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Building better

Opportunities for DC schemes to invest in the climate transition through real assets

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Main responsibilities

Mark leads our real assets investment specialist team globally, which bridges and coordinates between the real estate, infrastructure and private debt investment teams and Aviva Investors' global sales, marketing and client relationship management teams. This team is also responsible for commercialising relationships with specialist global real asset investors, and for supporting distribution across all our investment capability. The team is also integral in developing new real asset strategies and solutions with our investment and 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 the real assets and 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 and portfolio manager with Blairlogie and then Britannic Asset Management, before joining Standard Life Investments in 2003 as part of their real estate research and strategy team with a focus on new product launches & client strategy. He held various positions as a client director and investment director before heading the real estate specialist team from 2013 and latterly heading a co-ordinated 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 and finance.

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➢ Key takeaways

The UK government is keen to encourage increased investment in unlisted equities by defined-contribution (DC) pension schemes. It hopes to unlock up to £50 billion of investment in high-growth companies by 2030.

While some hurdles to greater investment by DC schemes will need to be overcome, not least concerns over a potential liquidity mismatch, there is a strong case for these schemes increasing exposure to real assets via unlisted companies.

Such investments help diversify members' exposure to public markets and offer the potential for attractive long-term returns, capturing illiquidity premia. Moreover, in some cases, they offer the only means of gaining pure exposure to some fast-growing sectors. And by investing in real assets, DC schemes can play their part in helping accelerate the transition to a carbon-neutral economy.

Introduction

UK regulators and policymakers are increasingly keen to channel private-sector capital into infrastructure and other long-term projects designed to boost economic growth. In this environment, there are opportunities for the trustees of defined-contribution (DC) pension schemes to begin offering their clients access to real assets.

Investing directly in real assets has historically been the preserve of large institutional investors, which are typically able to commit significant amounts of capital to a single investment. These investors also usually provide patient capital, which means they recognise the illiquidity inherent in the asset class and are accepting of the long-term nature of investments that can deliver additional returns.

Evidence suggests that while the market is still nascent, most DC pension schemes have been underinvested in this area, with default strategies overwhelmingly favouring lowercost equity and bond funds.

There are several arguments for DC schemes to increase allocations to real assets, since they have many characteristics that set them apart from public-market investments and offer some distinct advantages in a diversified portfolio.

They help diversify members' exposure to public markets and offer the potential for attractive long-term returns, capturing illiquidity premia. Moreover, in some cases, they offer the only means of gaining pure exposure to sectors such as life sciences, renewable energy and social housing, areas with strong growth potential that enable members to feel more connected to their capital.

By investing in real assets, DC schemes can also play their part in helping accelerate the transition to a carbon-neutral economy, and not just by investing in renewables, but via other investments too, notably real estate and direct natural capital investments.

After all, the built environment is a major contributor to climate change, with around 37 per cent of global carbon emissions associated with the construction and maintenance of buildings.¹

Real assets have many characteristics that set them apart from public-market investments and offer some distinct advantages in a diversified portfolio Inefficient, carbon-intensive 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.

Aviva Investors' Climate Transition Real Assets Fund (CTRAF) aims to mitigate specific 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. We can do this by proactively decarbonising existing assets; acquiring and developing new, climate-friendly real estate; developing new infrastructure assets, including societally beneficial assets like 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 in client portfolios today. 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.

Our climate transition strategies aim to support the implications and ambitions of the Paris Agreement. While some investors focus purely on investments with low emissions, or on those offering green solutions, we believe the best approach is one that seeks to capture both the risks and opportunities associated with the transition to a lower-carbon world.

Transition risks and opportunities in real assets

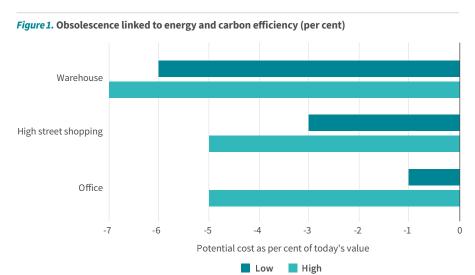
For real asset investors, the risks and opportunities are becoming increasingly clear. While progress has been made on decarbonising the built environment, most countries will have to move much faster to meet their nationally determined contributions to the Paris targets. According to the International Energy Agency, global direct building carbon emissions need to fall by 50 per cent from current levels to be on track 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 values of energy-efficient assets to continue to rise over the long term as they outperform less efficient assets.⁴

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*).⁵ But the opposite is also true. A comprehensive review of the academic literature shows energy-efficient assets that reduce costs for occupiers and align with net-zero carbon commitments are seeing stronger rental premiums as the transition gathers pace, which should translate into higher asset values (see *Figure 2*).⁶

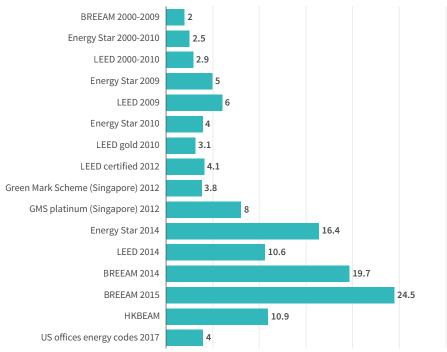
Climate change is the biggest long-term systemic risk in client portfolios today

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



Source: Aviva Investors, January 2024.





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.

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. In this context, wind and solar power assets should see greater demand, while coal and gas assets are likely to become increasingly "stranded" – that is, both environmentally and economically unviable – over the longer term.

The climate transition is transforming the outlook for infrastructure

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 to reduce the emissions associated with commuting.

Practical considerations for DC schemes allocating to real assets

According to the UK Pensions Regulator, the DC market now boasts more than £500 billion of DC assets under management. It expects this to double by 2030, as the decline of private-sector defined-benefit (DB) pensions and the introduction of automatic enrolment into workplace pensions causes a growing number of people to save into DC schemes.¹⁰

As part of the so-called Mansion House Compact, the UK government secured a commitment from nine of the UK's largest DC providers to an objective to allocate five per cent of the assets in their default funds to unlisted equities by 2030. These providers represent over £400 billion in assets and together make up a large proportion of the UK's DC pensions market.

The government says this could unlock up to £50 billion of investment in high-growth companies by 2030 if all UK DC schemes follow suit.

There remain some challenges to investment, such as the need to speed up delivery of grid connections for infrastructure projects. But while trustees obviously need to act in their members' best interests, there is a strong case for increasing exposure to real assets as well as unlisted companies, as real assets offer a number of benefits along with an opportunity to help in the drive to tackle climate change.

Portfolio benefits

Private markets have traditionally been the preserve of sophisticated institutional investors with the scale and expertise to navigate them. Given how much of the world's economic activity is generated by unlisted companies, this has left a huge swathe of potential opportunities out of the reach of many investors.

Because CTRAF is daily priced, monthly traded and is managed with liquidity in mind with redemption limits in place, it is a particularly good fit for DC pension schemes, providing them with access to private market opportunities at a particularly opportune moment. Having broadly repriced, illiquid assets offer an attractive entry point for long-term investors like DC pension funds.

While inflation fell sharply in 2023, the experience of the previous two years reminded investors this is a risk that has not gone away. Real assets can offer a useful inflation hedge via secure long-term cashflows. Furthermore, since the drivers of investment returns are often uncorrelated to more liquid public markets, allocating capital to private real assets should also help to 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. It can also offer attractive long-term returns. Trees are a natural carbon sink, sequestering carbon from the atmosphere and offsetting emissions from elsewhere.

CTRAF provides DC pension schemes with access to private market opportunities at a particularly opportune Peatland restoration also offers an attractive opportunity to sequester direct carbon, and create additional carbon credits alongside new afforestation. This offers the potential to not only hedge the risk of carbon credit price increases in the future, but also the potential for enhanced financial returns through an increase in the value of these credits.¹¹

First-mover advantages

The opaque nature of private markets can create inefficiencies which can lead to opportunities to exploit mispriced assets. This can offer an advantage to first movers that can deploy funds quickly and efficiently.

Our long-standing expertise in multi-asset and environmental, social and governance (ESG) strategies means we are well-placed to identify relative value and key performance drivers across private markets as the climate transition accelerates. CTRAF targets direct investments in real assets that are oriented to the transition – chiefly low-carbon and brown-to-green transition led real estate and transition-aligned 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).

CTRAF 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 and fund costs) over rolling five-year periods, while simultaneously reaching net carbon neutrality by 2040. The fund is already operational and deploying capital at scale in pursuit of these targets.

The opaque nature of private markets can create inefficiencies that lead to opportunities to exploit mispricings

CTRAF asset allocation

CTRAF's focus is on direct euro- and sterling-denominated core through to value-add 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. CTRAF does not invest in any real estate listed companies or any other multi-manager funds other than private equity.

The fund's 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 liquid assets too, but this will be minimised to reduce the performance drag to the fund. CTRAF targets 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 asset portfolio

Delivering on CTRAF's 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).

It is important to note 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 **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). While it is vital to capture all of these emissions categories in carbon accounting, it is also important to recognise the benefits that derive from creating alternatives to polluting energy sources, which help to avoid further environmental damage.

CTRAF will 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, the fund is investing in fibre broadband upgrades to replace inefficient copper networks, and in EV-charging infrastructure that enables the wider take-up of electric vehicles and the removal of fossil-fuel cars from the road.

Second, emissions can be **reduced**. Take the average office building: with its air-conditioners, heating, lighting, computers, 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.

Direct investors can take control of the emissions trajectory and influence the carbon impact of their portfolios



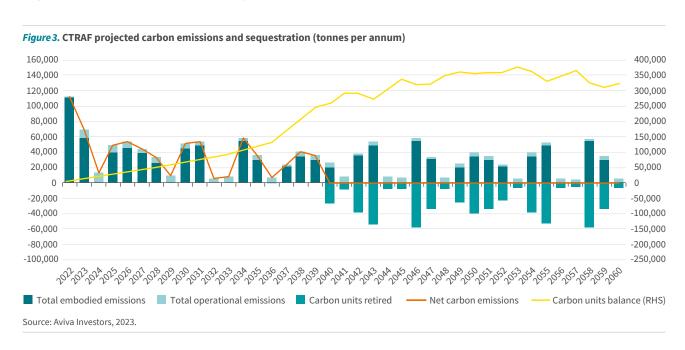
We apply these principles at Curtain House in London, CTRAF's first real estate investment. This historic warehouse building, located close to Old Street's "Silicon Roundabout" technology hub, is being extensively refurbished and decarbonised as it is converted into offices; these upgrades should also capture rental growth and deliver returns by creating best-in-class office space within a constrained market.¹³ Similar methods can be used to develop, decarbonise and upgrade other asset types, such as logistics and residential buildings.

Third, emissions can be **removed** from the atmosphere. Even best-in-class real assets will continue to generate some carbon through their lifetime; CTRAF will offset these residual emissions via nature-based solutions, such as 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 the Case study: Investing in nature-based solutions for carbon capture).

Fourth, and finally, the fund invests a relatively small amount indirectly into private equity solutions to **align** to the climate transition. The rationale for these allocations is that while the vast majority of the portfolio is investing directly into the climate transition, we want to support new and nascent technologies that are being developed to help speed this transition. These investments also provide insight and knowledge transfer into the institutional investment world and help future-proof the fund as the market continues to develop at pace.

It can take time for the effects of these measures to be felt, and the carbon emissions associated with a real asset portfolio will fluctuate over time. CTRAF's 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).

Even best-in-class real assets will continue to generate some carbon through their



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.

While there are challenges involved with producing accurate, timely ESG data in illiquid markets, we have a robust methodology that informs our investment process. To complement our in-house ESG data capabilities, which include proprietary tools spanning both public and private markets, our chosen ESG industry partner assists with the provision of 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 carbon 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 wind farm will contribute to avoided emissions during its operational life, the activity of 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.

Collecting, managing and analysing data on environmental performance

Real assets and society

Real assets are critical to society and, managed well, can bring significant benefits to communities. CTRAF 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 its investments, the fund aims 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, which provided lifelines for many people during the COVID-19 pandemic. The fund is committed to paying a living wage and to supporting charitable initiatives.

Fibre broadband enables a range of social benefits by improving connectivity

Figure 4. The global goals for sustainable development























Source: United Nations, 2015.14

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, like an ESG or net-zero outcome. But the accelerating climate transition offers a potential beyond this binary choice. By accessing private real assets, investors have the potential 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.

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.¹⁵ 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).16

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.¹⁷

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.

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 the risk of 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.



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Key risks

Investment risk

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 and exchange rates. Investors may not get back the original amount invested.

Real estate risk

Investments in real estate may not be able to be sold, realised or liquidated when you want because real estate assets may not always be readily saleable. If this is the case, we may defer your request or instruction regarding your investment. Investors should also bear in mind that the valuation of real estate is generally a matter of valuers' opinion rather than fact.

Sustainable investing risk

The level of sustainability risk to which the strategy is exposed, and therefore the value of its investments, may fluctuate depending on the investment opportunities identified by the Investment Manager.

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