Government, this clear definition of circularity policy was lacking. "I appreciate that that needs to be tailored for different sectors of the construction industry, but if there is an overarching definition and a goal set behind that, then actually everyone can use their skills towards meeting that." She also cautioned that such a goal should "not be prescriptive about how it's achieved."

Palmer said that she had attended a meeting with Government representatives who said they weren't planning to put a definition into the upcoming circular strategy, and she "would be really disappointed if that doesn't happen, because it will mean that everyone outside of London, where standards are being developed through their planning system, will treat every project on a case by case basis." She said this would mean "the learnings aren't shared as well, because every contractor will treat different projects differently."

Raising reuse & data's potential

The evolution of data on reused materials – as well as more standardisation of reused products and grading systems – was beginning to address structural and other considerations. Delegates said this was particularly needed given a heightened focus under the newly toughened safety criteria across the industry, particularly for taller residential buildings. The conversation also covered the importance of centralising data on materials used, the need for better construction data repositories, and the potential of legislation and policy to drive sustainable practices.

There was consensus on the need for comprehensive ratings that include circularity, energy performance, and other factors to drive market demand for sustainable products. The delegates emphasised the importance of government policies to unlock supply chain barriers and support reuse infrastructure, and the conversation also highlighted challenges in data collection for material passports and the need for better information and transparency.

Design teams are increasingly designing out waste in projects using not only reuse and recycling approaches, but also digital tools which can obviate the waste traditionally taken for granted in construction. Integrating supply chains can also assist project teams and housebuilders, but is not a simple solution.

The group gave some positive views on measurement and reporting options, such as material passports, LCAs, but pondered how the resulting data be managed, and made available to specifiers in a credible way. But Mike Leonard of Birmingham University

NUDGES TOWARDS CIRCULARITY
Mike Leonard of Birmingham University advocates encouraging building users to embrace circularity via 'nudges,' rather than legislation for the market

said the parameters being used for data made it "suspect in huge areas – we're not really tracing the source of products, where they're coming from; the whole journey, we still think that it's appropriate to measure carbon from the port of entry to the UK."

He added: "We're not necessarily thinking about the longevity of the product, and end of life reuse in full terms, so we've got a lot to do. I think that's why embodied carbon is not part of the Future Homes Standard at the moment, because the government actually understands that the data isn't, isn't complete."

Edward Jezeph said that lack of data on homes' construction and makeup was a fundamental challenge for Homes England, apart from information submitted for planning – "We build a home, and immediately afterwards, we don't know how it was built; we have no construction information register." He asked how data could be harnessed in products and materials to provide this in future, such as using RFID, to "transfer construction information into operational information," and therefore "unlocking the commercial reality of reusing materials."

Thomas Hesslenberg of Elliott Wood wondered why this was the case, and explained how they had developed 'The Building Archives' – a digital platform aiming to provide a comprehensive resource of structural drawings of existing buildings to assist designers proposing reuse by giving them hard-to-find information. He said that the firm was now looking to grow this collaborative endeavour via engaging structural engineering practices, "and hopefully architects" to place their drawings on platform to make it "an essential database of major buildings."

Simon Foxell said it was "a very big question, it would be a system with a lot of parameters, and there are questions around

the accuracy and accessibility." He gave an example of the "very fragmented" TV and film industry which was making a concerted effort to bring in a more coordinated data approach to solving circularity challenges. On individual product data, Umendra Singh of Soprema mentioned that CPR, the European product regulation system, had developed a digital product passport, which will also be a model used in the UK for centralising data.

Creative approaches & incentives

The round table delegates delved into the realities behind the principle of building reuse, and agreed that a maxim of 'reuse first – don't see demolition as a default' should be applied. The key was in identifying how best to assess existing assets and materials, in order to drive mainstream design for disassembly and reuse. However currently, the business imperatives in the UK lead to more tokenistic efforts, said Nick Haughton, in the absence of comprehensive schemes such as are being used overseas. "Should we be knocking down the buildings we are building today to make aggregate?," he asked. "It seems ridiculous, but unless we are doing something like the Netherlands, the capitalist procurement process will drive us towards the minor things."

Debbie Ward described the materials 'harvesting' approach to provide a systematic inventory of reused materials. "It's knowing what's in your asset, and not leaving it till the pre-Demolition Audit stage," she said. When major works are planned, a clear process would enable the market to see "we're going to have x number of structural steel beams, bricks, whatever; and potentially marry up the materials that are already available within the geography of where you're doing your project, and then fill the gaps with new."

However, she said this wasn't yet available: "At the moment there's not enough knowledge of the existing materials, so you are spec'ing all materials new and potentially picking up the odd bit of existing material, if you can." She said that the driver for increasing circularity would "always come down to cost" and that subsidies were needed to offset the cost increases of reuse.

An architect by training, Olivia Daw explained how she has taken a career shift responding to the need for the industry to fully embrace reuse of materials, and plug some of the gap Ward identified. She is now Materials Audit Lead at Material Index, a team of contractors, architects, engineers and software developers focused on enabling material reuse at scale, which catalogues buildings' materials before deconstruction, provides 3D audits for BREEAM, and GLA planning applications. However, she said that increasingly, clients are using their auditing services "to just increase reuse or know the value of their existing asset." Daw added: "We are seeing more and more demand for reused materials, so what we are trying to do is connect all the dots." This means unlocking more potential for clients to "offer up materials to the reclamation industry, in turn offering specifiers the ability to specify them."

As well as offering a range of information such as on embodied carbon, Material Index also provides an online marketplace of reclaimed and refurbished materials. Daw said that their services have been taken up particularly by larger commercial clients such as British Land and Derwent, but also in the education sector (universities), residential, smaller office and industrial buildings.

She captured the realities of achieving the ambitions of Government, who have stated they are looking to drive circularity far wider. "Policy is driving diversion from landfill and setting reuse targets; Westminster has mentioned achieving 25% reuse by mass. To achieve something like that, you really have to look at reusing structure."

Growing the circular economy so it becomes a mainstream proposition in construction comes down to realistic incentives for the supply chain, but arguably more importantly, the end client, from commercial clients to homebuyers. Delegates such as Ian Pritchett of Greencore highlighted the role of government incentives, and industry-based finance schemes such as the Greener Homes Alliance developed by Octopus and Homes England to provide a 1.25% discount on homes for developers, as being crucial.

Circularity incentives could include measures like preferential development finance or adjustments to stamp duty or council tax, as advocated by Ian Pritchett. Such 'behavioural economics' interventions were going to be key going forward, he said, although politically controversial.

Edward Jezeph of Homes England gave a revealing insight into the incentives that the agency was providing for smaller developers to embrace circularity, in the form of "alliances with lenders, to increase their risk appetite to lend support to SMEs, and embed sustainable objectives." He added: "There are a lot of developers out there who do want to deliver better, more sustainable housing, but the economics are challenging. So we can create those incentives, especially with institutional capital."

Gary Wilson of sponsor Amtico said that the French Government was using taxation as an incentive to drive upcycling of product back into the supply chain, but it was imposed on flooring businesses. He said "at the moment they've got a lot of material they don't know what to do with" as a result, but questioned whether companies would invest without such a 'stick' being applied.

Solutions: Sponsors' Question Time

Our two sponsors, Amtico and Soprema UK proposed two very different questions for the panel, the former looking at what business models could be developed to help incentivise circular procurement. Amtico's Gary Wilson posed his firm's question to the group as follows: "How do we design circular business models that work for long-lifecycle products such as flooring, where replacement may happen only every 10-20 years?" He also asked a related question: "What would it take to make closed-loop takeback systems commercially viable across the UK and beyond – possible incentives?

The answers delved across the subject and encompassed many of the previous practical factors discussed, in even more depth in terms of delivering the information on assets and materials the industry needs to fully take up circularity opportunities. Stephanie Palmer said that "looking at the internal structure was super important, because although 20 years might be long life for an interior fixed product, it's not for the structure." She recommended an ISEP publication on business models and proposed more manufacturers could set up processes to accept 'second life' materials, and "share the value with customers" (of offsetting cost of raw materials.) Also,

STRUCTURAL ENGINEERING
Delegates agreed that to achieve the Government's proposed goal of 25% reused material in projects, there would need to be a focus on reusing building structures

manufacturers needed to look at incentives for customers to return materials, as they "can't wait for you to come and pick them up."

Architect Simon Foxell said the "most obvious business model" was the "well developed rental market for floor finishes,– a direct transfer of new for old products." Wilson said that Amtico's takeback scheme saw around 20% being recycled due to the products' installation methods, with around 80% downcycled. He said there were challenges with recycling at scale due to bespoke designs, but that using a certain screed interface would enable a product to be lifted for reuse as "pretty much virgin material." Foxell agreed that the systems where "materials get locked together," were where problems with recycling arose.

Mike Leonard said that reusing products raised issues around their traceability, once a building was sold for example, and wondered whether Golden Thread approaches to asset management could be the answer. Wilson said Amtico's takeback scheme included the company recycling other firms' products when required.

Olivia Daw cited the example of Saint-Gobain providing "skips and segregation advice" to contractors, as well as "making it very clear what needs to happen early on for them to be able to take back that product." She said that this helped reduced the "friction" which was caused by adding "any additional processes" for contractors, and avoided arguments later on in projects. She also advocated similar clarity in possible incentives introduced for manufacturers, to help them drive circularity within individual product lines.

Soprema directly levelled their question at the Government, asking whether there was a need for a more legislative 'stick' based approach to drive circularity in construction. Umendra Singh from Soprema asked: "Does everyone feel there needs to be more done through legislation? They have probably lost the appetite for carrots, or a certain size or shape, so some stick is required?"

Nick Haughton of Sapphire said that the amount of new requirements being imposed on the sector recently could be endangering businesses' sustainability, and that circularity was competing with a range of other priorities. "The average manufacturer who supplies into HRBs has roughly seen about 40% of their revenue slip, which means that they're not being able to invoice 40% of what they have in factories." He added, "It's a huge challenge to the industry."

Umendra Singh pushed back against the idea of an opposition between driving circularity and the building safety agenda, saying "circularity is also saving life."

Debbie said that labour "should be viewed as a renewable, and hopefully what we could end up with is that the actual end cost isn't any different, but you're actually penalising harmful products, harmful materials, harmful practices."

Mike Leonard steered the topic away from legislation towards incentivising building users – "rather than handing over lots of new technology and kit and hoping everything will be fine, can we work more collectively with the people who are living in our buildings, and make them think about what they do around the circular economy that could have a huge effect, without legislation, without more regulation, more with nudges?"

Simon Foxell of The Architects Practice concluded on the power of standards: "There is also something about having good standards that everyone can comply with and know what to do, that actually is cost effective, rather than being a burden. We've got to the

DATA IS THE ANSWER
The round table discussed how building audits could provide the details on existing assets to unlock the benefits of circularity

point where the agenda has got to the point where anyone can do anything, so long as they meet a certain performance. But it would be a lot cheaper for all of them to work to the common standard."

Conclusion

The but a cultural shift in the industry to promote circular economy principles, but also education of both consumers and the wider construction sector on circular economy approaches.

Lastly, the Government should be encouraged to embed circularity considerations in their decision-making and provide funding for education and awareness. Some good sources of education and information were cited, including the Supply Chain Sustainability School, mentioned by Debbie Ward of the ASBP.

Thomas Hesslenberg said he was looking forward to the imminent recommendations due from the Government's Circular Economy Task Force, regulation, although their publication is now delayed. He said: "A lot of hard work has been done by that group; there'll be some sensible things that come out from it."

The industry is already overwhelmingly seeing the pursuit of circular approaches as important, (a 2025 survey of 500 construction professionals (by Holcim) found that 97% of UK construction businesses saw the circular economy as important, and 57% had implemented specific circularity targets, a "big increase on 2024," according to the report authors. But it is arguably about application of that ambition now, in practice.

The survey also said demand for products made with recycled content has increased dramatically; 94% of respondents saying it influences their supplier choice. Recycled aggregates for example are seeing exponential increase, but still only represent around 30% of the total used. Our round table discovered a picture of an industry of two halves in terms of its journey to circularity, and it revealed some clear ideas on how to help lagging firms close the gap.

ROUND TABLE RECOMMENDATIONS

- **Chris Halligan, CIAT:** A centralised, universal, holistic assessment system, and also take into account the actual cost of climate change; the effects of products on climate.
- **Gary Wilson, Amtico:** If we don't incentivise people to go down that circularity journey, I don't think they will do it off their own back.
- **Stephanie Palmer, BDA:** Treat old buildings and new buildings very separately – physical banks could work well for existing buildings, but a new system needs to be set up for new buildings, which operates in the future state.
- **Ian Pritchett, Greencore Homes:** Very clearly define the outcomes we are trying to achieve, in as simplistic a form as possible, and identify the (mainly financial) carrots and sticks that will achieve the outcomes.
- **Simon Foxell, The Architects Practice:** We need to address sustainability along with building safety, we desperately need better information, consistent data comes back fairly rapidly from existing building stock. And we desperately need a national research organisation to give credibility to information around building products.
- **Nick Haughton, Sapphire Balconies:** Incentivise buyers to care; could the Building Safety Regulator open up information such as on EPDs and ESPR to the public in the same way as planning information? Move the national standard up, without penalising early adopters.
- **Debbie Ward, ASBP:** Make it easier to do a harvest map, so rather than getting specifier catalogues out, you actually look at the materials already available in the local area. And record that; turning the traditional approach on its head. Also, knowing what your asset is, and not leaving it to the Pre Demolition Audit.
- **Umendra Singh, Soprema UK:** Embed circularity in decision making, whatever you are proving, and if you have a team, train your team, educate them, make them aware. They will ask you questions, and it brings the whole industry up. And involve manufacturers at the early stage; we have solutions.
- **Mike Leonard, Birmingham City University:** We need to try to encourage people to buy and build buildings that are going to last 150 years. And get behind UK manufacturing, because we're not going to solve our climate change problems by importing products from all over the world.
- **Thomas Hesslenberg, Elliott Wood:** The Government needs to listen to the recommendations coming from the Circular Economy Task Force.