

Structural Engineers Declare: collectively making an impact

Structural engineers have taken tangible steps towards a sustainable built environment, but accelerated progress is needed in the year ahead, argue **Diego Padilla-Philipps**, **Gary Elliott** and **Rosie Camburn**, to meet the scale of the crises the world faces.

The 2024 UK Structural Engineers Declare summit, held in October, brought together industry leaders, engineers and advocates to address the urgent climate and biodiversity crises, highlighting the role of structural engineers in steering the industry towards a sustainable, regenerative future.

Speakers included architect and environmental activist Duncan Baker Brown, who highlighted the need for designs that contribute proactively to environmental restoration in response to the climate and ecological emergency, while Dr Mike Bather of the University of Liverpool delved into the ethical dimension of engineering, reminding attendees that our decisions have far-reaching impacts on global communities affected by climate breakdown.

A panel on new career pathways emphasised the growing demand for engineers with expertise in sustainability, demonstrating how structural engineers are increasingly viewed as leaders in the environmental movement.

We also learned about new developments in low-carbon concrete, the truth about sand and its ecological and societal impact, as well as a case study for the reuse of timber. This was followed by a session on practical solutions to foster regenerative design, and how artificial intelligence (AI) is transforming decision-making in biodiversity.

Reasons for hope

Many attendees are already measuring embodied carbon on most of their projects, but the consensus was that there is room to go further. For instance, there is now a greater emphasis on reusing materials where possible – using second-hand steel, reusing stone, and creating

a second-hand market for various building materials.

One of the most hopeful themes from the summit was the evidence of tangible shifts in industry practices, from counting embodied carbon to increasingly using recycled and reclaimed materials. This gradual shift shows the power of collective action and hints at what can be achieved with continued commitment.

Engineers do indeed have the power to make a substantial difference if we are dedicated to driving change. Even small steps – like choosing materials with lower carbon footprints or reducing biodiversity loss in minor ways – can cumulatively make a meaningful impact.

Challenges ahead

But despite the progress, significant challenges remain. Progress is still happening too slowly to meet the scale of the crises we face. One key

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Watch the presentations

If you'd like to find out more about the discussions at the 2024 summit, you can watch the presentations on the IStructE website at www.istructe.org/resources/training/structural-engineers-declare-summit-2024/.



barrier is the gap in knowledge and creative problem-solving within the industry. Structural engineers often feel constrained by the status quo or hesitant to push for innovative solutions that might disrupt it. Furthermore, although the market is shifting, regulatory and industry-wide changes are needed to incentivise regenerative practices fully.

Focus for 2025 and beyond

Looking ahead to 2025, we urge structural engineers to prioritise a few critical areas.

First, adopting net-zero-carbon practices must become the norm across all projects, not just ambitious or high-profile ones. Engineers should continue expanding the reuse of existing materials, developing new ways to reduce the embodied carbon in structures, and encouraging clients to retain and upgrade existing buildings whenever possible, rather than demolishing them.

Furthermore, engineers must enhance our influence with clients, colleagues and stakeholders about the impact of design choices on the environment. Engineers are not just problem-solvers but also advocates for change. As such, we can push for the integration of sustainable practices at every stage of the project life cycle.

Finally

We encourage all structural engineers to join the declaration and support the initiative. Please let us know how you can contribute at structuralengineersdeclare@gmail.com.

Diego Padilla-Philipps, **Gary Elliott** and **Rosie Camburn** are co-chairs of UK Structural Engineers Declare (www.structuralengineersdeclare.com).