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## PRESS RELEASE

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31 March 2020

### **Limiting infrastructure carbon emissions is key to solving the climate crisis**

**Already today, infrastructure sectors in nations such as the UK account for over 50% of carbon emissions. By 2050 this figure may have increased to 90%. The ability to assess carbon at the earliest project stages is essential, as this is where the greatest carbon and cost reduction potential exists.**

For the first time ever, the [Global Risks Report 2020](#) presented before the World Economic Forum, which reports on the greatest risk perceptions of 750 experts and decision makers around the world, shows that the top five fears are all climate related.

At the same time governments, major cities and large organisations around the world are declaring climate emergencies, declarations that are rapidly being followed by pledges for dramatic carbon reduction. With an increasing number of net zero carbon targets, very few consider the associated costs.

Emissions associated with infrastructure construction have been largely overlooked to date in favour of operational emission targets. It is time for a change.

To reduce emissions to net zero and prevent catastrophic climate change, we must tackle the carbon emissions associated with national infrastructure such as transport, water, waste, energy and communications, Sweco states in a new [in-depth report](#). Already today, infrastructure sectors account for over 50% of carbon emissions in countries like the UK. By 2050 this figure may have increased to 90% as our population grows and the requirement for new and improved infrastructure is set to continue in Europe.

“Efficient infrastructure design can reduce both carbon and cost to a certain point, usually through reducing material quantities and minimising construction operations. But we need to venture beyond that carbon-cost tipping point if we are to reach net-zero emissions and tackle the climate emergency,” says Lewis Barlow, a Fellow of the Institution of Civil Engineers and Director of Carbon & Sustainability at Sweco.

Civil engineering has been evolving through the development of digital techniques for decades. It is time for carbon cost management to join this process. We quickly need to get to the point where the impact of design decisions on both carbon and cost can be instantly assessed.

Sweco is currently developing techniques using parametric design, a process whereby computer algorithms automatically generate solutions to satisfy a set of specified design parameters, with machine learning to identify the optimal carbon cost solution. It will eventually be possible to use machine learning to enable the rapid optimisation of carbon and cost for any design problem. In the meantime, we must integrate carbon management into our processes from the outset.

[Carbon Cost in Infrastructure: The Key to the Climate Crisis](#) is the first in a series of Urban Insight reports from Sweco on the topic Climate Action in which our experts highlight specific data, facts and science that are needed to plan and build safe and resilient future urban environments.

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