



NET ZERO, WHY NOW?

May 2021



Why consider net-zero now?

There is growing recognition of the urgency to address net zero now in the market. Over the past twenty-four months, investor members of the Principles of Responsible Investment (PRI) have joined forums, including the Net Zero Asset Managers Initiative (NZAM) and the Net Zero Asset Owner Alliance (NZAOA). The NZAM represents \$37 trillion of assets under management, and the NZAOA has \$5.7 trillion with a commitment to 'transition investment portfolio to net zero GHG emissions by 2050'¹. These pledges are cascading into real estate investments.

"No company can easily plan over 30 years, but we believe all companies – including BlackRock – must begin to address the transition to net zero today."²Larry Fink, BlackRock, January 2021.

Real estate investors representing over £300 billion of AUM have signed up to net zero commitments, the demand for net zero portfolios is skyrocketing – led by requirements from investors, tenants and of course, the UK government's commitments. 70-80% of buildings in-use in 2050 have already been built today³, meaning we will need to develop long-term decarbonisation plans on standing assets.

As the articles will discuss, there are many benefits to building or refurbishing an asset in line with industry best practice; this includes improved rental premiums⁴, reduced voids, improved capital value⁵, or access to green finance.

Conversely, there are risks associated with not factoring in net-zero requirements over the next ten years. Growing legislation, investor and occupier requirements and governmental pressure will result in brown penalties and stranded asset risks across building stock.

IPSEX has worked in partnership with Carbon Intelligence to produce three articles that explore:

1. What does net zero mean for real estate and why now?
2. Transparent environment, social, and governance (ESG) reporting.
3. How real estate valuations could be impacted by net zero.

¹ Source: <https://www.unepfi.org/net-zero-alliance/>

² Source: <https://www.reuters.com/article/us-blackrock-governance-ceo-letter-idUSKBN29VIEK>

³ Source: <https://www.jll.co.uk/en/views/net-zero-carbon-and-the-circular-economy-impact-on-value>

⁴ Source: *Developing the business case for net zero carbon buildings in central London* by JLL

⁵ Source: *Real Investment Analytics report on Australian Green Office Property Indicators 2020*

What is Net Zero?

The World Green Building Council (World GBC) and their UK body have collaborated with leading real estate professionals in providing frameworks and guidance on how to deliver net-zero credibly. The World GBC defines a net zero building as:

“A net zero carbon building is a building that is highly energy efficient and fully powered from on-site and/or off-site renewable energy sources.”

The WorldGBC is a non-profit organisation with a global network of national Green Building Councils (GBCs). They have been active since 1993 with a mission to promote uptake of sustainability practices in the built environment sector. They are seen as credible leaders in the field across the world bringing together various built environment stakeholders to deliver high impact results.

What is important about this definition is the inherent hierarchy within it. The primary objective of net zero buildings is that they are highly efficient. This means they deliver a quality workplace for the lowest energy possible, and whatever energy that is used should be zero carbon.

Another fundamental point is that this definition is at the building level, and thus includes tenant areas. This means that a net zero building is a collective exercise which needs the landlord to collaborate with tenants to deliver the outcome.

In this light, it will be difficult for buildings to become net zero without a sophisticated combination of governance and engagement as well as the technical performance aspects of decarbonisation.

Definitions

UKGBC's Advancing Net Zero programme has developed a clear and credible framework that is now widely used by property professionals. There are two key sets of definitions in this framework⁶:

1. Understand the difference between net zero construction, operations, and whole life carbon:
 - a. Net zero construction:
 - i. Minimise the impact of materials and construction until practical-completion.
 - ii. Offset the remaining carbon.
 - b. Net zero operation:

⁶ Source: UKGBC Advancing Net Zero Framework; <https://www.ukgbc.org/ukgbc-work/advancing-net-zero/>

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- i. Design/refurbish buildings to use minimum energy. This is expected to be 70% less than today's typical usage due to constrained supply of renewable energy in the years ahead.
 - ii. Use renewable energy to power the building.
 - iii. Offset any remaining carbon balance.
 - c. Net zero whole life carbon:
 - i. Meet net-zero construction and operations requirements and offset carbon from repairs, maintenance, fit outs, and disposal of a building over its lifetime.

2. Define energy performance and greenhouse gas accounting (also known as carbon accounting).

- Scope 1: These are direct emissions from greenhouse gases emitted from the site. Typically, this is natural gas, but could include diesel generators. A net zero building should not emit, so these must be collectively net zero.
- Scope 2: These are indirect emissions where the emissions are not on site but converted to energy which is used on site. This is most often electricity but could include district heating.
- Scope 3: These are all the other emissions that happen from a company's activities and typically account for over 85% of real estate company's entire footprint⁷. Example activities include⁸:
 - A building developer reporting emissions from construction materials used in a new building.
 - A building owner (lessor) reporting emissions from the energy use of a tenant (lessee).
 - An employer reporting emissions from employees commuting to work.

Where did it come from? How did it become important?

The UK Government and European Union (EU) have made commitments that align with the 2015 Paris Agreement and aim towards net zero emissions by 2050, providing a clear signal of the direction of travel for economies throughout Europe. The buildings sector is responsible for 34% of total UK greenhouse gas emissions according to the Committee on Climate Change⁹. This means buildings have a key role to play in achieving our national net zero targets and the government is rapidly tightening regulation or releasing consultations that will eventually turn into

⁷ Source: <https://www.ukgbc.org/wp-content/uploads/2019/07/Scope-3-guide-for-commercial-real-estate.pdf>

⁸ Source: CDP, Carbon Credentials (2017), Summary of emissions reported by UK commercial real estate companies to CDP in 2017

⁹ Source: <https://www.theccc.org.uk/wp-content/uploads/2014/08/Fact-sheet-buildings-updated-July-2015.pdf>

law such as the most recent plans to introduce a new performance-based energy rating scheme for commercial buildings.

Within the Commercial Real Estate sector there has been a significant shift in recent years towards risk-averse and "future-proof" investments. This has been driven by the increasing realisation of climate change as a global issue likely to impact long-term environmental, social, and economic stability.

"40% of investors put climate risk and disclosures as their most concerning ESG issues over the next 5-10 years" -GRESB, April 2020

With increasing legislation and investor pressure to manage climate risks, Commercial Real Estate organisations will be required to address the carbon impacts of their portfolios; the key question is when and how. By taking a proactive approach, investment in net zero buildings and refurbishment will reduce risks of assets becoming unattractive to tenants and future buyers and therefore loss of valuation, the so-called "Brown Penalty".

"We consider it as highest priority to reduce the carbon footprint of all our assets and fight global warming. A reduction of emissions in the real estate sector – which accounts for approximately 40% of global greenhouse gas emissions – will have a considerable impact on global decarbonization. Our position, size and influence allows Allianz Real Estate to lead by example," said Dr. Raphael Mertens, Chief Risk Officer at Allianz Real Estate¹⁰.

Noticeable large asset managers have made commitments. As part of the NZAM initiative, BlackRock and Vanguard have committed to achieving net-zero emissions by 2050. "BlackRock and Vanguard contribute almost half the total NZAM signatories' assets under management of \$32 trillion, giving them tremendous influence on the course for net-zero implementation."¹¹ Several of the large asset managers, such as LGIM and Schroders have clear pathways to be net zero by 2050 across their properties. Federated Hermes has the earliest 2035 real estate net zero target for an asset manager. Others such as Nuveen and Aviva Investors have net-zero commitments relating to their debt business that provide cheaper debt for companies willing to sign up to KPIs relating to the decarbonisation on real estate portfolios.

¹⁰ Source: <https://www.allianz-realestate.com/en/newsroom/press-releases/29-04-21-allianz-real-estate-targets-25-percent-reduction-in-global-carbon-emissions>

¹¹ Source: <https://www.greenbiz.com/article/four-ways-blackrock-vanguard-can-advance-net-zero-movement>

What are some tools and initiatives that can be used to define a Net Zero target?

In commercial real estate in the UK there are two common frameworks which real estate companies commit to net zero targets through: The Better Buildings Partnership's (BBP) Climate Change Commitment and the World Green Building Council's (WorldGBC) Net Zero Carbon Buildings Commitment. These fit alongside other investor frameworks which are not specific to commercial real estate such as the Net Zero Asset Owners Alliance and the Net Zero Asset Managers Initiative.

All these commitments help organisations establish their targets within a common framework and communicate them to stakeholders in a coherent way. The WorldGBC Net Zero Buildings Commitment has over 110 organisations committed globally. The BBP Climate Change Commitment has 28 organisations and represents over £300bn of global assets under management (AUM).

Not all assets decarbonise the same way

Each asset class has risks and opportunities in decarbonisation. For the most part, discussions on decarbonisation have been focused on newer offices and residential units, but each type of asset has unique challenges.

Offices can have centralised plant and systems to control the building, which means that improving the central plant and improving controls are a clear step forward. Smart building technology can improve the efficiency of the building while also addressing wellbeing and the quality of the workplace experience.

Retail presents a different set of challenges as most retail units have independent supplies and controls. While the typical retail unit has less sophisticated energy demands, their relative decentralisation means there is much greater emphasis on collaboration across a retail park or shopping centre. However, the opportunities are also more significant. The British Retail Consortium have reported that a 20% reduction in energy use provides the same financial benefit as a 5% increase in sales growth. Energy efficiency improves the bottom line as well as reduces environmental impacts.

Logistics and industrial sheds are a unique challenge as they are a highly variable asset class. A shed that is used for storage has a dramatically different energy profile than one with manufacturing, and the opportunities to improve the buildings can vary significantly. Sheds also typically have shorter lifespans and are simpler construction, leading to opportunities to lead on circular economy techniques, meaning buildings which are designed to be deconstructed and recycled or reused.

Heritage and listed buildings that are common in city center locations across the country also have their own technical, planning, and listed building consent challenges but over the last few years we

have seen more and more innovations, successful case studies and uptake by owners of these assets.

These are a few of many examples of the diverse approaches to decarbonisation and some of the challenges within buildings which will need to be managed to retain value in the transition to net zero.

What does the near future contain for Net Zero?

In the UK, the net zero by 2050 ambition is driving a lot of focus on decarbonisation. In December 2020, the Government released its Energy White Paper, setting out the legislative intent over the next five years to address its pathway to net zero. While commercial buildings had only a small part to play in this document, there are important ambitions such as a performance-based energy rating and the requirement for Energy Performance Certificates (EPC) to be 'B' rated or better by 2030.

At local level we have seen a similar approach for example, the New London Plan and Greater Manchester Spatial¹² have made clear that new developments need to be designed and built to meet net zero requirements even at a faster pace. They recognise that buildings that are not built with such thinking will require retrofitting in the future, which will lead to additional cost, carbon emissions and retrofit challenges¹³.

Alongside this, several industry bodies are creating commitments to decarbonise which will have sweeping effects on how buildings are used. For example, the British Retail Consortium's Net Zero Pledge includes 63 major retailers who have all committed to net zero by 2040 but decarbonising their buildings by 2035.¹⁴ These retailers have extended supply chains which are much more challenging to decarbonise than the locations they rent, considered to be their "low-hanging fruit". Smart landlords will use frameworks like these to align values and retain or attract tenants with decarbonised buildings.

Finally, shareholder engagement on climate issues is on the rise. Investors are keen to retain value and sustainability has shifted from a perceived distraction from fiduciary responsibility to an essential component of their fiduciary duties, as topics like climate change are properly recognised as risks to value within their assets.

¹² Source: <https://www.greatermanchester-ca.gov.uk/media/3663/221020-agma-issue-opt.pdf>

¹³ Source: https://www.london.gov.uk/sites/default/files/the_london_plan_2021.pdf
https://www.london.gov.uk/sites/default/files/fhs_consultation_response.pdf

¹⁴ Source: https://brc.org.uk/media/676312/climateactionroadmap_final_rgb_updated.pdf

What can you do on existing building stock?

70-80% of buildings that will be in-use in 2050 have already been built today¹⁵. Also due to the high amount of embodied carbon associated with new developments, the best thing to do for the planet is to refurbish existing assets to heavily reduce energy and carbon intensity of poor performing assets.

Refurbishments often fail to deliver. Achieving net zero portfolios is difficult but achievable. To minimise risk and maximise impact in each refurbishment cycle it is important to take a long-term view with each refurbishment project. Having the right skillset, governance structure and detailed planning will help achieve net zero at the lowest possible cost.

There is every chance of missing opportunities in refurbishments. We have seen many buildings where plant and design are simply replaced like for like without a detailed review of today and future occupier requirements. For example, a common mistake is to replace building plant that is oversized without carefully considering the actual building's loads. Designers and engineers have the challenge of designing systems without having the data to determine real-life needs. Building owners should invest in capturing and extracting the data which will ultimately pay back in better performance, lower capex costs and lower embodied carbon.

Seven key steps to align existing building stock with net zero requirements:

1. Optimise building operation (commercial buildings are complex to operate and utilise automation systems. However, automation only works efficiently when the underlying control logic has been fine-tuned). Optimisation will help bridge the performance gap between building design and operation.
2. Upgrade plant and systems to benefit from efficiency of new technology. It is important to consider whether the operational energy and carbon savings outweigh the associated embodied carbon with these retrofit projects over its design life.
3. Maximise passive design and natural ventilation where possible.
4. Eliminate fossil fuels such as gas through replacement to heat pumps or connecting to local low carbon heat networks.
5. Upgrade building fabric, glazing and airtightness in line with individual components' life cycles.
6. Install on-site renewable energy where possible and source your energy from renewable sources.
7. Have a strong occupier engagement programme, bearing in mind the importance of people and collaboration.

¹⁵ Source: <https://www.jll.co.uk/en/views/net-zero-carbon-and-the-circular-economy-impact-on-value>

Some of these measures can be deemed expensive but with increase in demand, new regulation, and the expected increase in cost of offsets the business case for all above items will become easier to justify, especially as New Net Zero aligned developments are expected to cost between **8-17% more** than a standard BCO compliant asset¹⁶.

Plan for the future

Demand for net zero is set to skyrocket. You will need a clear strategy and vision and be able to cascade that vision down to support individual portfolios and assets.

We are in a transition phase of buildings being bought and developed that seem acceptable by today's standards but in five years' time our definition of net zero will have shifted and crystallised into something more concrete. It will become clear very quickly that those who have not taken key factors into consideration very well may have wasted five years.

What can you do next?

- Our biggest tip is to start your net-zero journey now by building your business case and looking at the whole life carbon of your portfolios. If you decide not to, we believe regulation and the rising costs of carbon will mean that you will not have a choice in the future.
- Refine your ambition. Do you want to be ambitious, leading, or reactive? Typically, our clients want an ambitious pathway, giving more room for manoeuvre in the future.
- Determine where the key internal stakeholders stand when it comes to net zero.
- Define your approach, develop a governance and data process.
- Engage with your occupiers and bring them on your journey.
- Review your long-term CAPEX and OPEX plans, acquisition due diligence process, and disposal strategy.

¹⁶ Source: *Building a Case for Net Zero report by UKGBC, Landsec, Horea Lea* by UKGBC, Landsec and Horea Lea

IPSX & Carbon Intelligence

IPSX has partnered with Carbon Intelligence to afford all admissions to the exchange clear guidelines for how they should be reporting and managing both embodied and operating carbon emissions.

By taking a proactive approach and drawing on Carbon Intelligence's expertise, assets listed on the International Property Stock Exchange, will have absolute transparency and regular reporting of the carbon emissions of those single assets allowing investors to run more effective ESG-aware portfolios.

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