



# Why retro-fitting is key to Net Zero

*80% of our current building stock will still exist in 2050. We need to find new ways to make these buildings more sustainable*

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*N.B. This essay is an edited version of the transcript of Emma's 20/30 Visions interview, which you can watch at [www.bridgesfundmanagement.com/2030Visions](http://www.bridgesfundmanagement.com/2030Visions).*

**B**uildings account for about 25% of global greenhouse gas emissions. Within the major cities, they account for 60% of emissions (in London it's 78%; in Washington 71%; in Paris 70%). So we can't just sit back and expect to decarbonise through energy infrastructure, or shipping and transport. Buildings have to be part of the solution.

What's more, about 80% of our current building stock is going to be here in 2050. The current refurbishment rate for commercial buildings is about 1-2% per year. To get to Net Zero, that rate has to double, to about 3% per year.

This is not just about climate mitigation. We're also looking at climate adaptation: how the impacts of climate change that we're already seeing, like heat stress, drought, and flood risk, are going to affect our buildings.

We're looking at the impact on nature: how buildings interact with nature, and how nature can be part of the solution.

And then we mustn't forget the social impact of buildings. Buildings sit in communities; so they have a massive impact in terms of how they can create good or bad environments.

## SHIFTING MINDSETS

Sustainability is increasingly part of big institutional investors' thinking. Some asset managers recognise that it's core to good asset management; if you're looking for finance to upgrade a building, you have to think about sustainability.

During the 16 years I've been at JLL, we've gone from having to explain the business case to our clients, to them understanding that they need a strategy – and us helping them develop a Net Zero pathway aligned with the Paris Agree-

ment and science-based targets. Then we help them understand how exactly they deliver that strategy, and how this impacts the way they manage or lease their buildings.

Of course, there's a long tail of those asset owners who find this much more challenging – perhaps because they've got less resource, or they've got secondary assets in secondary locations. If you have an industrial shed in the middle of Wales, for example, the economics of that asset look very different. So dealing with assets like that is more challenging.

But for the larger, shinier assets, our research is increasingly showing us that there are price advantages, and rental advantages. So the value is there; the return for the investor will be there. And on the occupier side, if you invest in making the asset energy efficient, you're going to benefit from lower costs.

## TWO KINDS OF SOLUTION

From an operational emissions perspective, we ask our clients: what targets do you have in terms of energy efficiency or Net Zero carbon, and what's your trajectory to get there? Then we look at where they need to invest, to get their buildings running in an optimal way.

You might start with small upgrades to the building: easy installs that can be done while tenants are *in situ*. Then you might look for a big intervention point – a lease break, or an opportunity to move tenants around the building – so you can do lighting upgrades, or install a new Building Management Software (BMS) system, or change the windows to double-glazing – the kind of interventions that can really make a step change in reducing emissions.

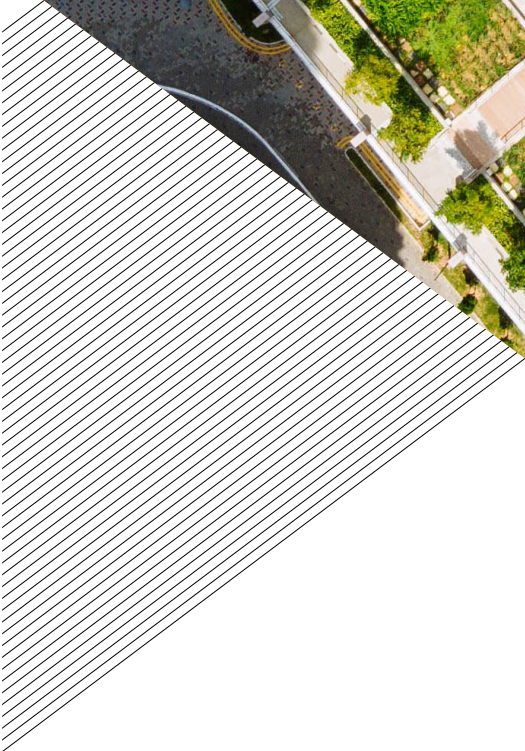
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*Sustainable buildings  
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You can also look at what type of energy you're procuring – moving from fossil fuel-intensive energy to purchasing renewable energy.

Then there are solutions related to embodied carbon, the carbon that goes into making a building. That's complicated for a new build. But for the 80% of the current stock that we need to retrofit, the best thing may be to keep the structure as it is, and change the building around it. Though that brings challenges too: how energy-efficient can the building can be in its existing structure?

So it's important to think about carbon over the whole life of the asset – not just the operational and embodied phases, but also the disposal of the building.

There's a much better understanding now about the role of retrofit; there's much more of a 'retrofit first' approach.

Equally, some buildings just don't work – in terms of energy, or how they sit in the community, or the value that they bring socially. So it's a fine balance. It's not the case that you must always retrofit. It needs to be decided on a case by case basis – which can be challenging for clients with a large portfolio of buildings.

Technology is absolutely part of the solution here. People often interact with buildings in inexplicable ways; so what can we take away from individuals and control centrally? For example, we can use sensors to tell us which space is occupied and which is less occupied – and therefore what we should do with the heating or air conditioning or ventilation in those spaces.

But we also need to think about the way we use these environments (particularly offices), and take responsibility ourselves to operate differently in those environments. For example, if we have a really hot summer, you want to air-condition the building down to a tempera-

ture that makes sense – so do you really need people dressed in suits and ties?

### A SHORTAGE OF SUPPLY

We've seen a massive shift in occupier demand for Net Zero space over the last few years.

It does depend on the tenant, to some extent. For retailers, most of their carbon footprint is in their supply chain. But for service businesses – banks, law firms, etc – their footprint mostly comes from their buildings, so they will really drive hard to reduce emissions.

At the moment, occupier demand far outstrips the supply of Net Zero carbon space. In fact, in places like London and Paris, demand is double the supply. So logically, that should create a premium in terms of rents and capital values – and we're certainly seeing that come through in the market.

For central London offices, for example, any BREEAM certification led to a capital value uplift of 20.6%, and additional rent of 11.6%. Similarly, with each step in the EPC, we saw a capital value uplift of 3.7%, and an additional rental premium of 4.2%. It also reduced void rates in the regional markets. There's less material impact in these 'secondary' markets at the moment, as you've got some tenants who are less bothered about the space they occupy, so the demand isn't quite there. But we're expecting a minimum requirement of EPC B by 2030, which will have a material impact on the rental market across the UK.

Generally, the banks are much more attuned to the risk of lending to projects and companies that don't have sustainability on their agenda. It's a normal way of assessing the risk of a loan now.

So the finance is there; but the banks need to make sure they've got the right criteria in place. At the moment, there's

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no consistency. There are lots of frameworks out there, but they're often designed for the investment market more broadly. Real estate is more complicated, because it's a physical asset that has its own context around it.

What we're also seeing is banks looking at their back books. That's where I think a lot of the risk lies: in those loans that were given out many years ago. You can do lots of analysis of those loans now as to how big that risk is, and what the potential value risk is if these buildings can't respond to climate change.

### MAINTAINING THE TRAJECTORY

The three things I would most like to change about this market are all policy, policy and policy.

First, we need to have a clear trajectory. And we need to have the right levers and incentives in place – so the supply chain is there and can deliver what the market needs. At the moment, we don't have that in the UK. It'll be interesting to see the impact of the U.S. Inflation Reduction Act on UK decarbonisation R&D and innovation groups. I think we're going to see a lot of them go over to America, just because they've got that certainty on what the trajectory looks like.

The second area is better landlord/ tenant collaboration – ensuring that tenants understand what landlords want, that landlords understand what tenants want, and finding those win-win areas. Green Leases are a good mechanism for that; a lot of work has been done in the last year to create better green lease clauses.

The third point is that we are so focused on Net Zero carbon and decarbonisation at the moment; but if you look left and right, you see climate adaptation, and nature protection, and some of the social impacts. I want to make sure that

we don't have this single complicated agenda item without also thinking about these other risks and opportunities – because they're all part of the same solution.

It's my job to be optimistic, but also realistic.

The realism: it is going to be challenging to keep up with the pace at which we know we need to move to align with the Paris trajectory. Everyone takes time to go on the journey. And it's going to take a bit of a generational shift: slowly we'll see those who've had sustainability in their education since they started school start to come through. (We're definitely seeing that in our graduate intake).

But I also have to be optimistic, because we have to get there – the impacts of not getting there are so enormous. So we will get there, we will transition. And we know we can do it: the response to Covid was a good example of how people can respond and adapt their ways of working. Let's take some of that thinking, some of that pace, and apply it to this crisis – which will continue to hit us in much more obvious ways over the next few years.

So I'm a realistic optimist. It will happen; but it's the pace at which it happens that is going to be the real challenge.

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*As Head of Sustainability for JLL UK, Emma leads on commercial and corporate sustainability agendas, working with a growing team of over 100 sustainability professionals across the UK. Her role is to build on JLL's 20-year sustainability heritage and support its clients with innovative, holistic solutions. Emma joined JLL's sustainability consulting team in 2007, before moving into the central team as Head of Sustainable Client Solutions in 2020. Emma sits on the UK Executive Board, ensuring that JLL's sustainability agenda remains core to decision-making and business strategy.*



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