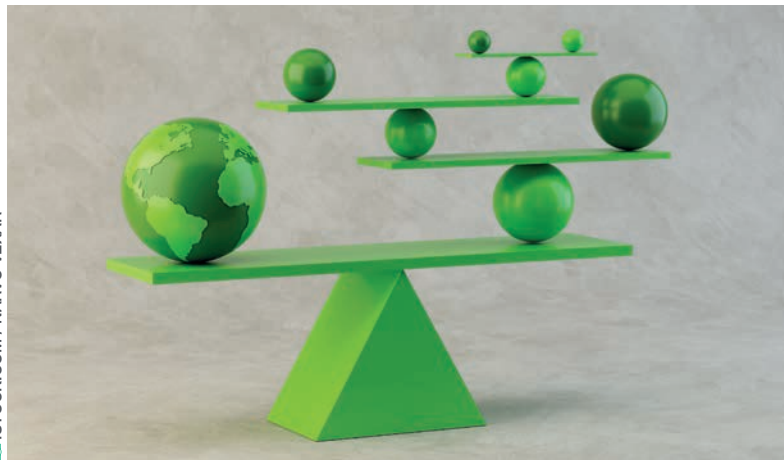


Breaking the silence: ethics in net-zero embodied carbon

What questions should engineers be asking to bring an ethical dimension to decarbonisation goals? **Brogan MacDonald** shares the key takeaways from a recent event that explored these issues.



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✔ **Balancing global and project-level goals will require transparency and collaboration**

impact of our actions on others. Not just our close family or colleagues, but all humans. This raises difficult but necessary discussions, such as the ethics of working on projects in regions where human rights are not adequately protected.

- | **fairly sharing resources:** this can only be achieved through value-based decision-making and open, democratic dialogue.
- | **the bigger picture:** sustainability is about more than metrics; it's about ensuring a liveable future for our children, nieces, nephews and grandchildren. We can't measure that in kgCO₂e/m².

His powerful call to action was that leaders must act now on decisions others will eventually be forced to make, and empower their teams to ask difficult, even uncomfortable, questions. A quote that resonated with our audience was: *'You already know the answers – but you must have the confidence to act.'*

We left with a renewed sense of urgency and responsibility. It's time to lean into these uncomfortable conversations, prioritising the long-term wellbeing of humanity over industry ego and competition. If we find ourselves sacrificing the sustainability of a project – perhaps because it doesn't align with a client's immediate interests – simply to win the work, then we must ask: is this the project we should be working on? As Roger said, you already know the answer.

Balancing global vs project-level decarbonisation goals

Paul Astle explored the practicalities of ethical decision-making in the built environment. He highlighted the need for a global perspective in tackling embodied carbon – currently seldom considered. Our industry focuses on project emissions, without necessarily understanding the global impacts of these decisions.

Paul delved into the challenges of using materials like GGBS, a by-product of the steel industry which conveniently

In November 2024, Ramboll hosted an event on 'Reputation and Ethics in Delivering Net Zero Embodied Carbon' at The Gherkin in London, bringing together industry leaders, thinkers and change-makers to address one of the most critical yet overlooked challenges in our industry: decarbonising materials in the built environment while navigating the ethical dilemmas that are typically left out of the conversation.

Unlike many sustainability events that tread familiar ground, this was designed to spark meaningful, and sometimes uncomfortable, conversations about the ethical considerations shaping our industry's future. Questions such as: is it ethical to claim a building is sustainable if it has used more than the UK's fair share of ground granulated blast-furnace slag (GGBS)? Is it ethical to exclusively specify steel produced in an electric arc furnace (EAF), potentially limiting availability for other projects? With demand for reclaimed steel at an all-time high, but supply still worryingly low, could one even argue that projects using large proportions of reclaimed steel – thereby preventing its use elsewhere – are not

actually reducing global emissions?

The morning featured a keynote from the corporate philosopher Roger Steare and an insightful presentation by Ramboll's Global Buildings Decarbonisation Lead, Paul Astle, reflecting on the material challenges faced in the built environment. This was followed by a dynamic panel discussion with Nils Rage of Stanhope and Sameen Khan of The Climate Group. This article summarises the key themes and takeaways from the event.

How do we make ethical decisions?

Roger Steare opened the event with a compelling exploration of how ethical decision-making must guide our work in the built environment. He argued for placing humanity and shared values at the heart of our industry, reminding us that happiness is rooted in trusting relationships, good health and having enough. He challenged the audience to think about:

- | **the emotional side of business:** ethical leadership requires us to lead with compassion and consider the

works as a lower-carbon cement replacement. While GGBS reduces project-level emissions, it raises critical ethical questions.

- | Is it ethical to use high levels of GGBS on a project if it depletes resources that could have a greater impact elsewhere?
- | How can we ensure global decarbonisation while meeting local project demands?

A key point was the urgent need for transparency in supply chains: we cannot make informed ethical decisions without knowing where our materials come from. Our shared goal must be to demonstrate how every project contributes to global decarbonisation, fostering collaboration across supply chains and scaling impact. How we achieve that in practice is by far the greatest challenge. If ensuring we each use a fair share of resources is the only equitable way to reduce global emissions, is it perhaps time to reimagine our ‘competitors’ – not as rivals over these lower-carbon materials, but as mutual custodians of these finite resources?

Demand signals and shared responsibility

The panel discussion with Nils Rage and Sameen Khan brought the conversation to the strategic level, focusing on how the industry can influence supply chains and rally around shared decarbonisation goals.

Nils highlighted the importance of focusing on outcomes rather than prescriptive solutions, emphasising that over-specifying a single material can unintentionally limit innovation and long-term sustainability. He stressed the need for collective responsibility and clients setting lofty targets that push boundaries.

Sameen emphasised the power of demand signals – the messages sent to markets by prioritising specific low-carbon materials. She called for strategic communication with supply chains to align ambitions and drive change. This is the key focus of The Climate Group’s work – initiatives such as SteelZero and ConcreteZero which drive market demand signals for global decarbonisation of these hard-to-abate sectors.

Reimagining an equitable and just transition

So, what solutions are available, and how do we drive global decarbonisation thinking? The panel discussed what



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a reward mechanism could look like for developers who embrace a more global, nuanced approach to decarbonisation – one that celebrates global contributions to decarbonisation but doesn’t necessarily achieve a ‘stellar’ project-level carbon value. This would mean a greater focus on using average carbon factors, rather than specific lower-carbon solutions that bring significant local savings.

The challenge lies in aligning this global perspective with client project-level targets and investor key performance indicators (KPIs). The panel also explored how specifying material carbon targets in concrete, rather than naming a specific cement replacement, could drive supply chain innovation. This approach would not only support global decarbonisation but also reduce over-reliance on a single cement alternative, fostering a more diverse and resilient material strategy. This is an approach that Ramboll adopted in 2024 as part of our commitment to ConcreteZero.

While carbon is a key factor in the global climate and biodiversity crises, it is just one piece of a much larger puzzle. This event focused on carbon because it serves as a gateway and common language for exploring ethics and climate justice with clients. To truly uphold the UN Sustainable Development Goals, we must consider the full spectrum of social, environmental and economic impacts in our decision-making.



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Key takeaways

The discussions underscored several important themes.

- | **Ethics must lead:** sustainability decisions must prioritise equity, transparency and humility.
- | **Think global, act local:** the path to decarbonisation requires global thinking, rather than project-focused emission reduction.
- | **Signal demand carefully:** what we prioritise in material specifications sends powerful messages to markets, shaping supply chains for better or worse.
- | **Transparency is critical:** understanding the origins and impacts of materials is key to making informed ethical decisions.
- | **Act now, lead boldly:** leaders must take decisive actions today to set the standard for tomorrow.

A call to action

As we strive to meet the challenges of net-zero embodied carbon, one thing is clear: the ethical dilemmas we face will not disappear if we ignore them. Instead, we must embrace them, ask the hard questions, and work collaboratively to find solutions that balance local needs with global goals.

This isn’t just about decarbonisation metrics – it’s about creating a fairer, more equitable future for everyone. We must empower our teams to lead with intuition, humility and courage, ensuring that no one is left behind.



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Brogan is Head of Sustainability in Ramboll’s Building Structures team, where she leads work on embodied carbon, circular economy principles, climate justice, and regenerative design strategies. She leads Ramboll’s commitment to ConcreteZero and SteelZero, and sits on the steering group for Structural Engineers Declare.

Climate emergency conference 2025

Brogan MacDonald will also chair the IStructE Climate emergency conference on 8 July.

This online event will take stock of the industry’s progress on climate action and chart a course for the future. Through keynote insights, expert panels and hands-on discussions, the conference will examine the most effective tools, strategies and innovations shaping the industry today.

Join industry leaders, experts and practitioners as they reflect on the lessons learned, celebrate progress made, and define the next steps in structural sustainability.

Find our more and register at www.istructe.org/events/hq/2025/climate-emergency-conference-2025/.

