



Driving growth,
embedding
climate resilience:
a national strategic
priority for our cities

**MPA UK Concrete
roundtable report**

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The changing climate is one of the biggest challenges facing the UK built environment sector. UK Concrete, part of the Mineral Products Association, last month convened a panel of leading developers, investors, materials experts and consultants to discuss how to get the sector to face up to one of the trickiest parts of that test: building in resilience.

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Context

It would be hard enough in normal times. But prime minister Keir Starmer this month made hitting the government's target to build 1.5 million homes across the parliament one of his key milestones as he seeks to drive economic growth through an unprecedented boost to development – including by approving 150 new infrastructure schemes.

It will be hard enough for all that new development to meet ambitious carbon reduction targets. But resilience to climate change demands greater focus. The floods that have already inundated parts of the UK this winter have reinforced the fact that all new development must also be capable of weathering the climate we can expect to face in the years ahead.

This summer's London Climate Resilience Review, set out 22 recommendations for actions to get the built environment fit for purpose, including major policy reforms, and demonstrated the scale of the risks from heat, drought, flooding, rising sea levels, wildfires and subsidence. It also made clear how much there is still to be done.

While current English planning policy already requires sustainable drainage systems to be installed where possible, and building regulations requires a basic consideration of overheating, designing for climate resilience goes beyond this. It implies buildings that factor in the aspect of sun, that are constructed to withstand floods and remain cool in very high temperatures, and that are sited in developments that build in natural cooling and water abatement by bringing in nature and using permeable surfaces.

The problem being grappled with by many round the table, was not just how to build such climate-resilient schemes. Linked to this is the challenge of how to embed resilience when it is not mandated and policed through current planning policy and building regulation. But also, how to make the case for the interventions needed without interfering with viability calculations in a market where construction costs are higher than ever.



With thanks to the participants at the roundtable discussion:

- **Bev Adams**
head of client engagement, strategic risk consulting, Marsh Advisory
- **Eva Aftab**
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- **Richard Ellis**
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- **Alex Fell**
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- **Bob Ward**
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- **Lucy Wood**
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- **Clare Woodcock**
director, London city lead, Mott MacDonald
- **Daide Zampini**
VP global R&D, Cemex

1 Funder support exists for building in climate resilience

It was clear from the panel discussion that making the financial case for investing in climate change resilience in developments remains outside of the mainstream. However, there were differing views on how easy finding funding for additional up-front costs is.

A huge part of the case for this additional resilience will come from the “massive” “co-benefits” that measures such as swales, bringing in nature and generally better landscaping can provide in terms of creating a better environment, one panellist said. “There’s a definite commercial reason for doing this,” they said. “There’s so much research that says that property values increase adjacent to a park or green space. In London already, [investment] is being driven more by the market than by building regs.

However, it is not clear this valuation increase is enough in all or even most cases to make projects stack up. Another panellist made the point that developers had to be creative and work with their funders, because “the business case doesn’t add up black and white in the standard way”.

The message from institutional investors was positive, however, given that they are thinking about their exposure to risks over a longer time frame. One delegate said investors and insurers had “supercharged” the debate around building in climate resilience, by demanding assessments on issues such as heat stress and flood as part of weighing up potential investments.

However, through the discussion a disconnect emerged between investors’ desire to reduce their climate risk, and the perceived failure to effectively communicate that to developers and designers.

The overall positive message from investors was also undercut by concern regarding the lack of either a series of standard KPIs which buildings could aim to, or a uniform approach from the investor community. One panellist said that unless investors crystallised their need to increase resilience into a playbook by which to improve buildings, it may result in them “divesting” from what they considered risky stock.



2 Mass market developers need to be brought on board

Optimism around the role of long-term investors was tempered by fears over the part mass-market developers, such as housebuilders, might play in building resilience. Housebuilders sell the freeholds to the homes they build to individuals, taking no ongoing interest, as opposed to high-end commercial developers who will sell to long-term institutional investors working across a portfolio.

Panellists cited the historic record of the housebuilding lobby in campaigning to water down regulations on carbon reduction, but also expressed sympathy that their business model made it very difficult to accept extra costs that buyers weren't willing to bear – particularly given such high construction prices.

One panellist said: “We want to be doing all this stuff. But actually, if it doesn't make sense, viability wise, there's not much that can be done”, while another said that without proper “KPIs and metrics” then for firms like volume housebuilders, despite wanting to do the right thing, “it's not going to be viable”.

One panellist said the system had to be made to work for volume builders. “My worry is, is it's more regulations, it's more cost. And we're at an acute stage where we need to build 350,000 houses. We've never done it. So, if we do so, how will we affect volume housebuilding?”



3 Stakeholders are more focused on carbon emissions than resilience

Participants felt that much of the industry and its stakeholders remained more focused on reducing carbon emissions from the built environment, than the urgent task of making homes, workplaces and infrastructure resilient to the climate as it changes.

One pointed out that while building regulations is advancing on a trajectory to producing zero carbon buildings, the regulations on overheating only require projects built now to perform adequately against what the climate was in 2020 – despite most buildings having 60-year design lives and rapid predicted temperature increases. “The regulations could have been to comply with 2050, and that would have meant that we need to have much stronger measures being embedded into design, and a lot more progressive thinking,” they said.

Elaine Toogood, director, architecture and sustainable design at The Concrete Centre, said she described this viewpoint as “carbon tunnel vision”, while another called it “short term”. The answer, it was argued, was for landlords, investors and insurers to step back and analyse the data showing the cost of climate events on their property portfolio, factoring in issues such as the cost of lost no-claims bonuses or increased insurance premiums. “We ask them, what gets you your bonus every year?” asked one speaker. “And then we go, okay, we’re going to put more heat waves on top of that. We’re going to put more flooding on top of that. What does that do? And they realise: ‘I’m going to lose my bonus.’”

Part of the problem, it was argued, is that it is not clear willing local authorities are prioritising climate resilience through the planning process. Panellists argued that while councils do have resilience on their radar, the political reality is it loses out to other “asks” of the development industry, such as affordable housing. “If you’re not hitting the affordable housing numbers, then the local authority simply doesn’t want to hear it,” one said. “Whereas, on schemes that hit the affordable housing target, they might look away when it comes to criteria to do with climate resilience.”

The Concrete Centre’s Toogood said that while council planners took into account river flooding, for example, they weren’t always assessing the risks of surface water flooding. “Planning has a key role to play. But while resilience is considered throughout planning (and policy does take flooding in particular into account), there is evidence that the results are not being adequately implemented, which is where the focus needs to shift.”



4 Climate resilience must be built into the public realm

Delegates talked about the importance of ensuring resilience in the hard-to-manage “spaces between the buildings”. For certain developers in high value areas, it’s clear this public realm challenge is one that they afford to take on because of the scope of their land-holding and their long-term asset stewardship business model.

One panellist said: “We’ve built from the perspective of we have this city, and we need people to want to keep coming back, to visit and spend time. So actually, climate resilience has always been embedded within that.”

But the public realm is of course a particular challenge because it requires collaboration with public authorities, usually the local council, many of which are desperately short of both time and resources.

Panellists were worried about public authorities’ willingness to take on maintenance liabilities for resilient infrastructure. “There’s real disconnect between the ambition of SuDS (Sustainable Urban Drainage Systems) solutions, and local authority lack of funding,” said one panellist.



5 The need to make built environment education fit for purpose

The argument was made that many in the built environment do not have a good enough training to design and deliver development which is climate change resilient.

Davide Zampini, global vice president of R&D at products giant Cemex, said this was particularly evident when it came to the understanding of materials, with students harbouring preconceptions about concrete being incompatible with sustainable development. Concrete construction is able to support climate resilience through the provision of buildings with high thermal mass that resist overheating, or permeable paving which slows run-off, or with the creation of durable structures that are resilient to the impacts of water and which can be used to support planting. Zampini said: "What I see is that there's a very poor knowledge of what is available for materials for resiliency.

"Do we have the education system that builds the future engineers, industry architects and consultants that really know how to design with resilience? Is education material agnostic? I have a lot of doubts.

"And that raises a concern, because it means that these people are going to take uneducated decisions for design of a city, and they're not looking at the whole.

"I'm not saying you have to build from concrete, but let's look at the whole possibilities."



Do we have the education system that builds the future engineers, industry architects and consultants that really know how to design with resilience?

Davide Zampini,
Global vice president of R&D, Cemex

6 Large scale developments and new towns are already focused on this

Given the concerns raised that mainstream residential developers may be less focused on climate resilience, some panellists worried the raft of large-scale developments and new towns proposed by the government will not be fit for a hotter future.

One participant said they feared climate impacts may be “exacerbated” by large volume housebuilder developments with “sealed surfaces, that are orientation agnostic, that don’t consider climate and aren’t resilient.”

However, panellists involved in such projects said that some major schemes are being designed to a higher standard, given the competition for getting sites allocated.

One said that councils which had declared climate and biodiversity emergencies were often thinking hard on these major greenfield schemes about green and blue infrastructure. “The teams I’m involved with are doing a huge amount of embedding that climate resilience story from the very start, from when you’re promoting land, through setting a vision,” they said.



7 Climate resilient retrofit is a major challenge

The UK, famously, has some of the oldest homes in Europe, with nearly two-fifths built before the Second World War, and new development is only ever a fraction of the built environment – in any year, 99% of the buildings are those already in existence. As such, resilience retrofit is an essential challenge.

Participants felt that housing associations will form a key part of this story, with one describing the successful remodelling of a Victorian housing block, designed to bring it in line with a future climate more akin to Barcelona than historic London smogs. This involved breaking up a central tarmacked square, installed SUDS under this and creating a biodiverse garden on top, so “people want to be there” – at the same time delivering co-benefits in terms of resident health.

However, while cash-strapped registered providers will have their own challenges in delivering such retrofits, the retrofit problem was seen as much greater still within the privately-owned housing space. Here the difficulty is in trying to persuade homeowners to spend money to mitigate risks, such as from overheating and flooding, that may not be obvious to them.

A number of panellists called for interventions from mortgage lenders, or insurers, to ensure the climate risk was “transparent” to private home buyers. “What happens if we had

a future where resilience was considered as part of every insurance transaction, as part of mortgage applications?” one asked. “Where the building has a climate resilience certificate or something, like an EPC, on which the investment decisions from banks and the access to debt rely.”

The Concrete Centre's Elaine Toogood said the nervousness of this kind of measure was that it might create “stranded assets”. But it would also be an incentive to invest, she said. “We can improve them. There's lots that can be done, if you've got good bones in the building.”



