

## Workshop

# Regenerative design: what is it and how can we do it?

**Robin Jones** summarises a recent built environment workshop on regenerative design, in which participants discussed ways to embed regenerative principles in mainstream practice.

On 6 June, representatives from across the built environment sector gathered at Chatham House in London to discuss how regenerative design principles could be embedded in mainstream construction practice. Convening under the Chatham House rule, participants attempted to reach a consensus on the meaning of 'regenerative design', before exploring opportunities and challenges that the sector faces in implementing this goal. This article presents key takeaways from the discussion.

### What do we mean by regenerative design?

Any firm that has signed up to Structural Engineers Declare ([www.structuralengineersdeclare.com](http://www.structuralengineersdeclare.com)) has committed to adopting regenerative design practices. But what this means in the context of structural design and the built environment has been the subject of debate: Broadbent and Norman<sup>1</sup> and Arnold and Isaac<sup>2</sup> sought to offer clarity in *The Structural Engineer* in 2023, and the Institution's book, *The Regenerative Structural Engineer*, builds on this further<sup>3</sup>.

Progress has clearly been made in recent years, thanks to heightened awareness and discussion of the concept. The 20 workshop participants showed broad consensus in their understanding of regenerative design, suggesting that these ideas are not just individual views, but perhaps offer an industry direction of travel. They identified four key principles:

- **Systems thinking is crucial:** designers and stakeholders need to think holistically beyond the boundary of the construction site (the 'red line') to understand the wider impact of designs on nature and society, both geographically and over time.
- **Positive feedback loops need to be created:** construction must become an act of long-term healing, creating lasting, resilient and self-sustaining positive interventions in the systems above.
- **Projects should enable nature and society to thrive:** the guiding outcome must be to 'do more good' rather than following the 'do less harm' approach promoted by conventional sustainability practices.
- **Design should be place-based:** designers must respond to the project location, the perspectives and socio-economic needs of the local community, and availability of local materials. This likely means a change from linear mass production of materials, to tailored design with a reduced reliance on long, opaque, unfair and fragile supply chains.



**WIDE-SCALE ACTION IS HELD BACK BY A LACK OF KNOWLEDGE AMONG DESIGNERS**

Despite the consensus on what regenerative design is, participants felt that there were few comprehensive examples of regenerative projects in existence today.

### How do we achieve a regenerative approach across the built environment?

Many participants felt there was an urgent need to transition away from the current linear and extractive approach to construction, but there was no clear consensus on how to do this at scale today. Wide-scale action is held back by a lack of knowledge among designers and by the daunting challenge of transcending to a broader set of regenerative perspectives.

Nonetheless, a number of suggestions were put forward, ranging from a fundamental shift in the prevailing economic paradigm of continuous growth, to short-term, practical steps that could be more easily implemented.

### Paradigm shift

Participants argued that an economic paradigm shift to value nature over profit and growth would be needed for regenerative design to be adopted at scale. This would require a coherent set of national policies, taxation, legislation and incentives for industry to deliver positive, restorative outcomes.

Nature could be included in rebalanced decision-making processes

by strengthening legal instruments (e.g. by introducing ecocide laws or giving nature legal status) to put it on an equal footing with human stakeholders.

Such change is beyond the scope of the typical structural engineer, but requires sustained advocacy from all industries, if it is to happen at all.

At a more everyday level, nature could be normalised as part of the conversation in early-stage planning, in much the same way that safety toolbox talks and conversations around equality, diversity and inclusion (EDI) have helped to prioritise these topics within the construction industry. Early-stage conversations with clients could help refocus the aims of a project on regenerative outcomes.

### Place-based construction

Participants expressed the view that current business models are degenerative in prioritising value to clients (in terms of profit, risk, insurance, etc.) over value to the communities affected by our projects; a regenerative approach would prioritise the perspectives of those communities and their environment. This was referred to as place-based design.

So, how might we shift from client-led to place-based construction? Participants recommended that designers:

- >| understand the system surrounding the project, both at the project location, and in places affected by the sourcing and processing of materials
- >| co-design with the local communities affected by the above, from the very start of a project, to respond to place, nature and society
- >| consider local supply chains and the availability and abundance of materials to help better understand the above (noting that in developed urban settings, this might mean beginning with a redevelopment audit of an existing building).

### Changing industry practices

Participants noted that current practices and processes in the built environment have evolved along linear, specialised, siloed lines that are sometimes unnecessarily complex. The procurement model needs to be

reimagined to integrate regenerative principles and holistic thinking across the supply or value chain.

So, how might we foster regenerative behaviours? Participants recommended that industry:

- >| re-educate its workforce to develop a deep understanding of nature, complemented by new systems-thinking skills and behaviours
- >| centre project governance on regenerative outcomes, e.g. by making provisions in client contracts for regenerative design to be considered at an early stage, and by appointing a 'regenerative director' for the project
- >| develop ways to capture whole-life system outcomes beyond the 'red line' in metrics that can be used to prioritise more regenerative projects.
- >| share examples of regenerative projects (or emerging aspects of projects that are consistent with regenerative design) with the industry.

### What next for the industry?

It was clear from the discussion that there are no simple solutions to embed regenerative thinking across the industry. Systemic change will take time and require sustained advocacy. But there are steps that those in the industry can take today to set this change in motion.

- >| Educators need to start teaching systems-thinking, place-based design, and embedding nature in the development of design solutions.
- >| Designers need to learn to think in systems, and ask questions of clients to challenge the brief if does not support regenerative outcomes.
- >| Companies can upskill and educate their workforces, and raise awareness of regenerative principles and the role regenerative design could play in creating a climate-positive world.
- >| Directors need to consider what kind of projects they wish to work on and which clients share their values – and ultimately be willing to turn down business if the outcomes would be degenerative.

Participants also felt that it would be helpful to develop a new, regenerative

### Firms and organisations represented at the workshop

- AECOM
- AHMM
- Arup
- BDP
- British Land
- Buro Happold
- Constructivist
- Exploration
- Grimshaw Architects
- Institution of Structural Engineers
- Marks Barfield
- Perkins & Will
- Ramboll
- WSP

NB Not all participating organisations elected to be identified

design process as proof of concept for the sector. This would demonstrate what is possible and could act as a springboard for wider adoption.

### Acknowledgements

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### REFERENCES

- 1) Broadbent O. and Norman J. (2023) 'Learning from living systems – regenerative principles in practice', *The Structural Engineer*, 101 (8), pp. 10–12; <https://doi.org/10.56330/HECY9837>
- 2) Arnold W. and Isaac P. (2023) 'Regenerative design for building engineering: the role of the structural engineer', *The Structural Engineer*, 101 (8), pp. 14–17; DOI: <https://doi.org/10.56330/TVQX1584>
- 3) Broadbent O. and Norman J. (2024) *The regenerative structural engineer*, London: IStructE Ltd



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