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Building better

Investing in the climate transition through real assets

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It takes Aviva Investors

AVIVA INVESTORS

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Main responsibilities

Mark leads our Real Assets Investment Specialist team globally, who bridge and coordinate between the Real Estate, Infrastructure & Private Debt investment teams and Aviva Investors global sales, marketing and client relationship management teams. This team are also responsible for commercialising relationships with specialist global Real Asset investors, and for supporting distribution across all of our investment capability. The team are also integral in developing new Real Asset strategies and solutions with our investment & distribution teams, as well as ensuring our existing funds and products are fit for purpose and best in class. Mark is a member of the Senior Leadership Team for Real Assets & Global Product teams.

Experience and qualifications

Mark has more than 20 years investment experience, and joined Aviva Investors in 2018. He began his career as an equity analyst & portfolio manager with Blairlogie and then Britannic Asset Management, before joining Standard Life Investments in 2003 as part of the Real Estate Research & Strategy team with a focus on new product launches & client strategy. He held various positions as a Client Director & Investment Director before heading the Real Estate Specialist team from 2013 & latterly heading a coordinated specialist team across Private Markets. Mark holds a BA(Hons) in Accountancy in Finance, a Masters in Finance, is an associate of UKSIP (ASIP) as well as an IPF Diploma in Real Estate Investment & Finance.

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Introduction

The accelerating climate transition has important implications for investors in real assets. After all, the built environment is a major contributor to climate change: around 37 per cent of global carbon emissions are associated with the construction and maintenance of buildings.[1] Inefficient, carbon-intensive real assets are likely to be affected by new green regulations and shifting demand patterns over the coming years. They may also be vulnerable to the physical risks of climate change, from extreme heat to floods and wildfires.

But real assets also have a crucial role to play in tackling the climate crisis. Through our approach to investing in the climate transition through real assets, we aim to make a tangible difference to the environment while also delivering key portfolio benefits for clients. We can do this by proactively decarbonising existing assets; acquiring and developing new, climate-friendly real estate; developing new infrastructure assets, including fibre broadband and electric vehicle (EV) charging networks; and by identifying opportunities to capture carbon via nature-based solutions.

Investing in the climate transition through real assets

Climate change is the biggest long-term systemic risk to economies, markets and client portfolios. The world continues to heat up and economies need to move at pace and scale to achieve the goal of the Paris Agreement; namely, to limit the rise in global temperatures to two degrees Celsius above pre-industrial levels and pursue efforts to restrict the increase to 1.5 degrees.

> Climate change is the biggest long-term systemic risk in client portfolios today

Our climate transition approach aims to support the ambitions of the Paris Agreement. While some investors focus purely on investments with low emissions, or on those offering green solutions, we believe a better and more robust approach seeks to capture both the risks and opportunities associated with the transition to a lower-carbon world.

Transition risks and opportunities

For real assets investors, the risks and opportunities are becoming increasingly clear. While progress has been made on decarbonising the built environment, most countries will have to move much faster to meet their nationally determined contributions to the Paris targets. According to the International Energy Agency, global direct building carbon emissions need to fall by 50 per cent from current levels to reach net zero by 2050.[2]

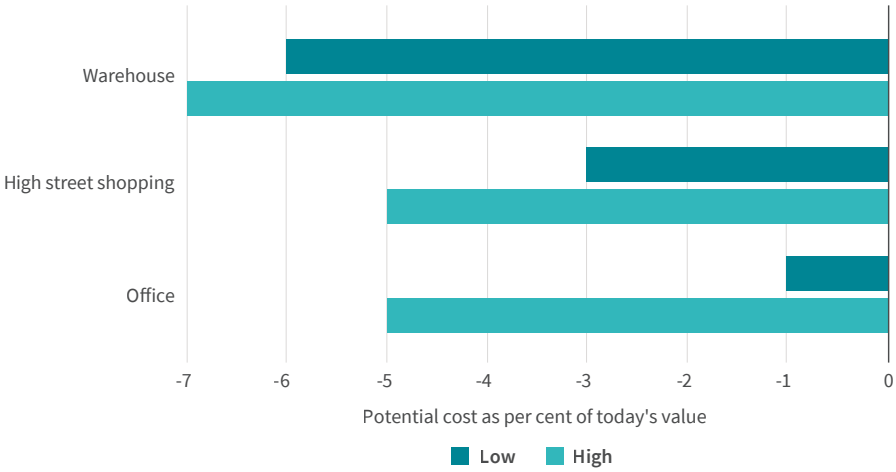
New green buildings regulations are in the offing, bringing older, carbon-intensive assets under scrutiny: for example, the European Commission is proposing changes to the Energy Performance of Buildings Directive, mandating that badly performing properties must be renovated to meet higher standards.[3] Inefficient buildings are also likely to become less attractive to occupiers for cost reasons. Owners of these assets may need to buy carbon offsets to meet net-zero commitments. Because of these dynamics, we expect the prices of energy-efficient assets to rise over time.

1. '2021 global status report for buildings and construction', UN Environment Programme, October 19, 2021.
2. '2021 global status report for buildings and construction', UN Environment Programme, October 19, 2021.
3. 'Questions and answers on the revision of the Energy Performance of Buildings Directive', European Commission, December 15, 2021.

Our analysis shows that for assets where no effort is made to improve environmental performance, sustainability-related obsolescence risk could result in an average loss in value of between three and ten per cent over the next decade (see Figure 1).[4] But the opposite is also true. A comprehensive review of academic literature shows energy-efficient assets that reduce costs for occupiers and align with net-zero carbon commitments are seeing stronger rental premiums. This should translate into higher asset values (see Figure 2).[5]

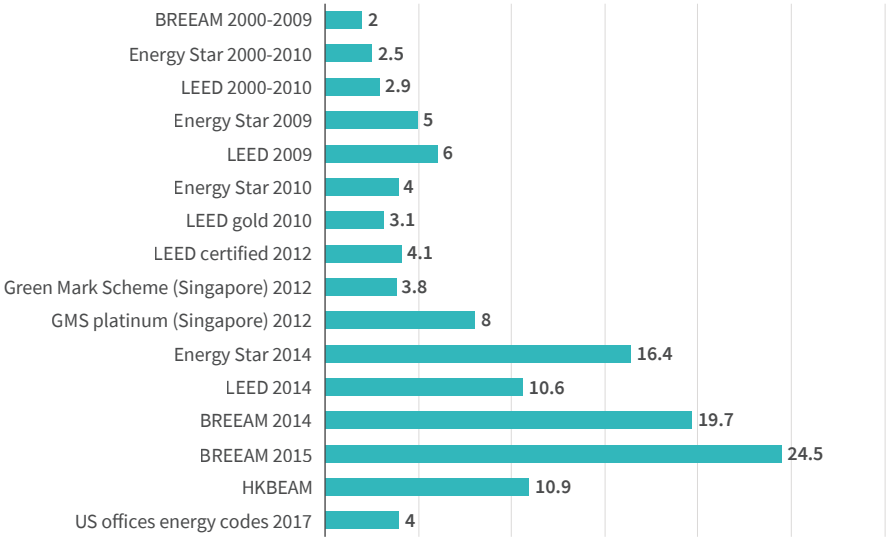
Energy-efficient assets that reduce costs for occupiers and align with net-zero carbon commitments are seeing stronger rental premiums

Figure 1. **Obsolescence linked to energy and carbon efficiency (per cent)**



Source: Aviva Investors, June 2021.

Figure 2. **Global rental premiums for energy-efficient property (per cent)**



Source: Andrea Chegut, et al., 2014; Alexander Reichardt, et al., 2012; Franz Fuerst, et al., 2009; Wiley Benefield, et al., 2010; Erin A. Hopkins, 2016; Stefanie Lena Heinzle, et al., 2012; Prashant Das, et al., 2013; Franz Fuerst, et al., 2015; Maya Papinaeu, 2017.

4. 'Measuring the mythical: Quantifying the green premium in real assets', Aviva Investors, July 21, 2021.
5. 'Measuring the mythical: Quantifying the green premium in real assets', Aviva Investors, July 21, 2021.

The climate transition is also transforming the outlook for infrastructure. The pressure is on to deliver more renewable energy to support climate ambitions: both the UK government's net-zero policy and the European Union's REPowerEU plan aim to electrify transport and heating networks via renewables.[6] In this context, wind and solar power assets should see greater demand, while coal and gas assets are likely to become "stranded" – that is, both environmentally and economically unviable.

We also expect other infrastructure assets to perform strongly as the transition accelerates. For example, EV-charging networks are seeing increasing demand as electric vehicles begin to displace petrol and diesel cars, thereby reducing transport-related carbon emissions and air pollution. Similarly, fibre broadband infrastructure can contribute to emissions reductions by replacing more energy-intensive copper networks and preventing the pollution associated with copper ore extraction. By boosting connection speeds, fibre broadband also enables remote work and helps reduce emissions associated with commuting.

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Portfolio benefits

Our investment approach aims to avoid the risks and take advantage of the opportunities associated with the climate transition, helping to drive the shift to a sustainable future while also realising key financial outcomes for clients in the form of diversification, illiquidity premia and uncorrelated returns.

Private markets have traditionally been the preserve of sophisticated institutional investors with the scale and expertise to navigate them. Given the majority of the world's economic activity occurs in unlisted markets, this has left a huge swathe of potential alpha opportunities out of reach for many investors.

We believe our approach to the climate transition is suitable for a wide range of client types, including high-net worth investors, defined-contribution (DC) and defined-benefit (DB) pension schemes.

In 2022 uncertainty surrounds the economic outlook. In this environment, private real assets can offer a useful inflation hedge via secure long-term cashflows. Since the drivers of investment returns are often uncorrelated to more liquid public markets, allocating capital to private real assets should also help diversify client portfolios.

Sustainable forestry assets are a good example. Because returns are driven primarily by wood prices and the biological growth of trees – a metric independent of market forces – the asset class has little correlation to liquid markets, while still offering attractive long-term returns. The S&P Global Timber & Forestry Index delivered annualised returns of 8.95 per cent between 2012 and end-2021; while that was around one per cent less per year than the S&P Global Broad Market Index, there are the added diversification and sustainability benefits to consider. Trees are a natural carbon sink, sequestering carbon from the atmosphere and offsetting emissions from elsewhere.[7]

6. 'REPowerEU: affordable, secure and sustainable energy for Europe', European Commission, 2022.
7. 'Real Assets House View 2022', Aviva Investors, 2022.

First-mover advantages

The opaque nature of private markets can create inefficiencies that lead to opportunities to exploit mispricings. This can offer an advantage to first movers who can deploy funds effectively and efficiently.

Our long-standing expertise in multi-asset and environmental, social and governance (ESG) strategies makes us well-placed to identify relative value and key performance drivers across private markets. Our approach targets direct investments oriented to the transition – chiefly low-carbon real estate and infrastructure, as well as sustainable nature-based solutions such as afforestation – to build diversified portfolios that aim to deliver both income and capital growth (see boxed text).

We believe our approach is unique, in that it combines an absolute return and net-zero target within a diversified pan-European real assets portfolio. The objective is to achieve risk-adjusted returns of eight per cent (net of fees) over rolling five-year periods, while simultaneously reaching net carbon neutrality by 2040.

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Our asset allocation

Our focus is on direct euro- and sterling-denominated value-added investments in infrastructure and real estate equity – which allows for greater control over assets' environmental performance than debt investments – along with direct investments in forestry, primarily afforestation projects that involve planting sustainable species to be used responsibly. Each of these asset classes should provide income and capital growth opportunities. We do not invest in real estate companies or other multi-manager funds other than private equity.

Our small allocation to private equity allows us to gain exposure to early-stage companies developing low-carbon technologies to accelerate the climate transition. There will be an allocation to liquidity assets too, but this will be minimised to reduce the performance impact. We target investments in the UK and western and southern Europe: these markets are favoured because of their relative stability and transparency.

Achieving net zero in a real assets portfolio

Delivering on our twin objectives requires a complex set of calculations. We must obtain reliable data about environmental performance and how capital expenditure could yield improvements, while also assessing the risk/return profile of particular strategies, monitoring the market cycle and assessing wider factors related to the climate transition (such as the status of new green regulations and rate of decarbonisation across national power grids).

The carbon impact of a portfolio is not static, and emissions vary across the life of real assets due to a variety of factors. But direct investors can take control of the emissions trajectory and influence the carbon impact of their portfolios in three principal ways.

First, emissions can be *reduced*. Take the average office building: with its whirring air-conditioners, buzzing printers and steaming coffee machines, it is a relatively energy-intensive asset. But its emissions can be significantly lowered by installing solar panels and heat pumps; upgrading insulation and undertaking other refurbishments that improve energy efficiency; and moving occupiers onto green electricity tariffs.

We apply these principles at Curtain House in London. This historic warehouse building, located close to Old Street's "Silicon Roundabout" technology hub, is being extensively refurbished and decarbonised as it is converted into offices. These upgrades should also capture rental growth and deliver returns by creating best-in-class office space within a constrained market.[8] Similar methods can be used to develop, decarbonise and upgrade other asset types, such as logistics and residential buildings.

8. 'Aviva Investors acquires Hoxton office for Climate Transition Real Assets Fund', Aviva Investors, September 28, 2021.
9. See ghgprotocol.org.
10. Carbon Intelligence, 2022.

Second, emissions can be *avoided* through investments in green infrastructure. Many investors focus solely on so-called Scope 1 and 2 emissions, as outlined under the Greenhouse Gas Protocol (Scope 1 refers to direct emissions and Scope 2 to indirect emissions from the generation of purchased electricity; Scope 3 refers to emissions from elsewhere in the supply chain, such as those related to construction materials, which tend to be more difficult to track).[9] While it is vital to capture all of these emissions categories in carbon accounting, it is also important to recognise the benefits from creating alternatives to polluting energy sources, which help to avoid further environmental damage.

We will also invest in greenfield and brownfield renewable energy infrastructure, such as wind and solar power projects, thereby preventing large quantities of carbon from being added to the atmosphere. Other forms of infrastructure can contribute to avoided emissions, too. For example, we invest in fibre broadband upgrades to replace inefficient copper networks, and in EV-charging infrastructure that supports the take-up of electric vehicles and removal of fossil-fuel guzzling cars from the road. Through such investments, we aim to prevent over two million tonnes of carbon emissions by 2040, equivalent to 1.4 million flights between New York and Singapore.[10]

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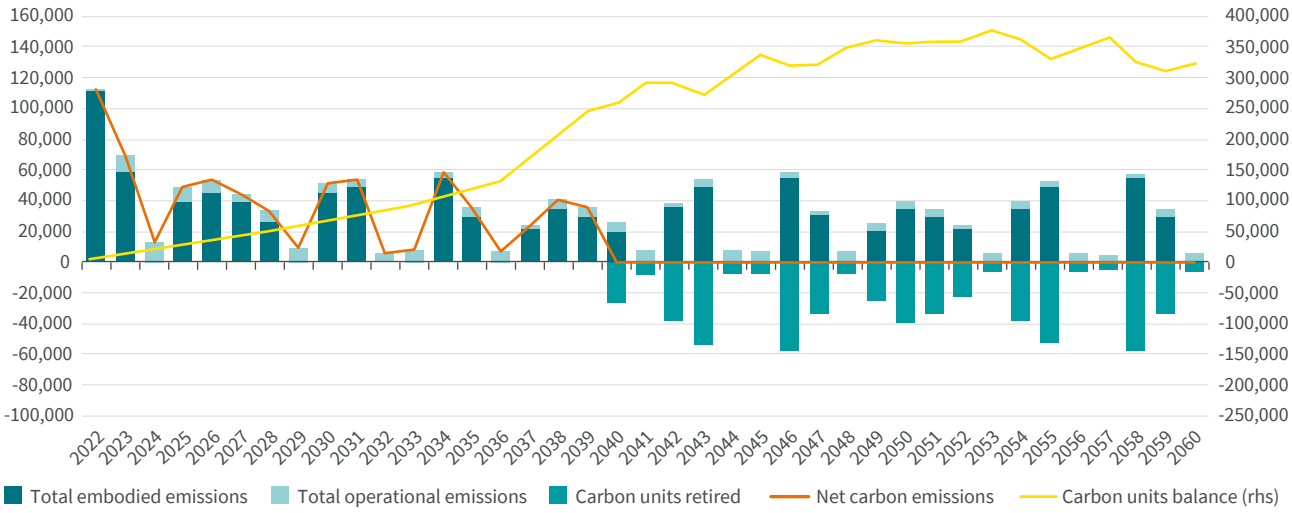
Third, emissions can be *removed* from the atmosphere. Even best-in-class real assets will continue to generate some carbon through their lifetime; we will look to offset these residual emissions via nature-based solutions. These include sustainable forestry or peatland assets that seek to capture and sequester significant amounts of carbon from the atmosphere while also delivering attractive long-term uncorrelated returns (see Case study: Investing in nature-based solutions for carbon capture).

It can take time for the effects of these measures to be felt, and emissions associated with a real asset portfolio will fluctuate over time. Our total emissions will therefore vary year-by-year as we reduce, avoid and remove emissions in pursuit of our target of net carbon neutrality in 2040 (see Figure 3).

Figure 3. **Aviva Investors' climate transition real assets projected carbon emissions and sequestration (tonnes per annum)**



Source: Aviva Investors, October 2022.

A measurable impact

To meet these targets, collecting, managing and analysing data on environmental performance is critical. Clients should expect visibility into the carbon impact of portfolios as well as their financial performance.

> Clients should expect visibility into the carbon impact of portfolios as well as their financial performance

While there are challenges involved with producing accurate, timely ESG data in illiquid markets, a robust methodology informs our investment process. To complement our in-house ESG data capabilities, which include proprietary tools spanning public and private markets, we have partnered with an external provider, Carbon Intelligence, to assist with due diligence and reporting. This enables us to implement a rigorous, externally verified carbon accounting process aligned to globally recognised standards, factoring in Scope 1, 2 and 3 emissions along with credible accounting for avoided emissions.

All assets have their emissions estimated in line with "whole-life" carbon accounting, which models emissions for construction, operation and end-of-life. This is important, as focusing solely on operational emissions can have unintended consequences. For example, while a windfarm will contribute to avoided emissions during its operational life, manufacturing, transporting, installing and eventually dismantling wind turbines still generates carbon (as the steel, transport and cement industries have not yet been decarbonised). Our holistic approach enables us to incorporate such nuances into our decisions.

Doing well, doing good

Real assets are critical to society and, managed well, can bring significant benefits to communities. Our approach aims to deliver social outcomes aligned with the United Nations' Sustainable Development Goals, including SDG 11, focusing on making cities and human settlements inclusive, safe, resilient and sustainable. Through our investments, we aim to create access to employment and improve wellbeing among communities via the provision of new blue and green infrastructure. For example, fibre broadband enables a range of social benefits by improving connectivity, including access to online medical appointments and social events, providing lifelines for many people during the recent COVID-related lockdowns. We are committed to paying a living wage and supporting charitable initiatives.

Combining financial, environmental and social objectives in this way is a fairly novel concept. Traditionally, asset managers have presented their clients with two options: either seek strong absolute returns or put their capital to use to deliver non-financial outcomes. The accelerating climate transition offers a way beyond this binary choice.

> By accessing private real assets, clients have an opportunity to take advantage of a wealth of long-term opportunities for income and capital growth through the transition

By accessing private real assets, clients have an opportunity to take advantage of a wealth of long-term opportunities for income and capital growth through the transition, while simultaneously future-proofing their portfolios and contributing in a direct, tangible and meaningful way to the battle against climate change. The objective is simple and achievable: to do well by doing good.

Case study: Investing in nature-based solutions for carbon capture

Scotland's Glen Dye Moor has a certain bleak majesty. Rolling hills fall away into rocky valleys. Flocks of grouse flit through the heather. In the distance, the shadowy crags of the Cairngorms loom.

Such a place might not look like a traditional financial asset. But in 2021, we partnered with Scottish forestry fund manager Par Equity to acquire the 6,300-hectare site. The objective: to rejuvenate the landscape by planting trees and restoring degraded peat bogs, thereby removing carbon from the atmosphere while delivering social benefits for local communities and financial outcomes for investors.

Rinse and re-peat

The role of forests in mitigating climate change is well-known, but peat is even more effective than trees in locking up carbon. According to the United Nations Environment Programme, peatlands hold more than twice as much carbon as the world's forests.[11] Peatlands that are damaged or drained due to human activity release their carbon stores, adding more than two billion tonnes of carbon to the atmosphere globally each year (this accounts for as much as five per cent of total anthropogenic carbon emissions).[12]

Many of Scotland's peatlands are in a poor state. Peat bogs have historically been drained to make room for grazing animals or forestry; in some areas, distilleries have extracted peat on an industrial scale, burning it to lend Scottish whiskies their distinctive smoky flavour. As a result, more than 70 per cent of the country's peatlands are now damaged and releasing carbon. Unhealthy peatlands also deprive native animal species, including the rare black grouse, of important habitats.[13]

Restoring and sustainably managing peatland can help reverse these damaging effects, sequestering carbon while preserving valuable ecosystems. Through a mixture of peatland restoration and tree-planting efforts, the Glen Dye Moor project has the potential to lock up an estimated 1.4 million tonnes of carbon over the coming decades, including 468,000 tonnes by 2040 and 32,750 tonnes annually from 2040 until 2055 (equivalent to taking 3,000 petrol-powered passenger vehicles off the road each year).[14]

It's in the trees

Around 2,000 hectares of replanting at Glen Dye Moor will be diverse native woodland, managed by Scottish Woodlands, which will also improve access trails and upgrade public facilities across the site. Up to one third (1,000 hectares) of the replanted land will be productive conifer, providing employment for the local community in timber production, as well as long-term income for investors.

The investment case for timber assets is persuasive. As the carbon transition accelerates and demand for timber grows across both developed and emerging markets, conditions are in place for long-term return generation with a hedge against rising carbon credit prices. Although there are risks, and individual forests have lumpy cashflows that require allocations over a long-term horizon, the investment is asset-backed, and hazards like fire can be mitigated through careful management.

For investors, these financial outcomes can be achieved while putting capital to work in helping to address the most pressing global challenge. As the saplings grow and the spongy mosses return to the peatlands of Glen Dye Moor, we will come a little closer to tackling climate change.

11. 'Peatlands store twice as much carbon as all the world's forests', UN Environment Programme, February 1, 2019.
12. Virginia Gewin, 'How peat could protect the planet', Nature, February 12, 2020.
13. 'Smoke on water: countering global threats from peatland loss and degradation', UN Environment Programme, April 18, 2018.
14. Estimated calculation based on US Environmental Protection Agency's Gas Equivalencies Calculator, August 2022. Passenger vehicles are defined as 2-axle, 4-tyre vehicles, including passenger cars, vans, pickup trucks, and sport/utility vehicles.

Key risks

The value of an investment and any income from it can go down as well as up and can fluctuate in response to changes in currency exchange rates. Investors may not get back the original amount invested.

Where funds are invested in real estate / infrastructure, investors may not be able to switch or cash in an investment when they want because real estate/infrastructure may not always be readily saleable. If this is the case we may defer a request to switch or cash in shares or units. Investors should also bear in mind that the valuation of real estate is generally a matter of valuers' opinion rather than fact.

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