Viewpoint

Business as usual?

In a thought-provoking opinion piece, Mike Bather argues that the profession has a moral responsibility to thoughtfully reconsider its approach to business in the face of worsening climate breakdown – and to do this straight away.

The IStructE recognises the climate crisis and has worked hard to inform and influence its members to be more sustainable. This has encouraged me to learn a little more about our actions and their global consequences, and now I wonder if counting carbon and trying to be more sustainable is enough.

Exceeding our global carbon budget

It is now beyond doubt that our global greenhouse gas emissions (including carbon dioxide, methane and nitrous oxide) are causing climate change and global warming, which has reached 1.1°C. The alarm was raised over 40 years ago and the dangers and the remedies clearly spelled out in the first report of the Intergovernmental Panel on Climate Change (IPCC) in 1990. Subsequently, at the Earth Summit in Rio de Janeiro, 154 of the world's nations committed to substantial reductions in greenhouse gas emissions.

Despite the scientific warnings and the subsequent widespread agreement, more greenhouse gases have been emitted since 1990 than in the century and a half before (1991–2021, 929Gt CO_2 vs. 1850–1990, 804Gt CO_2)[1]. The bulk of these emissions are from the developed Global North, which already has an established infrastructure of roads, bridges, hospitals, schools, water supply and waste management systems.

Many people in the Global South lack access to this infrastructure, which is needed to address the UN's Sustainable Development Goals. Building this infrastructure will lead to significant carbon emissions.

To reduce the risks of the breakdown of our climatic system and to secure a liveable future, we must keep global temperatures below the crucial 1.5°C limit. To have a 67% chance of

keeping below this limit, we must limit ourselves to a global carbon budget of emitting no more than a further 400Gt CO_2 for the coming decades (this is roughly the amount of carbon emitted in the last decade)[2].

Since the industrial revolution, each year, we have continued to emit more and more carbon dioxide into the atmosphere and are currently at an all-time high global rate of around 40Gt CO_2 per year. Accounting for other greenhouse gases, we will exceed our global budget by 2030[1].

In 2021, the combined annual emissions of Africa and South America were less than 3Gt CO_2, and it is clear that the vast majority of emssions are by the Global North[1].

Exceeding the earth's carbon limits will lead to more droughts, forest fires, hurricanes, extreme heat, rainfall and floods. Almost all of the most affected people in the most affected areas live in the Global South and will suffer immensely, both directly from these events and indirectly from the subsequent food and water insecurity, mass migrations and conflicts.

As an illustration, the 2022 flooding in Pakistan is estimated to have displaced over 32 million people and to have covered over one-tenth of the country (more land than Ireland)[3].

The consequences of business as usual

With our high living standards and our high levels of consumption (compared with the Global South), we in the Global North are continuing to consume the planet's carbon budget at the fastest rates since records began, leaving nothing but problems for the Global South. For almost all of us, individually or collectively as a country, our lives continue with a few minor changes: 'business as usual'.

With a moment's reflection, we can see that with business as usual and with each tonne of carbon that we in the Global North emit,

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EACH OF US HAS AN ETHICAL DECISION TO MAKE IN RELATION TO EACH AND EVERY FUTURE PROJECT

we worsen the breakdown of our climate, and we positively limit the prospects of the Global South to develop and prosper. The logic is straightforward. It is not complicated. It just takes some thought.

By carrying on as thoughtlessly as we are in the Global North, we are facilitating the suffering and deaths of millions of people in the Global South. Business as usual can be regarded as a crime against humanity. Being a bit more sustainable achieves broadly the same results as business as usual. We have all been a bit more sustainable for years now and this has been ineffective.

Individually and collectively as a country, our lives cannot continue as they are or with relatively minor changes. By not thinking or by burying our heads in the sand, with business as usual, we will allow the immensity of the human suffering we cause to grow and grow. Business as usual is not an option. We need to demand that our engineering, financial and business institutions, our media, our politicians, our international institutions do all that they can to stop business as usual, to stop our carbon emissions as soon as possible.

An ethical choice

As structural engineers, the effects of our actions in relation to carbon emissions are significantly greater than those of other professions in the Global North. The IStructE's own estimate[4] is that each structural engineer designs around 5000m^2 of new floor structure each year, representing around 1000t of CO_2. As the IStructE has over 30 000 members, this equates to annual emissions of over 30M tonnes of CO_2.

This estimate may be a little high, but the point is made and reinforced when the number of civil engineers in the Institution of Civil Engineers is included. We have a heavy responsibility to think about the consequences of our actions and we are privileged to be able to make such a significant impact on climate change.

Individually, each of us has an ethical decision to make in relation to each and every future structural engineering project that we consider. Do we accept the project and obediently carry it out, avoiding thinking reflectively about our actions and their consequences? Or do we consider under what conditions, or whether at all, we should take it on? How will today's actions be viewed in five or 10 years' time, when our perspectives on climate change and climate justice will have almost certainly evolved?

Collectively, as members of an institution, we have a voice, and we need to make this heard as widely as possible. Will we be part of the change that is needed to create a truly sustainable and just future for all? Or will we thoughtlessly carry on with business as usual?

REFERENCES

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4) Orr J.J., Cooke M., Ibell T.J., Smith C. and Watson N. (2021) *Design for zero*, London: IStructE Ltd

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The Drawing Board — The**Structural**Engineer

Enter a sketch in the next competition – deadline 3 April 2023

The Drawing Board is *The Structural Engineer's* quarterly sketching competition, judged by Ron Slade FIStructE of WSP.

Sketches must be:
- hand drawn (no CAD, except for 'guided free-hand')
- from a real project or assignment
- at a suitable scale for publication (i.e. not too intricate/detailed).

Please also submit a short description (150 words) to put the sketch into context.

To take part, submit your entries to: tse@istructe.org

Each published entry will receive a free single e-book from the Institution's current list of titles.

Background sketch by Kevin Lyons (Lyons O'Neill)