

6. Get involved

Climate action two years on: are we on the right track?

Could do better, concludes **Mike Cook** in a 'report card' on the industry's response to the climate emergency, as he urges engineers to embrace the paradigm shift required to decarbonise.

In October 2019, the Institution held its first climate emergency response conference and agreed to set up the Climate Emergency Task Group. Then, two years ago (June 2020), *The Structural Engineer* published an issue with the headline 'Nothing matters more'.

Since then, the magazine has been flush with guidance and advice from the Institution and its members to show how structural engineers can change the way they design to better respond to the emergency.

But two years on, how have things really changed? Has it made a difference? What happens next?

Route maps and promises

There can be no doubt that the climate emergency has become more severe and is attracting even greater concern. The natural world, of which we are a part, has become less reliable, and this is manifest in floods, landslides, forest fires, droughts and crop failures. The media has recognised the crisis is newsworthy and some governments are recognising it needs to be addressed in policies that help mitigate the effects.

When the UK hosted the COP26 summit in Glasgow last November, China added its considerable weight to the nations declaring decarbonisation targets. The overwhelming majority of the Institution's members will now be working in countries committed to reducing their carbon footprint over time – this is an important step, though the national targets and achievements so far are very insufficient.

If we look specifically at the UK built environment industry, we have seen maps being drawn up and actions being promised:

- | **IStructE**: maintaining a strong voice in the construction industry, setting standards for carbon reduction, guiding members towards better practice.
- | **Construction Industry Council with Edge**: all construction institutions have signed up to a self-created, self-managed action plan.
- | **UK Green Building Council**: published a pan-construction industry route map for net-zero carbon in the built environment.
- | **Royal Academy of Engineering**: established



a working group as part of the National Engineering Policy Centre that calls for a system-based, multi-sector approach to decarbonise our economy.

- | **Joint Board of Moderators (JBM)**: set clear requirements in tertiary education of civil/structural engineers in all the universities and colleges seeking degree accreditation.

But while it is important to describe methods and route maps for change, and to draw up plans for action, are we really following these maps and acting in the way that we are urging others to do? I venture to say, 'NO, we are not'.

Why not? – because we fear that by following these plans, there will be short-term disruption

and pain to our economies and ourselves. This pain will be most greatly suffered by those benefiting from the economic growth that is made possible by fossil fuels, concrete and unfettered construction. We do not have the confidence to act and are worried at the immediate consequences.

So, what needs to happen now?

The route maps we have drawn only have value if the route is the right one *and* if we follow it.

Are the maps defining the right routes? No, we need to do more:

- | They must get real about the short-term urgent needs, setting targets for the near future (2025 and 2030) and stop deferring action into the

distant future (2050 and beyond).

- | They must be honest about the costs and timescale of global-scale carbon capture (CCUS) that they rely on to come to our rescue – this is a high-risk, high-cost approach.

Are we following the maps we have drawn?

No, we need to do more:

- | To get onto the zero-carbon route we will need to accept a serious change in direction.
- | To move along the routes we will need new ‘vehicles’ – not the ones that got us here.

To be able to accept this change in direction, and to take a risk on building the new vehicles needed to follow the routes, will require the paradigm shift that firms have called for in the various built environment declarations they have signed.

What will drive the paradigm shift?

We must get onto a new trajectory that will achieve a rapid transformation allowing future generations to prosper on a healthy planet. This means change at every level of our economy, industry, profession, education and society – redefining our place as human beings as part of the natural world, rather than owners and users of it.

Where should we turn for guidance on this?

There are so many places to which you could turn, but here are some personal suggestions for anyone who wants to build a better perspective on what a paradigm shift must include.

Economic

Doughnut economics – the narrow space where we achieve the safe and just space for humanity, between exceeding the planetary boundaries and under-fulfilling human needs.

Guidance

- | [Raworth K. \(2017\) *Doughnut Economics – Seven ways to Think Like a 21st-Century Economist*](#), London: Penguin Random House UK
- | [Hickel J. \(2020\) *Less is More – How Degrowth Will Save the World*](#), London: William Heinemann

Industry

Absolute zero – the work of Julian Allwood and UK FIRES throws into sharp relief the fact that major changes are needed in what we produce and how we produce it. It concludes that some things will have to be stopped very soon if we are to achieve the legislated zero-carbon goals.

Guidance

- | [Allwood J.M., Azevedo J., Clare A. et al. \(2019\) *Absolute Zero*](#); DOI: <https://doi.org/10.17863/CAM.46075>

Profession

For structural engineers, *The Structural Engineer* provides extensive resources. The IStructE Sustainability Resource Map is very useful and will be updated regularly. As professionals, we know more than most about what needs to be done differently in our profession – and we deserve to



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be held to account by society in the future if we fail them as experts.

Guidance:

- | [IStructE \(2022\) *Climate Emergency Task Group: End of year report 2021*](#) [Online] Available at: www.istructe.org/resources/report/climate-emergency-task-group-end-of-year-report-21/ (Accessed: May 2022)
- | [IStructE \(2022\) *Sustainability Resource Map*](#) [Online] Available at: www.istructe.org/IStructE/media/Public/Resources/IStructE-Sustainability-Resource-Map.pdf (Accessed: May 2022)

Education

The JBM has provided a clear requirement for all courses to include fundamental climate action response to be understood by graduates of civil, structural and highway engineering.

Guidance:

- | [Joint Board of Moderators \(2021\) *Guidelines for Developing Degree Programmes \(AHEP3\)*](#) [Online] Available at: www.jbm.org.uk/media/hiwfac4x/guidelines-for-developing-degree-programmes_ahp3.pdf (Accessed: May 2022)

Society

One of the most important drivers for change must come from us – people going about their daily lives. What we know and what we think comes from friends and the media. People like Sir David Attenborough or Prince William (the Earthshot Prize) carry great store.

Guidance:

- | [Attenborough D. \(2022\) *A Life on Our Planet: My Witness Statement a Vision for the Future*](#), London: Ebury Publishing

Human

We need people to love the planet they share with the rest of the natural world and to see that their own actions must adapt to allow this place to be healthy enough for future generations. Rather than build our prosperity at the cost of the natural world, we have to flourish as a part of the natural world.

Guidance:

- | [Ichioka S. and Pawlyn M. \(2021\) *Flourish: Design Paradigms for Our Planetary Emergency*](#), Axminster: Triarchy Press

Legislation

ClientEarth, an organisation driven by lawyers with a deep concern for the planet's survival, is using compliance with existing and developing laws to ensure any divergence that jeopardises future generations is brought into the open and called to account.

Guidance:

- | [Thornton J. and Goodman M. \(2017\) *Client Earth*](#), London: Scribe UK

Politics

Dangerous territory, but some of the more interesting ideas are coming from city politics and mayors rather than national governments. Taking issue with our own local government could be the place to start, along with making sure our local MP is speaking for us rather than toeing the party line.

Guidance:

- | [C40 Cities website](#) [Online] Available at: www.c40.org/ (Accessed: May 2022)
- | [C40 Cities \(2022\) *The C40 Knowledge Hub*](#) [Online] Available at: www.c40.org/the-c40-knowledge-hub/ (Accessed: May 2022)

Start your change

No one said it was easy. In fact, thinking that it's easy is our biggest danger – being tricked into thinking we are on the right track and already doing enough. The paradigm shift that's needed will demand sacrifice in the present to deliver far greater benefits for the future.

This is about deferred gratification – something we have become less prepared to suffer in succeeding generations. But if we can just make this shift in how we think about the world and what we value, it will prove to have been worth every difficult decision and hard-won change to how we behave.

To start the change, we must have the confidence to act. For instance, as individuals, in the coming year you could:

- | make sure that you, your collaborators and clients become aware of the carbon footprint of every project so that you can take steps to reduce it
- | think ahead to how you will reduce your project footprint year on year, by choices you can make and by getting well informed
- | make the most of what you read in *The Structural Engineer* and in some of the references I have given above to help you appreciate the paradigm shift that will be needed – these will help you plan in the longer term.

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