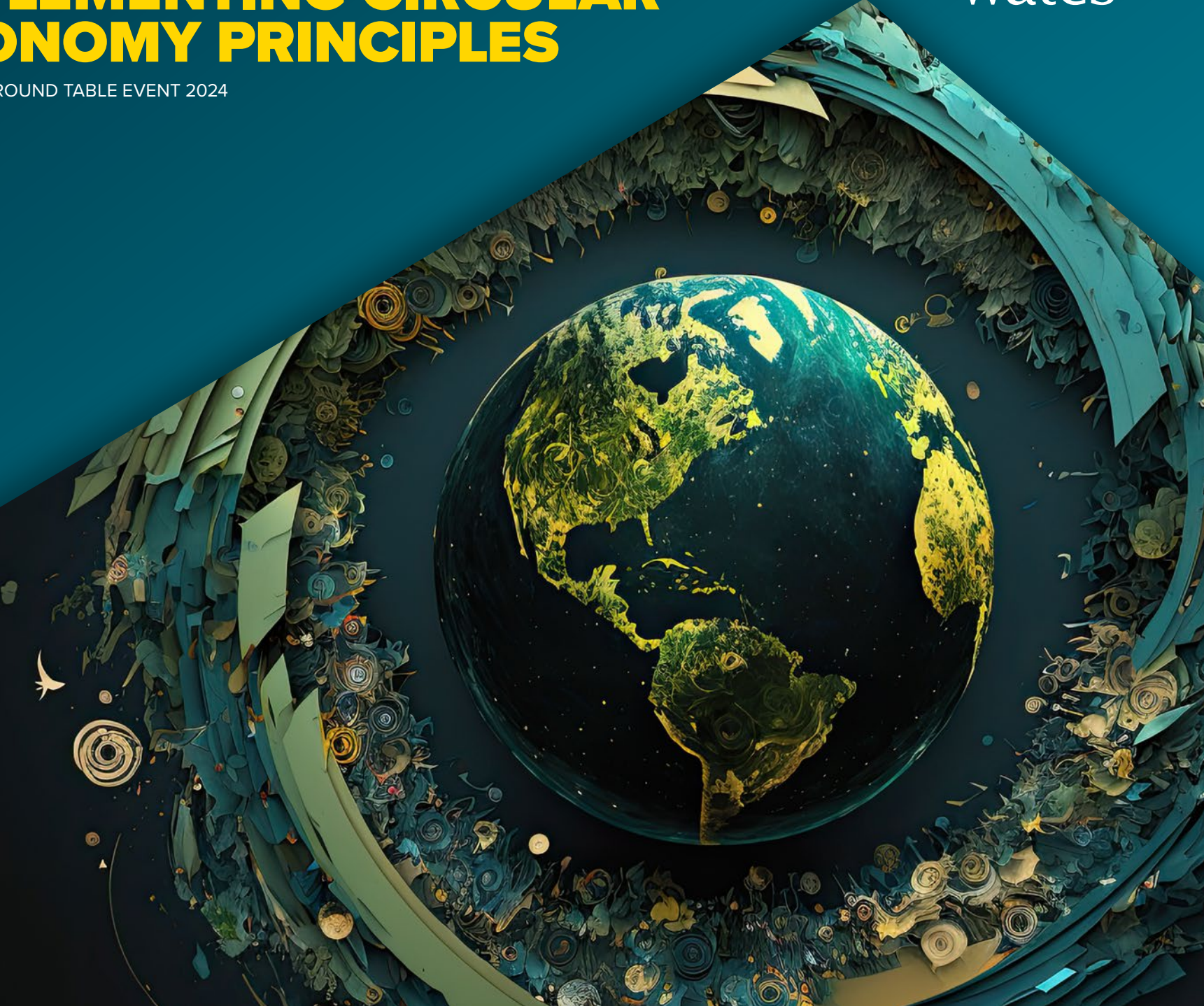


IMPLEMENTING CIRCULAR ECONOMY PRINCIPLES

INDUSTRY ROUND TABLE EVENT 2024



HOW DO WE IMPLEMENT **THE CIRCULAR** ECONOMY TODAY?

SENIOR MEMBERS FROM THE BUILT ENVIRONMENT ATTENDED A ROUNDTABLE EVENT HOSTED BY WATES IN MARCH TO SHARE LEARNINGS ABOUT HOW THEIR BUSINESSES ARE IMPLEMENTING CIRCULAR ECONOMY PRINCIPLES TODAY AND WHAT NEEDS TO BE DONE TO BRING IT INTO THE MAINSTREAM. HERE'S WHAT THEY DISCUSSED.

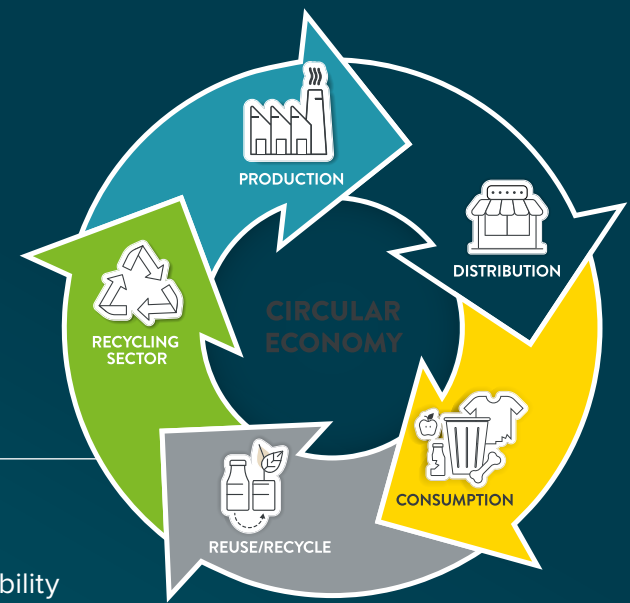
On 25 July 2024, humanity will have exhausted nature's budget for the year. Known as 'Earth Overshoot Day', the date is an estimate for how quickly we are using up natural resources within the present year, compared with the speed in which Earth can regenerate them.

This sobering thought formed the backdrop to a roundtable discussion hosted by Wates this March. With construction, demolition, and excavation accounting for 60% of material use and waste generation in the UK, according to the UKGBC, senior members from across the industry gathered to explore how their businesses are implementing circular economy principles today and what's needed to ramp up adoption.

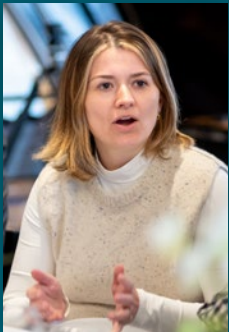


The circular economy is considered one of the key ways the construction sector can limit its impact on the natural world and is based around three core principles: maximising the reuse of an asset and recovering materials; minimising waste; and design for optimisation.

Kick starting the discussion, Wates Construction London Regional Director, Mark Craig, asked guests to unpack some of the constraints they are currently experiencing when trying to implement circular economy principles.



KEY INDUSTRY CONSTRAINTS



“There are lots and lots of constraints,” began British Land Sustainability Manager, Emily Samoluk, which was met with a lot of laughs and nodding heads around the table.

“On a project level, when it comes to appraising the building in front of you, these buildings were not designed with the circular economy in mind.

“We’re obviously addressing this going forward, ensuring we have design for disassembly built into the project scope but for the existing portfolio, it means we’re having to make the most of a situation where materials were put in with chemical fixing, for example. So, we’re trying to battle against materials that just don’t want to come out.”



Head of Sustainability at Cadogan, Sarra Pardali said that while businesses have made a huge amount of progress in embedding sustainability in their operations, they still required more certainty from government to give them the confidence they needed

to invest in sustainability measures like the circular economy.

“We’ve seen some good regulation, but we haven’t seen that strong leadership position we require to tell our business leaders what is coming in terms of policy,” she said. “Instead, we get mixed signals, which can hinder the movement.”



Commercial viability was also flagged as a barrier to implementation, with Wates Construction Design Director, Paula Chandler, asking the table how the sector can better sell commercial viability by “doing the right thing” and opting for sustainable solutions and delivery.

“This is a really interesting point,” responded Rider Levett Bucknall Partner and Public Sector Cost Management Lead for London, Gemma Prior. “Because as a Cost Manager, quite often doing the right thing doesn’t always save money.”



Wates Construction Head of Sustainability Vicki Walsh said that sometimes the sector needed to “take step back and look at the bigger picture” when it came to commercial viability.

She said: “We always talk about the financial aspect but when we start to reuse materials, we should be looking at the wider societal benefits such as not having to use slave labour through the extraction process, for example.”



Orms Architectural Associate, Rachel Hoolahan, also questioned what role the wider supply chain should be playing in driving the circular economy. “Currently it’s cheaper to quarry new resources and deliver them to site, potentially from the other side of the world, than it is to take something down more carefully and reuse it. So is this something the supply chain needs to improve on?”



This turned the table’s attention to McGee Head of Carbon, Charlie Wedgwood, whose demolition company typically carries out pre-demolition audits as part of its role to assess what materials can be reused onsite.

He said there was a current risk perception linked to certain elements of deconstruction as well as concerns around the impact this could have on programme. “But there are different ways to look at a construction or demolition site where we can target some

deconstruction, whilst keeping everything else moving because that’s where it starts to become more expensive.”

He added: “The sector is definitely still learning how to [deconstruct]. There’s a lot of knowledge in the industry from the guys onsite who have been doing demolition for 40 years. They know how to take stuff apart, but they inherently go for the quickest and easiest option. So, it’s about taking that learning as well as an adaptive way of thinking as to how we can do it and make it quicker because that’s how we are going to drive costs down.”



CLIENT COLLABORATION ON MATERIALS REUSE

From there the conversation moved on to how the sector can better share materials for reuse and what was required from a storage perspective to aid this. This prompted Mark Craig to question whether there was room for clients to collaborate.





“Some clients obviously have quite a few projects on the go at any one time so they’ve got a bit more overreach in terms of what they can do from a deconstruction or material saving point of view and how they can reuse that elsewhere. So, is there room for a collaboration of sorts between clients to share and reuse materials?”



This really animated the room, with Emily Samoluk saying British Land had a good example of how they recently put this into action. “We were in the market for reclaimed raised access flooring and we couldn't find a source internally,” she said. “But through our sustainability consultants, we were made aware of a Stanhope project where they had basically the quantity we were after.”

Rather than engaging directly with Stanhope, the flooring ended up making its way back to the supplier, with British Land procuring via them, she said. This prompted Emily to later add that rather than requiring storage for reused materials, the sector should engage with the manufactures and encourage them to divert materials back to them.



Racheal Hoolahan said this was something she felt strongly about with Orms Architectural approached regularly about ideas for material hubs. She said: “These are excellent, temporary, short-term solutions while the market and supply chain is gearing up but there is no way we can deal with the scale of construction if we’re pouring materials into hubs. So, we’re going to have to challenge manufacturers that are trying to sell new materials and support them with take back schemes and then procuring back out.”



EARLY ENGAGEMENT AND RETHINKING BUSINESS MODELS

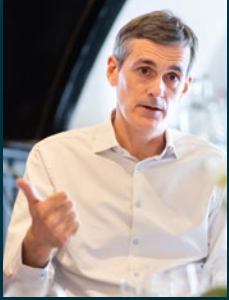


Ramboll Principal Sustainability Engineer and Circular Economy Expert, Kaspar Bajars, made an interesting observation around risk perception and how early engagement with the insurance sector could reduce this.

“We’ve had several discussions with insurers and their point is often that majority of risks are perceived, they are not real,” he said. “If you communicated with insurers early enough, even as early as RIBA stage 1, they could easily tick off which risks are actual and which are perceived.

“This means when you start engaging in those discussions early, it drives down your insurance costs, improves transparency, and generally everyone in the project team has more certainty around where the design is going in regard to use of reclaimed materials and systems.”

Early engagement was a recurring theme during the discussion, with guests noting its importance through all aspects of design and delivery. “Procurement routes are really going to play a big part so getting contractors on board early [is key],” said Gemma Prior. “This is being pushed through anyway. The Construction Playbook and the Building Safety Act are really pushing for early engagement.”



Soon after, the discussion moved on to the role legislation will play in a circular economy future, with Waterman Structures Director, Charlie Scott, proposing a reverse VAT mechanism to incentivise material reuse. “We currently pay VAT on everything we buy that is new. But what if you had a reverse VAT for everything that is reused? Maybe we should

be campaigning for something like this because we’ve got to find a UK mechanism that makes this a cost-effective default rather than the virtuous alternative.”



On policy, Wates Group Sustainability Director, Cressida Curtis added that while policy had moved on considerably in the last 10 years, industry shouldn’t be relying on government to drive the agenda forward.

“The primary partner we should be looking to is the finance sector because they are desperate to decarbonise their own loan books. They are beginning to question how they do this and we need to hold hands with them and say ‘we’ve got all the nouse but we need to understand how the financial mechanisms work’ so no one goes out of business but we get to a better place quicker.”



HARNESSING DIGITAL AND DATA

The conversation ended on how the sector can harness the power of data and digital application to follow what Paula Chandler referred to as the “green thread”.



Orms Architectural Director, Colin McColl highlighted the work his business is doing around material passporting and tying that to digital twins. “Data is only as good as the information you put in and what you do with it,” he said. “A lot of our work is around trying to make that interface easy and manageable.”

A materials passport gathers and organises data about the materials contained within a building to better enable material reuse. On this, he added: “We try to have an open-source approach to material passporting because it’s too big [to complete alone]. We want to learn from our mistakes as an industry and share them openly with a positive attitude. We want to use digital data to help the next bit of data and so on.”

Although challenges were noted around the table such as businesses needing to be willing to invest in these initiatives at a project level to make them work.



Fletcher Priest Associate Partner, Joe Sweeney, added that his business was using digital twins “as standard on most projects”, but questioned what happens to that information once the project is handed over. “I know the complexity that goes into it from the team so the developers, clients, or whoever need that equivalent team to continue it.”

Colin McColl added that there also needed to be consistency with how businesses are using materials passports to ensure they approaches are aligned.



Ramboll's Head of High Rise and Complex Buildings team, Tom Shaw, echoed this idea of collective working in what was a fitting final thought for the day. "The skillset is there, we employ engineers that can now code, we're writing and creating digital tools for everyday applications including sustainability enabling us to go further faster with our assessments," he said.

"But, actually, it's about honing down that skillset and combined ambition across the industry because I think everyone is still protecting their IP a little bit, working in silos, and reinventing the wheel. So, it's about getting into that mindset of sharing knowledge and the lessons learned of where we have done well and not so well. We need to get better together."



ROUND TABLE ATTENDEES



Charlie Wedgwood
Head of Carbon from McGee



Emily Samoluk
British Land



Colin McColl
Orms Architectural



Sarra Pardali
Cadogan



Gemma Prior
Rider Levett Bucknall



Vicki Walsh
Wates Construction
Head of Sustainability



Paula Chandler
Regional Design
Director, Wates
Construction London



Cressida Curtis
Wates Group
Sustainability Director



Mark Craig
Regional Director,
Wates Construction
London



Rachel Hoolahan
Orms Architectural
Associate



Tom Shaw
Head of High Rise and
Complex Buildings
Team, Ramboll



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Principal Sustainability
Engineer and Circular
Economy Expert,
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Charlie Scott
Waterman Structures
Director



Joe Sweeney
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