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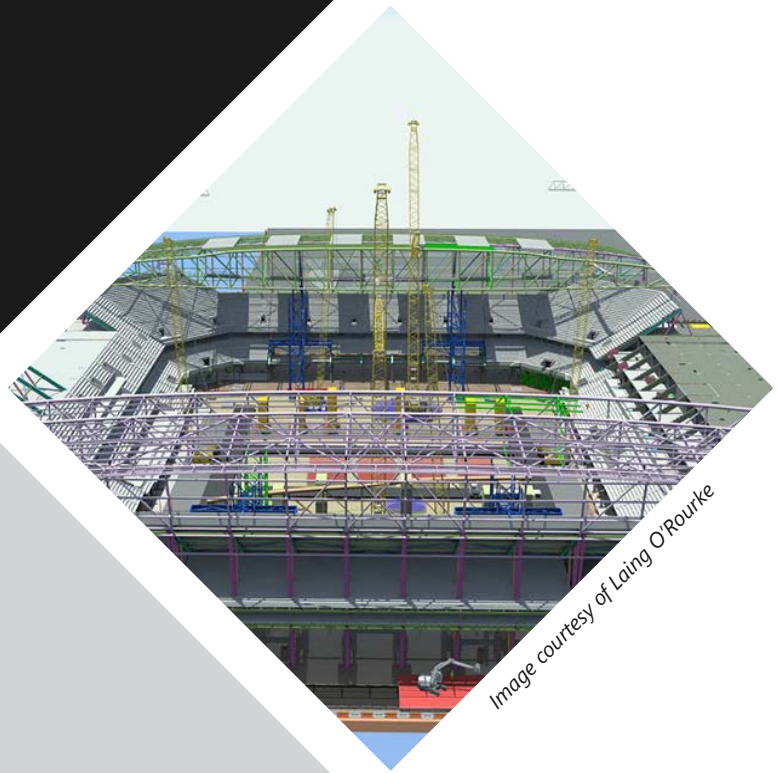
# Panel session: PAS 2080 and the whole-life decarbonisation of infrastructure

*Adrian Johnson, Executive Technical Director, Stantec*
*Heleni Pantelidou, Associate Director and Decarbonisation Lead, Arup*
*Maria Manidaki, Technical Director – Decarbonisation, Mott MacDonald*



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## UNDERSTANDING THE URGENCY: NET-ZERO COMMITMENT

The Paris Agreement is an international treaty on climate change adopted at the 2015 UN Climate Change Conference (COP21) and put into force on 4 November 2016. This legally binding agreement has the world's nations pledging to cut carbon emissions so the average global temperature rises no more than 1.5 degrees Celsius above 1990 levels.

Built environment professionals play a pivotal role in meeting this target given that the buildings and infrastructure that they design contribute to around 80% of the carbon footprint in developed countries, including the U.K.

## PAS 2080: SETTING A GLOBAL CARBON REDUCTION STANDARD

The PAS 2080 standard was published by the British Standards Institute in 2016, having been developed by the U.K. built environment sector as the world's first specification for managing whole-life carbon in infrastructure.

It is now a key reference document in the U.K. government's Construction Playbook, and its use is being mandated by several key government bodies.

Since PAS 2080 was published, progress in decarbonising the built environment has been positive, but slow. Six years later, PAS 2080 was updated to respond to the urgency of the climate emergency and to consider the wider built environment. This update is intended to accelerate change across the sector.

The standard now aims for a step change in thinking—no longer a gradual evolution, but an accelerated change of direction, where no build may be the default position. To this end, the document now focuses on collaborative working and systems thinking, recognizing that the siloed approach of the past will not meet the necessary carbon reduction targets within the required timescale.

*"What we have been doing up until now has not delivered the decarbonisation that we need so we need to deliver differently, and we have to do it more quickly."*

*– Maria Manidaki*

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## THE ROLE OF PAS 2080 IN DECARBONISING INFRASTRUCTURE

The updated PAS 2080 sets out the need to embed a culture of decarbonization across infrastructure organizations. Achieving net-zero transition requires a fundamental shift in thinking, and the importance of behaviour change cannot be underestimated.

PAS 2080 explains what professionals should do at every stage of a project or programme to make the carbon reduction process more impactful. It is intended to be used right from the earliest stage of need identification. The aim is to clarify the role of value chain members in controlling and influencing whole-life carbon, targeting four main roles:

- Asset owners or managers
- Designers
- Constructors
- Product and materials suppliers

In each case, PAS 2080 emphasizes the importance of leadership, governance, and collaboration across the value chain and beyond, including guidance for government, regulators, and financiers.

The carbon reduction hierarchy has also been simplified to avoid confusion, with directives to:

- Avoid emissions by utilising existing assets.
- Switch to lower-carbon alternative options.
- Improve design and technological efficiency.

This hierarchy applies to all carbon emissions – capital carbon, operational carbon, and user emissions – and should be applied by every role and at every stage.

*"With the built environment having such a big impact on greenhouse gas emissions, it is clear that we will only succeed in achieving our decarbonisation goals by decarbonising our built environment. Anything we put into the built environments from now on must support the transition to net zero."*

*– Heleni Pantelidou*

## DELIVERING THE TRANSITION

Speakers at TIP highlighted three key areas as central to embracing PAS 2080 and establishing the needed transition in how decarbonisation is delivered in the sector.

1. Embrace a systems approach to decarbonisation. A systems approach and considering the interconnectedness of various systems, both within projects and at a broader city or regional level, is vital to planning, design, and delivery of complex infrastructure. Bringing stakeholders into the conversation from the outset, including planning authorities and regulators, is crucial for effective system thinking.
2. Drive change through the supply chain. Transitioning from a linear way of thinking in infrastructure delivery to a more systemic approach produces both challenges and opportunities. The urgency of behaviour change and shifting the mindset towards a better understanding of how infrastructure impacts lives cannot be underplayed. However, the goal is not to add extra scope to projects, but to add clarity about the contributions a project can make to the region, placemaking, and user behaviours.
3. Embed a decarbonization culture: Built environment professionals must look beyond the development stage, requiring broader outcomes from new programmes. That means embedding a new culture of thinking systemically about how projects can contribute to the wider challenge and ensure that carbon reduction goals are deliverable. The urgent challenge is to align this philosophical vision of creating an improved, lower-carbon built environment with the budget constraints common to modern public investment programmes.

*"Let's imagine that we've got a great vision and business case for decarbonizing our infrastructure. So, how do we actually make sure that that vision is deliverable?"*

*– Adrian Johnson*