Insights
Alternatives

September 2020

Sustainable Real Estate Investing

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Investing in listed real estate securities offers several benefits. Historically, the sector has provided competitive long-term performance, an attractive and stable dividend yield and portfolio diversification. In addition, listed real estate can act as a hedge against inflation and is more liquid than direct real estate investments.

The sector has grown tremendously over the past decade fuelled by the growth of the securitisation of real estate and proliferation of real estate investment trust (REIT) regimes globally. Investors can gain exposure to a variety of listed real estate return streams using indexed strategies, including broad listed real estate securities, REITs only and focused exposure to rental or non-rental securities. Evaluating environmental, social and governance (ESG) characteristics has become a growing trend and now investors can access sustainability-focused listed real estate indices.

Why Sustainable Real Estate Investing?

The impact of climate change including from rising sea levels, hurricanes and floods pose a significant risk to buildings and infrastructure. There is therefore a solid rationale for sustainable investing in listed real estate.

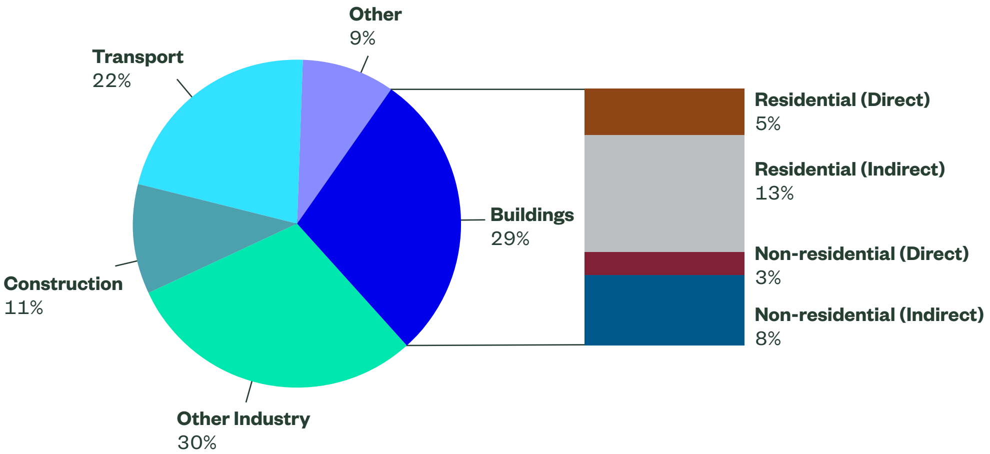
The combination of the following three factors help make a strong case for sustainable real estate:

1 The energy and resource intensive nature of real estate

Buildings account for **28% of global carbon emissions**,[1] over 10% of potable water consumption,[2] and **over half of global electricity usage**.[3] Heating, cooling and lighting make up roughly 60% of energy usage in buildings, with appliances and other miscellaneous uses accounting for the remainder.[3]

In addition, **the global built (or human-made) environment is expanding rapidly**. The UN estimates that over the next 40 years, buildings with an area equivalent to Paris will be constructed every single week.[4] Construction already uses an estimated 3 billion tonnes of raw materials annually.[5] Buildings are the world's biggest consumer of steel and copper and the principal application for concrete — which, after water, is the second most consumed substance on earth . These resources are often energy and carbon intensive to produce. For example, cement production alone accounts for 8% of global carbon emissions.[6]

Figure 1
Share of Global Energy-related CO_2 Emissions by Sector, 2015



Source: UNEP, 2017.[7]

This makes real estate a key part of the economy for achieving ambitious global emissions reduction targets, creating significant policy risk for investors in the sector. To keep global warming below 2 degrees Celsius (as mandated by the Paris Agreement), the real estate sector will need a 36% reduction in total CO_2 emissions by 2030, according to estimates from the World Bank.[8]

As policymakers seek ways to accelerate emission reductions, buildings with poor environmental performance face growing regulatory risks that could substantially reduce their asset value and liquidity. In 2018, the UK government outlawed the letting of residential or commercial buildings with the lowest F and G energy performance certificate (EPC) ratings,[9] whilst the Netherlands plans to prohibit the use of office buildings with ratings below EPC label C by 2023.[10] In California, recent legislation seeks to reduce the energy use from buildings by 20% by 2030, relative to 2015 levels.[11] Singapore currently requires newly developed properties to be certified, and aims to have 80% of its building stock (excluding logistics and industrial facilities) certified by 2030.[12]

2 **Alignment of investment and sustainability objectives**
Academic studies have identified links between better environmental performance and higher real estate asset values, higher occupancy rates, higher rental yield and lower operating costs. There is a growing body of evidence suggesting that strong sustainability performance contributes to better branding and higher asset values in the sector with several recent studies linking greener buildings to higher occupancy rates, higher rental values and reductions in operating costs.[13]

3 **Increasing availability of options for greening buildings**
In contrast to some other carbon-intensive industries, the real estate sector benefits from a range of well-understood, cost-effective solutions to reduce energy use and achieve carbon savings. Comprehensive decarbonisation may require sweeping changes, including the redesigning of cities or deploying novel types of construction materials, but substantial sustainability improvements can be achieved through routine measures such as energy-efficient design or state-of-the-art insulation.

For example, one recent study from the Leadership in Energy and Environmental Design (LEED), the world's most widely used certification system, found that LEED certified office buildings had on average a 13% lower site energy use intensity, 11% lower electricity usage, and 16% lower water usage, when compared to non-LEED certified office buildings . Existing buildings can achieve similar sustainability performance gains through retrofitting and refurbishing.[15] The latter is particularly relevant in mature economies, with the United Nations Environment Programme (UNEP) estimating that for OECD countries, 65% of the total expected buildings stock in 2060 has already been built.[16]

Achieving Sustainable Real Estate Investing

Driven by the three factors above, some investors, and large asset owners in particular, have begun to set increasingly ambitious sustainability targets across their asset allocations. However, compared to other asset classes like equities and bonds, there are **limited tools available today** to help investors **to systematically factor in climate and other sustainability concerns** into large real estate investment portfolios.

Lack of Data: The Main Hurdle to Green Real Estate Investing

A lack of comprehensive data to evaluate the sustainability performance of real estate assets has been among the primary hurdles faced by investors attempting to integrate climate considerations more effectively into real estate investment strategies. Benchmarking initiatives and various green certification schemes have made critical contributions in stimulating better disclosure in the real estate sector. However, despite an increased number of real estate companies disclosing on their sustainability performance, investment-grade data is still not widely available to investors.

At the individual property level, efforts have largely focused on the development of green certification schemes, which have expanded rapidly following their introduction in the 1990s in Europe and the US. A recent study estimates that almost 20% of office floor space across 10 developed markets in Australia, Canada and Europe is now certified as 'green' versus just 6.4% in 2007.[17]

LEED now reports certifying 2.4 million square feet of floor space per day, with more than 94,000 certified projects in 165 countries.[18] BREEAM (Building Research Establishment Environmental Assessment Method), another leading green certification scheme, reports having issued over half a million certificates across 79 countries.[19]

The proliferation of large numbers of competing, mainly voluntary standards with limited coverage has, however, made it difficult to apply this data systematically as part of investment strategies.[20] These challenges are compounded at the portfolio level, especially where this involves comparisons across different types of real estate in multiple countries.

While real estate companies have made tangible progress with disclosing increasingly comprehensive, portfolio-level sustainability metrics, large coverage gaps remain. Market leaders now disclose third-party assured, portfolio level data on carbon emissions, energy consumption, water consumption, waste generation and green certified properties.[21] However, such data is still not available for many companies, with less than half of the largest 50 constituents of the FTSE EPRA Nareit Developed Index by market capitalisation reporting carbon emissions.[22]

The FTSE EPRA Nareit Developed Green Index provides a solution

To address this challenge, FTSE Russell developed the **FTSE EPRA Nareit Developed Green Indexes** by taking an alternative approach, whereby it assesses the sustainability performance of index constituents using data on the individual assets in their property portfolios. Using a bottom-up approach, geolocation data from **GeoPhy**, a real estate data provider, is matched with green certification data, providing the basis for detailed, building-by-building energy use and carbon modelling.

This data is aggregated to create portfolio-level metrics that provide a timely, consistent and highly granular assessment of the sustainability performance of each index constituent across three key indicators:

1. Share of the total net leasable area (NLA) covered by eligible green building certification
2. Average estimated energy use per square meter
3. Average estimated greenhouse gas emissions per square meter

Index reweighting or tilting proceeds using two of these indicators — **green building certification and estimated energy use data**, using FTSE Russell's multi-factor approach.[23]

Estimated carbon emissions are reported but are not used in the tilting process. A carbon metric might appear as an intuitive choice but is heavily influenced by the energy mix of the country in which a specific asset is located. In practice, this would act as an unintended country reweighting and increase exposure to countries with a low-carbon energy mix (e.g. France), at the expense of countries with higher carbon intensities (e.g. the US). For similar reasons, energy use is normalised over floor space rather than alternatives such as revenue. This avoids overestimating the sustainability performance of assets in higher-cost locations (e.g. San Francisco) versus lower-cost locations (e.g. Berlin).

The FTSE EPRA Nareit Developed Green Index focuses on **limiting tracking error to the parent index, the FTSE EPRA Nareit Developed Index,** (0.72% p.a. in 3-year historical simulations, 2015–18) by minimising active sector and country exposures. The green index also provides notable **sustainability improvements** with **green certification increasing by 33%** and **carbon emissions per dollar of revenue down 21%** compared to the parent index.

Figure 2
FTSE EPRA Nareit Developed Green Index metrics

	EPRA Nareit Developed Index	EPRA Nareit Developed Green Index	Difference (%)
Share of NLA covered by eligible Green Certification (% sqm)	11.9	15.9	+33
Estimated Carbon Emissions per $ of revenue (kg CO2 /$)	0.34	0.27	-21
Estimated Carbon Emissions per sqm (kg CO2 /sqm)	79.3	69.0	-13
Estimated Energy Use per sqm (kWh/sqm)	242.8	216.9	-11

Source: FTSE, as of May 2020.

Conclusion

As awareness of ESG and climate-related issues heightens, combined with increasing policy risk, carbon intensive sectors such as real estate will face greater scrutiny from governments and other stakeholders. While the sustainability credentials of real estate assets have been, in general, challenging to evaluate, the proliferation of certification, reporting and standards has steadily improved. This means that sustainable indices, like the FTSE EPRA Nareit Developed Green Index, offer credible and robust alternatives that allow for tangible improvements in climate and sustainability metrics.

Endnotes

1 UN Environment, 'Towards a zero-emission, efficient, and resilient buildings and construction sector', 2017, p. 16.

2 McGraw Hill Construction, 'Green Outlook', 2011, estimates 12% water consumption in buildings for the US.

3 International Energy Agency, 'Digitalization and Energy' 2017, p. 42.

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10 JLL, 'The upcoming EPC regulation for buildings in the Netherlands', June 2018.

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12 Singapore, Code for Environmental Sustainability of Buildings.

13 Eichholtz, Kok, and Quigley, 'The Economics of Green Building', Review of Economics and Statistics, 95(1), 2013, 50–63; Fuerst and McAllister, 'Green Noise or Green Value? Measuring the Effects of Environmental Certification on Office Values,' Real Estate Economics, 39(1), 2011, 45–69; Miller, Spivey, and Florance, 'Does Green Pay Off?', Journal of Real Estate Portfolio Management, 14(4), 2008, 385-400.

14 USGBC, 'Do LEED Buildings Perform? Indeed They Do!', 2014.'

15 National Trust for Historic Preservation, 'The Greenest Building: Quantifying the Environmental Value of Building Reuse' 2011, p. iv.

16 UN Environment, 'Towards a zero-emission, efficient, and resilient buildings and construction sector', 2017, p. 8.

17 CBRE and Maastricht University, International Green Building Adoption Index, 2018.

18 LEED website, as of November 1, 2018 (https://new.usgbc.org/leed).

19 BREEAM website, as of November 1, 2018 (https://breeam.com/).

20 IPE Real Assets, 'The future of green building ratings', June 2018.

21 Nareit, Leader in the Light Awards, 2018.

22 FTSE Russell analysis, as of Q4 2017. A lack of standardized reporting also makes these disclosures hard to compare. In its 2018 Real Estate Assessment Results, GRESB found that only one in five companies is currently able to collect and disclose asset level data for 100% of their portfolio. Less than half of these disclosures were aligned with a standard, such as GRI or EPRA, and less than 30% provided third-party assurances.

23 For more information, see FTSE Russell, 'Multi-factor indexes: The power of tilting', 2017 and FTSE Russell, 'Factor Exposure and Portfolio Concentration', 2017.

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ID306229-3243412.1.1.EMEA.INST 0920
Exp. Date: 30/09/2021