

# The Impact of Net Zero Carbon

## Introduction

Global energy-related emissions need to be net zero by 2050 in order to have an even chance to limit global temperature rise to 1.5 °C.<sup>1</sup> Warming beyond this level will significantly increase the frequency and intensity of extreme weather events and sea level rise. In turn, these changes will severely affect biodiversity and ecosystem services, cause broader economic disruptions, and severely impact human life.

Real estate is at the centre of efforts to limit these changes and decarbonize energy supply and consumption. Buildings are responsible for about 40% of the EU's total energy consumption, and for 36% of its greenhouse gas emissions from energy<sup>2</sup> and therefore plays a crucial role in EU decarbonization efforts. In several cities in Europe, the impact of emissions from real estate is much larger.

In recent years, new regulatory initiatives (e.g. EU SFDR, EU Taxonomy, FCA's climate related disclosures) were launched to address the energy use and carbon emissions in the

built environment. These generate both risks and opportunities for the non-listed real estate industry.

To support actions among INREV members and the wider real estate industry, this briefing paper seeks to define what net zero carbon is and offer practical considerations on the aspects that should be taken into account when developing a net zero carbon strategy for a real estate investment vehicle, at both asset and portfolio level.

## What is a net zero carbon building?

Net zero carbon is defined as that point when “anthropogenic emissions of greenhouse gases to the atmosphere are balanced by anthropogenic removals over a specified period”.<sup>3</sup> With regards to real estate, net zero carbon is when the carbon emissions emitted as a result of all activities associated with the development, ownership and servicing of a building are zero or negative.<sup>4</sup> This definition encompasses the entire life cycle of a building, including construction, operation, refurbishment,

and demolition, and includes emissions associated with whole-building energy use during the operational phase (operational carbon) as well as emissions embodied in building materials during the construction phase (embodied carbon). The net zero carbon balance has to be achieved on an annual basis. Consequently, these emissions include those attributable to the ownership of the real estate and from the activities of tenants in occupation.

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<sup>1</sup> International Energy Agency(IEA) net zero by 2050 report

<sup>2</sup> Boosting building renovation for climate neutrality and recovery - European Commission, 2020

<sup>3</sup> IPCC Special Report: Global Warming of 1.5 degrees

<sup>4</sup> BBP Net Zero Carbon Framework

## What is a net zero carbon target?

A net zero carbon target represents a quantitative target that identifies when a building, portfolio, or investment vehicle will achieve net zero carbon. Since there are already many definitions and frameworks that define net zero carbon, this paper provides references to the definitions that are relevant to the real estate industry, rather than creating a new definition.

The Science Based Target initiative (SBTi) defines corporate net zero as “reducing scope 1, 2, and 3 emissions to zero or to a residual level that is consistent with reaching net-zero emissions at the global or sector level in eligible 1.5°C-aligned pathways. In addition, it should neutralize any residual emissions at the net-zero target year and any greenhouse gas emissions (GHGs) released into the atmosphere thereafter.”<sup>5</sup> The target should also be disclosed to investors and the scope of the target should be clearly defined. The scope can be limited to operational carbon, embodied carbon, or both.

The UK Green Building Council developed a net zero carbon framework<sup>6</sup> which sets two main approaches for a net zero carbon target:

- A net zero carbon target for operational energy use has to include landlord-controlled energy consumption for common

spaces (Scope 1 & 2 emissions) and should also include occupier energy consumption (Scope 3 emissions). Net zero operational energy can be defined as “when the amount of carbon emissions associated with the building’s operational energy on an annual basis is zero or negative.” “A Net Zero Carbon building during the operational phase is highly energy efficient and powered from on-site and/or off-site renewable energy sources, with any remaining carbon balance offset.” A Net Zero Carbon building must also be entirely powered by fossil free energy and can therefore have no onsite gas or other fuel.

- A net zero carbon target for embodied carbon can be limited to operational energy use at the construction site, and/or carbon embodied in the manufacturing of building materials, and their transportation to site. The targets could also include the scope 3 emissions emitted by all stakeholders related to the construction process. Net zero embodied carbon can be defined as “when the amount of carbon emissions associated with a building’s product and construction stages up to practical completion is zero or negative, through the use of offsets or the net export of on-site renewable energy.” When the building has been acquired as a standing investment, the embodied carbon is fixed. When the embodied carbon cannot

be influenced anymore, the focus should be on offsetting any remaining embodied carbon from the standing investment and minimizing the operational carbon. Further guidance on the type of offsets and relevant frameworks is outside the scope of this paper.

A net zero carbon target should be accompanied by interim targets at intervals meaningful to the reporting investment vehicle (e.g. one-year, three-year, five-year) that allow investors to monitor the progress and impact of acquisitions/divestments and underlying operational actions toward reducing energy and/or carbon-intensity. Investment vehicles should establish a baseline year, a target year, and an ambition expressed in absolute or percentage reduction.

## Why set a net zero carbon target?

Establishing a net zero carbon target to guide the investment and asset management strategy of a real estate investment vehicle can have a number of benefits in today’s market environment:

- Mitigate compliance risk: Many governments have set climate policy objectives that, if implemented, will transform how energy is produced and consumed.<sup>7</sup> Building regulations are emerging that set requirements for

<sup>5</sup> SBTi Corporate Net-Zero Standard, version 1.0, October 2021

<sup>6</sup> UKGBC Net Zero Carbon Buildings: A Framework Definition

<sup>7</sup> For example, The Dutch government undertook multiple actions to prevent climate change and are agreed upon in the Climate Act and the National Climate Agreement

disclosing and reducing energy use in buildings, and reducing related carbon emissions.<sup>8</sup> This adds risks to assets and portfolios that are managed within a broader strategy of making investments that reduce energy use and carbon emissions.

- **Meet tenant demand:** More and more companies are setting their own net zero carbon targets for their entire business, including the emissions associated with their own corporate offices. To attract and retain employees, many companies seek to offer their employees green, healthy, and efficient offices. While there is uncertainty as to how net zero carbon will either positively or negatively affect the value of specific buildings, the overall trend suggests an increased demand for leased space in buildings that are managed in accordance with a net zero carbon target.
- **Improve operational efficiency:** Investments in energy efficiency help reduce the risk of volatile energy prices and cut utility costs. When energy consumption goes down, the service charges will decrease as well. The prospect of lower energy costs may mean tenants are willing and able to afford to pay more rent, which creates an economic incentive for owners to invest in operational efficiency. The anticipated introduction of carbon taxation is also likely to increase the cost of energy consumption in the coming decade.

- **Reduce cost of capital:** Investment vehicles with green assets may be able to attract more capital at lower cost, as investors attach a brown discount to buildings that do not meet established sustainability criteria. This trend may be strengthened by the EU taxonomy regulation, which will increase market transparency and make it easier for investors to establish whether a new construction project, rehabilitation or acquisition of property is 'green' or 'brown'.

Net zero carbon targets are relevant to all investors, investment managers and investment vehicles, but each will have to tailor it to their specific investment management strategy and their planned holding period. For example, investors and investment managers of closed end value add vehicles should still assess the transitional risks that occur in the future and act where feasible.

### How to set a net zero carbon target

Setting a net zero carbon target should be guided by the investment strategy and asset portfolio of the investment vehicle.

Investment managers in consultation with investors should consider the following steps:

- 1 Define a net zero carbon strategy. This includes timeline, scope and ambition.

- 2 Create a business case. This involves calculating the investment needed to achieve net zero carbon and the expected return on investment (ROI). This is likely to require a combination of building level audits and cost and return assumptions based on published reports and external advice.
- 3 Develop a clear and suitable methodology to incorporate an assessment of net zero carbon costs and ROI into underwriting. This entails setting realistic timescales for the conversion of buildings to net zero carbon.
- 4 Establish a measurement framework and baseline carbon footprint. Identify data gaps and develop a strategy to gather missing data.
- 5 Implement actions to achieve net zero carbon through asset management and in the due diligence process when acquiring new assets and/or divesting existing assets.
- 6 Regularly monitor, disclose and verify implementation of the net zero carbon strategy.
- 7 Continuous improvement of the net zero carbon strategy.

<sup>8</sup> For example, The Decret Tertiaire in France

## How to achieve a net zero carbon target?

Implementing a net zero carbon strategy should be guided by the following hierarchy of actions, including but not limited to<sup>9</sup>:



Minimise the operational carbon (energy, water & waste).



Explore on-site renewable energy generation.



Procure off-site renewable energy, for example renewable energy certificates.



Minimise embodied carbon associated with capital goods, services, and capital works.



Neutralise residual carbon emissions by purchasing high-quality carbon offsets.<sup>10</sup>

## Challenges when implementing a net zero carbon target

When implementing a net zero carbon target, there are challenges that both investors and investment managers face and therefore a clear and consistent approach is needed on how a net zero carbon target can be implemented by the real estate industry. Specifically, further work

is required by the industry to solve the following challenges in a consistent way, including but not limited to:

- Developments and refurbishments present challenges for energy and carbon efficiency. There is commonly a performance gap between design intent and operation in use in the real estate industry. Post completion reviews are therefore critical. Moreover, the carbon emitted during a major refurbishment may exceed the carbon emissions saved during the rest of the operational phase of the building. This should be taken into account when planning actions to achieve the target.
- There is a lack of standardised disclosures around net zero carbon targets and implementation. This is particularly relevant at the building level where there is as yet no certification that can tell a buyer or occupier if a building is net zero carbon. This will be essential if the anticipated 'green premium' is to emerge.
- There is a significant skills gap in the industry, with designers, engineers, developers, property managers, asset managers, agents, brokers, lawyers and many more in the industry all needing to incorporate a detailed understanding of climate risk and net zero carbon in order for the transition challenge to be met.

## Next steps

Given the broad array of factors influencing the setup and implementation of a net zero carbon strategy and target, INREV will work further with the industry to provide practical considerations to these challenges in the future. For example, by offering information and best practices on data metrics and tools to support a net zero carbon strategy and related disclosures to investors.

<sup>9</sup> BBP Net Zero Carbon Framework

<sup>10</sup> SBTi Corporate Net-Zero Standard, version 1.0, October 2021