



Peace of mind:

delivering net zero buildings,
avoiding stranded assets

A UK Concrete roundtable report

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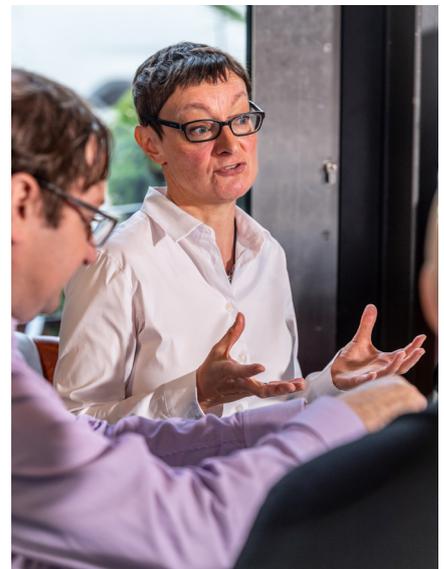
Introduction

Once a concept which seemed largely hypothetical, a stranded asset is a building unable to deliver its original anticipated economic return as a result of changes over time in what society demands and expects from the built environment.

Sustainability target deadlines are evolving, but at what stage is the property industry in its thinking about delivering green buildings and what action is being taken to reach net zero carbon and avoid stranded assets?

UK Concrete brought together a diverse group of experts from within the property, insurance and sustainability sectors to discuss the key drivers behind decisions, what isn't being properly considered and what needs to happen next.

This conversation forms the basis of this report which looks at the journey to reaching net zero and weighs up different levels of risk, not just those related to sustainability.

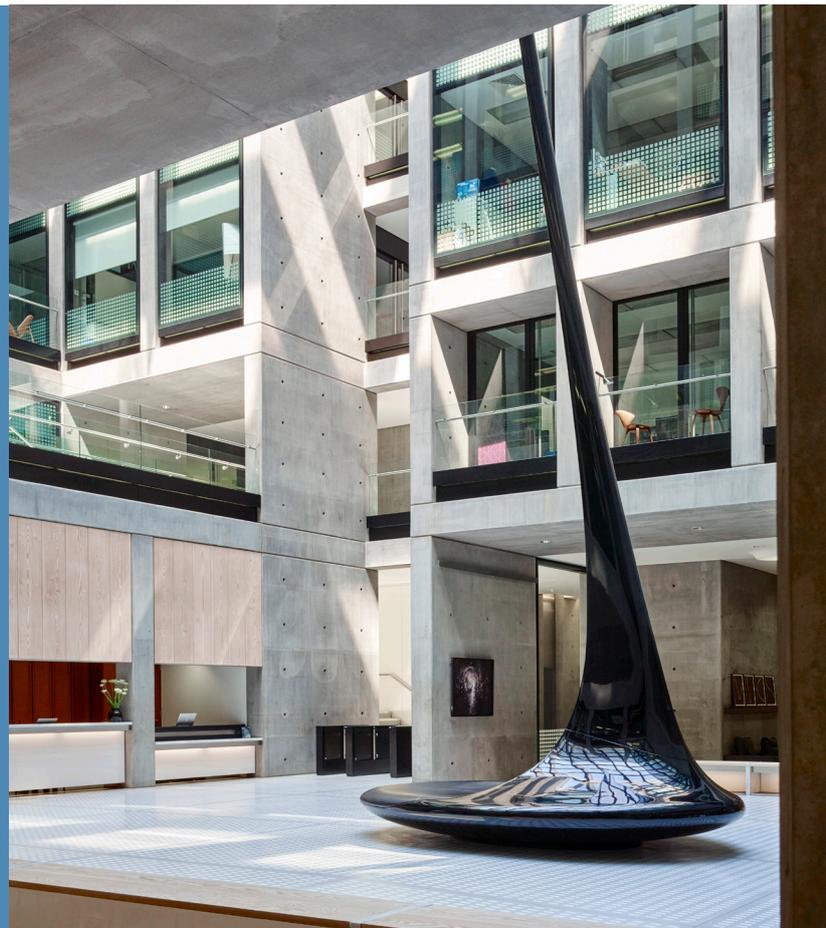


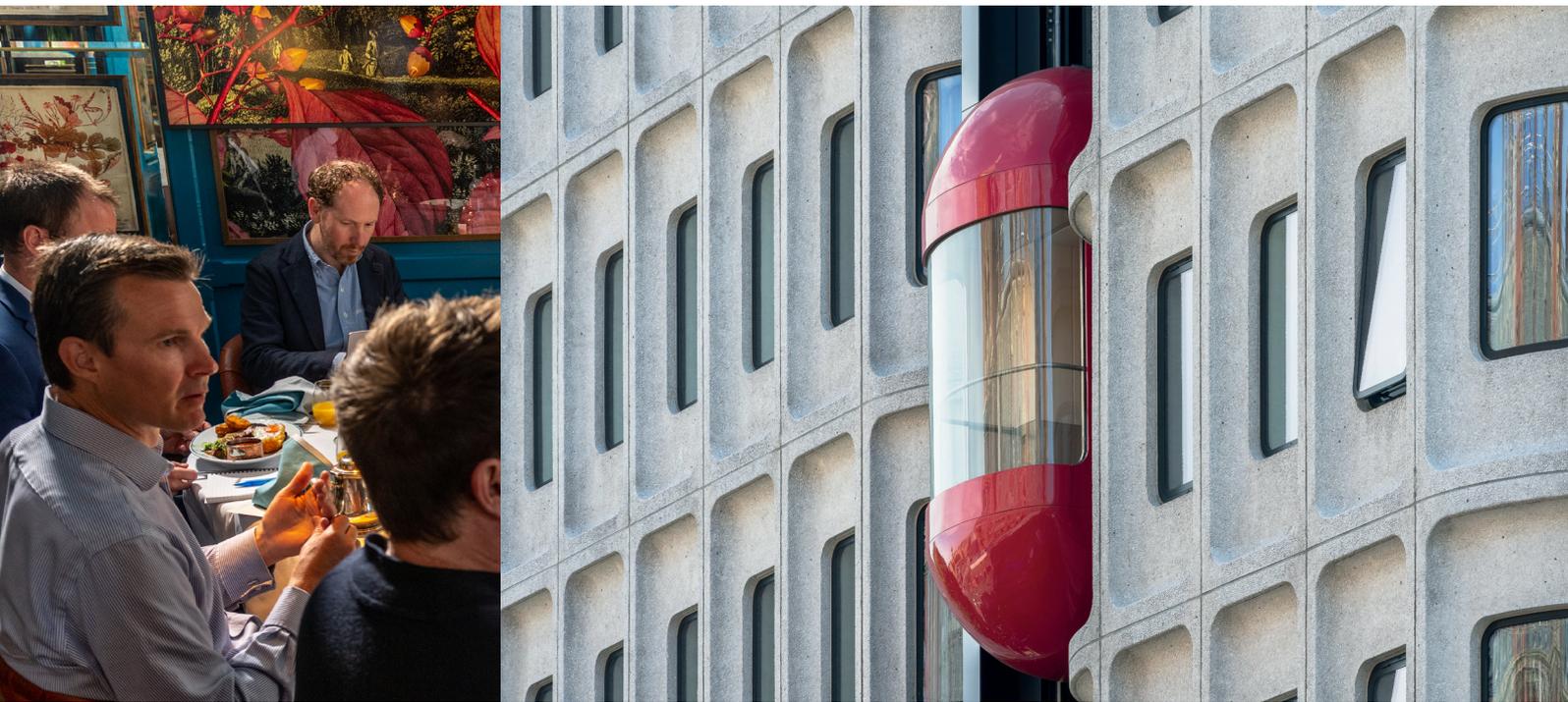
Independently chaired by Stacey Meadwell



Key points

- **A combination of sustainability targets**, reporting on sustainability and the risk of stranded property assets are driving decisions and behaviour for property development, particularly in London, more than ever before.
- **Embodied carbon** needs to become a bigger part of the conversation and there is greater scope for a more detailed understanding, although this should not come at the expense of outcomes and performance.
- **Hybrid construction** that uses the best properties of materials, including concrete will have a role to play in the future.
- **Carbon reduction** is one of several sustainability factors that need to be considered when assessing risk.
- **Offsetting strategies** need careful long-term planning.





Net zero and the risk of stranded assets

While delivering net zero buildings is clearly the right thing to do, the risk of property assets becoming stranded if they don't meet sustainability criteria is naturally a commercial driver to delivering greener buildings.

Regulations are tightening to meet net-zero targets and will continue to do so. And with that comes the added pressure of public reporting on investment portfolios' carbon footprint.

Minimum Energy Performance Certificate (EPC) ratings are already impacting the ability to let some commercial buildings, with landlords having to decide whether to invest in refurbishment where possible to improve energy performance, convert to a different use or sell. And more buildings will fall into this category as the minimum EPC allowable rises.

Looking at the residential market, the threat of stranded assets isn't yet the driver of decisions around construction and refurbishment, the focus is still very much on energy performance. Something that has become more acute as the energy and cost of living crisis has deepened.

And this could have a knock-on effect on the market in the medium to long term if homes with high fuel bills aren't able to sell for a premium.

When assessing property portfolios for stranded assets, with a view to potential divestment, energy performance naturally formed part of the conversation, but it wasn't the only consideration.

For both commercial and residential properties, there are also insurance concerns around some new materials and MMC development and their potential to impact on future stranded assets. Post Grenfell the cladding crisis has demonstrated how previously perceived safe investments can become stranded, so sustainability is only part of the equation.

Does using building materials such as concrete increase the risk of an asset becoming stranded?

Some participants were clear that this is not the case. There are other factors to consider when assessing the risk of an asset becoming stranded, such as M&E systems and buildings with extensive glazing. Equally, materials such as concrete can provide wider benefits including greater resilience and scope for climate change adaptation, with the potential for upgraded energy performance while offering longer life potential.

While some materials can be viewed negatively when weighed against purely embodied carbon measurement, the benefits of mitigating other risks must be part of the equation (see 'Balancing risks').

In new builds, low-carbon concrete is already being used or considered. The overall life cycle of a building being assessed changes the perspective on whether a building can be considered low carbon.



Is embodied carbon a too simplistic measure?

When plans to knock down and rebuild M&S's flagship Oxford Street store were called in by the former Secretary of State seemingly for environmental reasons, it made embodied carbon national news.

The debate about new build vs refurbishment in the context of sustainability is a critical one. And as a result, conversations around embodied carbon have accelerated in recent years. Guidance produced by organisations such as LETI is helping to raise awareness and understanding of the issue. However, there was consensus around the table that the understanding of embodied carbon across the lifecycle of assets varies significantly and measurement remains in its infancy.

It was also pointed out that embodied carbon now forms a bigger part of discussions between developers and planning authorities than ever before. The critical point being you can't retrospectively reduce embodied carbon.

Already there are ways of reducing embodied carbon, for example, using design to reduce the quantity of materials required, using existing lower carbon concrete and new innovative mixes. These new methods currently being explored are building on the ways concrete has already been used successfully to reduce energy consumption through its thermal mass benefits.

However, some warned of the danger of viewing embodied carbon too simplistically as it is important to understand the whole life carbon performance of assets.

There are complex calculations in balancing carbon emissions from construction vs operational carbon emissions and the building life span. It was described as a chicken and egg scenario.

As the focus shifts to whole life carbon, a building's lifespan becomes a critical parameter.

Do the sustainability calculations work over 40 - 60 years, or will the building be knocked down before then?

By selecting durable materials a longer building life may be more sustainable than ultra-low embodied carbon construction with a shorter building life span.

It is changing how some in the industry look at buildings with an eye on longer-term refurbishment potential or change of use. Ultimately, reducing embodied carbon has to go hand in hand with having a building that functions and delivers return on investment.



Refurbishment vs new build

Is it better for the environment to refurbish or build from scratch to higher sustainability standards? These sorts of decisions, it was pointed out, are in part being driven by the investment strategy of individual investors.

While investors are increasingly looking at delivering low-carbon buildings, the need to secure a return on their investment remains.

Refurbishment is generally tricky and was described by one participant as “like open heart surgery”: You don’t know what you are dealing with until you open up and see what is underneath.

Uncertainty means more risk, and it’s something that doesn’t often suit short-term investors looking for a quick turnaround before selling on. But for longer-term investors with access to patient capital, taking on a more challenging refurbishment is more feasible. And there are examples of this across the capital.

One highlighted during the discussion was a 1930s building in London with tight floor-to-ceiling heights, originally labelled a stranded asset. The building has been completely reworked, extending its life for 30-40 years, but it wasn’t an easy project to deliver.

Likewise for conversion to alternative uses. Not all buildings lend themselves to another use, and some aren’t immediately obvious choices for conversion, but that doesn’t mean it can’t be done.

An example given was Camden council’s former town hall annexe opposite King’s Cross station. Not many looked at the 1970s annexe with a view to keeping the building and converting it for a different use. But it has undergone a deep retrofit and been remodelled into a boutique hotel.

Should we be designing new buildings to make them easier to convert in the future?

Adaptability so that buildings are designed for a long life and loose fit is key particularly with the uncertainty about future market trends. The rise of home working demonstrates that asset owners and investors must understand that there will be potentially different uses across the entire lifecycle of a building.

The offset time bomb

Offsetting was a key topic of discussion.

While recognised as likely to remain essential to achieve net zero carbon targets, its use poses several risks.

There is a reputational risk, particularly given that offsetting schemes are variable in quality and require particular expertise to ensure they are appropriately carried out.

The financial risk was also raised with the emphasis on the need to plan.

As target deadlines draw closer, demand for carbon offsets will grow, pushing up the price.

Financial shocks ahead of future target deadlines for carbon reduction are predicted if the pressure on pricing hasn't been factored into planning.

Rural land prices are already rising, and there have been press stories about planting the wrong types of trees. A potential backlash is looming. But it is also a case of simple mathematics. Competing pressures on land, particularly from agriculture that the numbers simply don't stack up.

A dwindling supply of suitable land is only going to push up prices further, and there is a risk that options could run out if left too late. So it was no surprise to hear that some are already making moves away from heavy reliance on offsetting as part of their net-zero strategy. It was strongly suggested that the appropriate due diligence is carried out, as would be the case with any large business expenditure.

Striking a balance – sustainability vs other risks

While sustainability is a critical issue when assessing a development, it isn't the only risk factor developers, and investors need to consider. It's now important that asset owners have a better understanding of materials, to deliver greener buildings but to also assess the risk of their investment.

The days of looking at a building and knowing how and what it has been built with and easily establishing functionality and insurance risk have gone. While some forms of MMC have been around for decades, given the boost to sustainability and build efficiencies over traditional construction as well as changing government policies on procurement, its use is increasing. And with it, a much broader range of materials.

Insurers want to determine how resilient buildings are to extreme scenarios such as fire and flood, how much of the building would be lost and how long it will take to rebuild and have the building in use again.

This requires understanding the materials and design and how that will impact where fire spreads. That will help determine what damage could be done to the structure and services. And it's the same for water leaks and floods.

Some materials, such as concrete, can reduce the risk and level of damage should the worst happen.

It was emphasised that there are resilient MMC materials such as precast concrete and those that are prone to more risk. The key is understanding the pros and cons, the impact on structure and performance, and the sustainability credentials.

Generally it was agreed that the right approach was not to look at one type of material or set of risks in isolation. Better is to consider the best combination of materials to deliver on sustainability, functionality and safety.

This might involve using a combination of concrete and timber-based structural materials to deliver the best outcomes on a variety of measures.

Participants were clear that concrete buildings will not become stranded assets. Instead, it was suggested that buildings with extensive glazing or M&E systems, which could not be easily replaced or retrofitted, were likely to be stranded assets in the future.

Conversations around specific materials, sustainability and functionality, are taking place, but they need to be happening more widely and holistically as part of the development and sustainability risk assessment. Delivering buildings which can offer low carbon performance, adaptability, fire protection and resilience will not always be achieved with the lowest upfront embodied carbon. This is about understanding wider social outcomes such as comfort, health and safety whilst facilitating low carbon development in the future too.

UK concrete is essential, sustainable, protecting people, innovating, helping to tackle climate change and enabling great design



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