

Not all net zero pathways are created equal

Pivotal questions for investors to ask

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Improving real estate's sustainability profile is pivotal to addressing climate change, as the sector contributes some 40% of global greenhouse gas emissions. But improving this sustainability profile isn't just a 'save the world' exercise: for building owners and associated stakeholders it is also vital to establish the necessary long-term action plans towards net zero to protect income streams and value and manage costs.

The current trend is towards publishing net zero pathways

Investors are demanding more precise disclosures to compare different investment products, not only in terms of returns or risks, but also progress towards reducing greenhouse gas emissions.

Net zero pathways represent a product's timeline of the 'path to net zero' based on the underlying real estate asset's operating emissions. Therefore, such pathways are helpful tools for comparing investment products' climate ambitions and progress over time. Additionally, net zero pathways help make the long-term decarbonization trajectory tangible, enabling real estate managers to review the impact of their planned decarbonization measures regularly.

While real estate managers in most countries have yet to publish net zero pathways for real estate investment products, large institutional real estate managers in Switzerland are already disclosing their pathways. Moreover, we expect this to prevail across other markets in the near term. As is so often the case, disclosure and transparency are the first necessary steps before we can assess actual progress and performance.

But, the devil is in the detail. Disclosure alone is not enough

Currently, there are no binding industry-wide standards for calculating and presenting net

zero pathways. Thus, real estate managers and investors can only loosely compare real estate products' pathways as approaches, parameters and assumptions vary by product. Until industry-wide standards are established, investors should scrutinize the detailed assumptions and parameters applied by real estate managers in their net zero pathways. Not all pathways (and disclosures) are created equal.

Top five pivotal questions to ask when considering net zero pathways:

1. WHICH TYPES OF EMISSIONS HAVE BEEN CONSIDERED IN THE NET ZERO PATHWAYS?

Net zero pathways show the expected development of emission intensities over time, measured in CO₂-equivalents (CO₂e) per annum per reference area. When comparing projected emission intensities between products, it is vital that investors check which types of emissions and which reference area is considered. Owner-controlled emissions from real estate operations are assigned to Scope 1 or Scope 2.

- **Scope 1** emissions are direct emissions from the combustion of fossil fuels in gas or oil heating systems installed in the property itself.
- **Scope 2** emissions are indirect emissions that arise from the purchase of district heating as well as electricity for central systems and common areas.
- **Scope 3 Category 13 emissions (3.13)** are indirect emissions that arise from tenants purchasing electricity in their rental spaces. They are heavily dependent on tenant activity with limited landlord control or influence.

Large institutional real estate managers in the EU and the Americas are increasingly using the Carbon Risk Real Estate Monitor (CRREM)

tool to calculate net zero pathways and as an internal planning and risk management tool. In addition to Scope 1 and Scope 2 emissions, Scope 3.13 emissions are also included.

The adoption of CRREM by real estate managers has grown substantially over the past few years and already surpassed USD 1.3 trillion AUM, yet it remains unusual for real estate managers to lay open their decarbonization pathways to investors. Switzerland is ahead on the transparency curve in this respect, with most large Swiss institutional real estate investors already publishing net zero pathways in their products' annual reports as good market practice. However, those net zero pathways to date include both Scope 1 and Scope 2 emissions, while excluding Scope 3.13 emissions.

While it is common in many markets to compare properties by Gross Floor Area, local market practices may differ. Since calculated emission intensities may vary widely depending on which scopes, greenhouse gas emission factors and reference area have been considered for the calculations, investors may need to adjust for such differences when comparing products, especially when doing so across geographies.

2. WHICH DATA HAS BEEN USED TO DEFINE THE BASELINE?

Net zero pathways start with a baseline, comprising an emission intensity at the outset of the decarbonization journey at year zero. To ensure an appropriate baseline, real estate managers should strive to use measured consumption and emission data for their properties. Where such measured data does not exist, which is often the case with Scope 3.13 data or with newly purchased or developed properties, real estate managers may depend on estimated data (often based on extrapolated

previous periods' measured data).

Where consumption and emission data is completely unavailable, market standard benchmark data may have to be applied to fill any final gaps. Where sophisticated building software solutions are available, consumption and emissions may also be calculated through model estimations.

To promote data quality, real estate managers should evaluate each asset's metrics with the support of sustainability specialists, regardless of the data sourcing method used. Where in doubt about the source of the applied baseline data, investors are advised to enquire regarding the details and steps undertaken.

3. WHICH FUTURE DECARBONIZATION MEASURES HAVE BEEN CONSIDERED IN THE NET ZERO PATHWAY?

A further component of net zero pathways is the application of bespoke decarbonization measures for each building over time, and the estimated resulting energy consumption and emission savings on property and portfolio level.

Reducing a property's energy demand can help decrease its Scope 1, Scope 2 and Scope 3.13 emissions and is generally the first priority in any decarbonization plan. For instance, improvements to the energy performance energy of the building envelope can materially reduce a property's energy consumption.

A change from fossil fuel-based heating systems to renewable heating systems helps reduce energy consumption and emissions, as do improvements to the energy performance or retrofits of the various MEP (Mechanical, Electrical, Plumbing) and other technical installations within buildings.

This list of potential measures is non-exhaustive and depends on the specific nature and state of each real estate asset.

Producing electricity on-site with photovoltaic systems, is a further priority followed by purchasing off-site green energy, after maximizing energy efficiency.

4. HOW DEEP HAS THE LEVEL OF RETROFIT ANALYSIS BEEN ON A PROPERTY LEVEL?

Portfolio net zero pathways are, by nature, high-level and do not give detailed insight into the considered retrofit measures for each underlying building. Furthermore, they do not give insight into the way energy consumption and emission savings from retrofit measures have been calculated. Therefore it is up to investors to request details on the methodology and calculations applied to each building level.

Important questions to ask are: Have the retrofit measures been identified through an on-site energy audit of each property, or have they been identified merely on a desktop basis? Has the technical feasibility of retrofit measures been thoroughly investigated or have standard assumptions been applied across a portfolio?

This will give investors valuable insight into the reliability of the real estate manager's decarbonization estimations.

Also, further clarity may be needed regarding the consideration of the effects of procurement of off-site green energy and carbon offsets, which should almost always be the last resort and final step in any decarbonization plan. It is helpful to understand to which degree a product's net zero pathway is driven by actual on-site improvements of energy efficiency and emission reduction, and to which degree the prognosed emission reduction may be driven by off-site energy purchases or offsets.

5. HAVE THE RETROFIT MEASURES IN THE NET ZERO PATHWAY BEEN REFLECTED IN THE PRODUCT'S CAPEX PLANNING?

The remaining time horizon to achieve net zero emissions by 2050 is just over a quarter of a century, yet real estate managers' capex budgeting horizon usually extends to a period of only 10 years. This leaves a time span of 15 years until 2050 in which retrofit measures are not necessarily accounted for in a typical capex budgeting cycle.

Since net zero pathways alone give no insight into the capital side of the retrofit planning,

investors are advised to scrutinize the financial soundness of the net zero pathway planning by asking the following questions: Have the retrofit measures in the net zero pathway been fully considered in the capex planning? Has this capex planning been fully reflected in the properties' valuations? Have long-term end-of-service-life retrofits been considered in both capex planning and valuations, and if so, how? Have retrofit costs been calculated on the basis of actual project references or on the basis of benchmark data, and do they comprise ancillary costs as well as any buffer for potential price rises?

The degree to which real estate managers can give insight to the cost component of retrofit planning can provide investors with vital clues regarding the financial soundness of a product's net zero pathway.

Conclusion

Until binding industry-wide standards have been defined for net zero pathway calculations, investors need to scrutinize the details of applied parameters when comparing pathways between different products.

By asking the relevant questions, investors can play a vital role in driving ever higher transparency standards in net zero pathway reporting.

Leading real estate managers are monitoring net-zero related regulatory and market developments both in their home markets and internationally to act and plan with foresight. It is recommended that all real estate managers verify their net zero pathways and their respective capex budgeting for each property regularly. In addition, if necessary, update the catalog of measures to ensure that the pathway's implied annual targets are achieved as each year passes. Investors have an important part to play in continuing to engage and push their real estate managers to remain focused and ambitious in their net zero approaches. This holds them accountable by asking informed and sensible questions to raise the bar.

¹Source: World Green Building Council, Embodied Carbon - World Green Building Council, worldgbc.org, 2019

²The CRREM tool was developed as part of an EU-funded project. Excel-based and initially only available to EU member states, it now offers science-based reduction pathways for real estate in 44 countries in Europe, America, Asia and Oceania [Source: www.crrem.eu].

³Source: CRREM, ULI and Berkeley Lab Join Forces - CRREM Project, 2023

⁴Switzerland for example uses an official reference area for emissions, reporting the so-called Energy Reference Area (in German "Energiebezugsfläche" or "EBF"), which is the sum of all floor areas above and below ground that lie within the thermal building envelope and require heating or air conditioning for its use.

⁵Whereby using standard assumptions across a portfolio may allow real estate managers to identify key drivers for decarbonization across portfolios, on an individual property-level this may lead to misleading results. For instance, a property may have a listed historic façade where only minor energy-related improvements to the façade may be possible. Assuming a full energetic refurbishment of the façade might lead to an overly optimistic decarbonization prognosis of such a property.

⁶From a grey emissions and capital allocation perspective there may be good reasons to schedule the exchange of major retrofit items such as the MEP and the building envelope at the end of their service life, which for recently constructed or exchanged items may be long after the 10 years capex budgeting horizon.