Whitepaper | September 2022

So, you've set your net-zero target: What next?

Practical considerations for asset owners on achieving net zero

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It takes Aviva Investors

AVIVA INVESTORS

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Main responsibilities

Penny leads on the development of Aviva's strategic net-zero roadmap, focusing on decarbonising our investment portfolio based on robust frameworks for transition in line with Aviva's 2040 net-zero commitment and supporting product development and commercialisation of our net-zero propositions.

Experience and qualifications

She has over 15 years of experience in sustainability and climate finance across both private and public sectors.

Prior to joining Aviva Investors, Penny held senior roles in the banking sector, Climate Bonds Initiative, and UK Government. In the latter, she led policy covering Green Economy, natural capital, and marine sustainability. Penny was a member of the Sustainable Finance WGs that developed the EU green taxonomy, and chaired the UN PRB investment banking WG for portfolio impact assessment.

Penny holds a PhD in Environmental Science, a MSc in Investment and Finance, and a BSc in Physics.

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Introduction

As anyone who has tried to transform part of their business knows, managing change is hard. So hard that, in most organisations, two out of three transformation initiatives fail. Success takes a thorough understanding of the issue, solid planning, and motivated, knowledgeable teams.[1]

Implementing a portfolio decarbonisation strategy is no exception: those principles guide our work as we are building such a strategy for the assets we manage. The same goes for asset owners working towards a net-zero target on their portfolios. They need a high-level understanding of their holdings so they can figure out which have the most material impact on the overall carbon footprint, even before working out a detailed framework and identifying gaps and key actions.

But perhaps the hardest part is dealing with uncertainty. Climate change will not let up while investors finalise their frameworks. There is little choice but to "build as you learn", making incremental improvements and including more asset classes as the industry finds ways to incorporate them into their net-zero transition plans.

Climate change will not let up while investors finalise their frameworks

That is another key point. No single asset owner or asset manager can do this on their own; the whole industry needs to collaborate. The good news is that most participants are keen to work together to tackle the issue, as shown by the growing membership of net-zero initiatives. Because of the nature and importance of decarbonising portfolios, investors need to be transparent and learn from each other. This transformation requires considerable resources and has highlighted the need for specialised skills. Such skills include expertise in climate science and data, carbon accounting, green technologies and negative emissions, sector decarbonisation, climate policy, and stakeholder engagement.

Using these lessons as a starting point and drawing on the expertise we have acquired to date, this paper explores practical considerations for asset owners aiming to reach net-zero in their portfolios, looking at the quantitative component and how we move from a high-level commitment to implementing the strategy: where to begin; short-term versus long-term plans; the implications for investment strategies; measurement challenges; and building flexibility into plans.

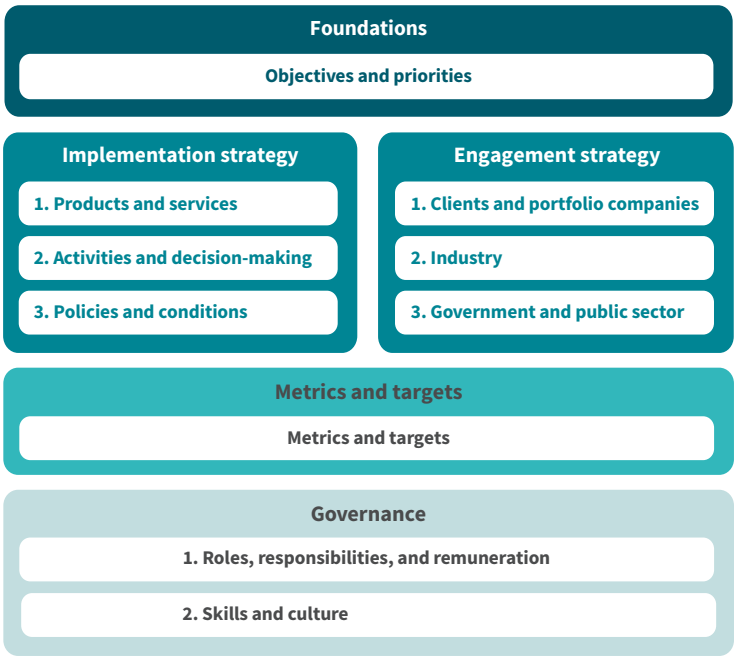
1. Harold L. Sirkin and Perry Keenan, et al., 'The hard side of change management', Harvard Business Review, October 2005.

Where to begin: Building on collective knowledge

Putting together a plan to decarbonise a large portfolio is challenging but investors do not need to start from scratch; several investor coalitions and initiatives offer guidance. The Net-Zero Asset Owners' Alliance was created by and for asset owners and is a good starting point. It provides guidance on target setting and is running working groups to engage with asset owners on different components of the issue.[2]

It is also a member of the Glasgow Financial Alliance for Net Zero (GFANZ), set up by Mark Carney ahead of COP26 in November 2021. GFANZ recently published a series of voluntary recommendations and guidance "to support financial institutions in developing and implementing credible, high-ambition strategies for achieving net-zero". These include a set of frameworks and tools to support transition planning, using sectoral pathways, and portfolio-alignment measurement, among others.[3]

Figure 1. **Example framework: GFANZ financial institution net-zero transition plan framework**



Foundations
Organisation-wide net-zero objectives, targets, timelines, and priority approaches

Implementation strategy
Aligning business activities, products, services and policies with net-zero objectives and priorities

Engagement strategy
Communicating and collaborating with clients, portfolio companies, industry peers, civil society, and the public sector in support of net-zero objectives

Metrics and targets
Metrics and targets to assess and monitor progress towards net-zero objectives

Governance
Structures for oversight, incentivisation, and supporting implementation of the net-zero transition plan

Source: Glasgow Financial Alliance for Net Zero, June 2022.[4]

The Institutional Investors Group on Climate Change (IIGCC) is another good resource for sector and asset-class considerations, offering guidance on the type of thinking and methodologies to consider through the Paris-Aligned Investment Initiative Net-Zero Investment Framework.[5] Other initiatives have also produced tools and guides to help articulate the transition journey for investors, like the Two-degree Investing Initiative (2DII),[6] Science-Based Targets initiative (SBTi) for Financial Institutions,[7] and the Principles for Responsible Investment (PRI).[8]

2. 'Target setting protocol second edition', UN-convened Net-Zero Asset Owner Alliance, as of June 29, 2022.
3. 'Publications', Glasgow Financial Alliance for Net Zero, as of July 1, 2022.
4. 'Recommendations and guidance: Financial institution net-zero transition plans', Glasgow Financial Alliance for Net Zero, June 2022.
5. 'Paris Aligned Investment Initiative', IIGCC, as of June 29, 2022.
6. 'Aligning financial markets with climate goals', The 2° Investing Initiative.
7. 'Financial institutions', Science Based Targets, as of June 29, 2022.
8. Principles for Responsible Investment.

There is significant alignment across these initiatives. All aim to create a robust, systematic and incremental process built on science-based principles to help investors understand their portfolios' decarbonisation needs and potential.

Asset managers can also share their own decarbonisation frameworks and approaches with clients. By providing structured discussions, they can help asset owners identify different pieces of the jigsaw so they understand what they can do now, what components of their portfolio might not be covered yet, and how to meet the commitments. Net-Zero Asset Managers Initiative (NZAMI) members have undertaken to do this with their asset owners as part of their pledge.

Asset managers can share their own decarbonisation frameworks and approaches with clients

For instance, through the work we are doing internally to align our portfolios, we are developing insights and knowledge that can be translated into the products we design and tailor for our clients. This way, they can hopefully benefit from the knowledge and practical experience we have built.

Steps for a viable transition plan

Developing a net-zero plan is a huge undertaking, so it pays to tackle it in steps. Before even looking at producing a detailed carbon footprint, asset owners (or their managers) should be assessing their portfolio's sector exposure to get an idea of the areas where decarbonising will have the greatest impact, and those where it will be most challenging.

They should then look at asset classes in the portfolio because each has its own challenges. Working out the best approach for each is necessary to build a plan and focus efforts. There is increasing recognition of the importance of having transparent and standardised approaches to accounting for greenhouse gases (GHGs) associated with investments and other financial products. The Partnership for Carbon Accounting Financials (PCAF) reflects that and represents a global partnership of financial institutions working together to develop and implement a harmonised approach.[9] The PCAF's Global GHG Accounting and Reporting Standard for the Financial Industry has already developed methodologies for asset classes like equities and corporate bonds, while work to develop methodologies for sovereign debt, carbon removals and others is underway (Figure 2).

For index funds, considerations relate to choosing the right benchmark and understanding the opportunities and risks that come with an index focused on supporting the transition. Asset owners need to define their priorities and the outcomes they want to achieve from holding index funds, and then choose accordingly. It is also important to engage with index providers to ensure their products capture and reflect the need for this new thinking.

9. PCAF: Partnership for Carbon Accounting Financials.

Figure 2. **The PCAF standard provides detailed methodological guidance to measure and disclose GHG emissions associated with six asset classes so far**

Source: Aviva Investors. Original from PCAF, as of July 21, 2022.[10]

Measuring and assessing progress, today and tomorrow

Once an understanding of the portfolio's sector impact and asset-class breakdown is established, the next step is going into the details.

Challenge one is to calculate the carbon footprint of each holding today, which is not an easy task. There are still gaps in the data companies report, with many reporting Scope 1 and 2 but only some Scope 3 emissions. This means asset owners need to build their decarbonisation strategy using Scope 1 and 2 data, but without losing sight of Scope 3 implications (see more on Scope 3 in *Additional measurement and reporting challenges*).

It is essential to build a strategy that is agile, can incorporate less granular data and adapt as we learn. For example, data paucity has been more pronounced in private markets to date but has received much more attention recently, which will hopefully lead to better GHG data reporting practices. For instance, in January 2022, a group of major infrastructure lenders, including Aviva Investors, launched an ESG Covenant Package, designed to develop a unified approach on ESG-related information and reporting requirements for infrastructure debt financings.[11,12]

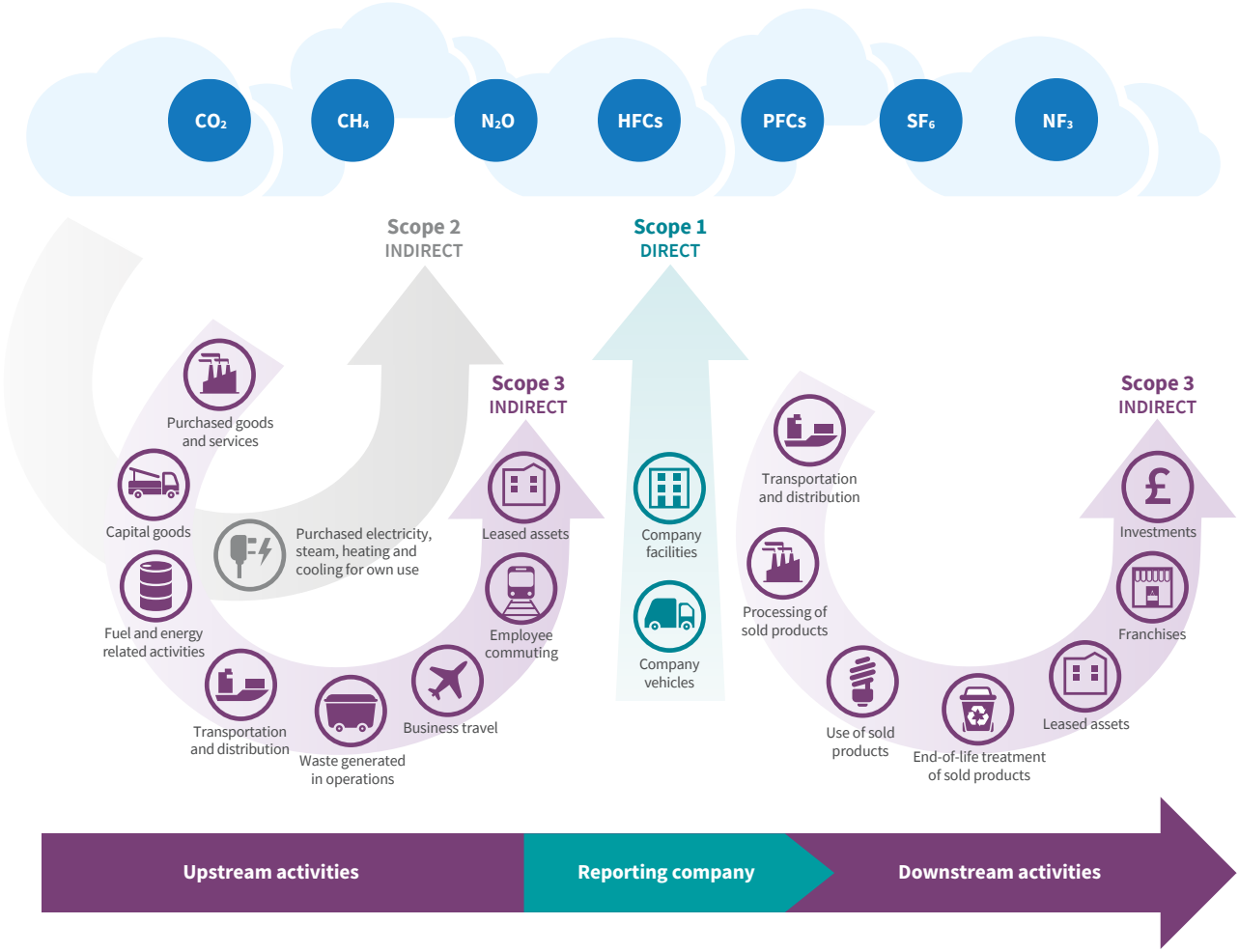
It is essential to build a strategy that is agile, can incorporate less granular data and adapt as we learn

Challenge two is to assess what will happen to the portfolio's exposures over time through projection analysis. The aim is to assess the likely transition path of every company and holding in the portfolio, using independently verified data such as science-based targets where possible. Gaps – and ways to fill them – must then be identified.

Some gaps stem from the fact not all investee companies have published net-zero pledges, while some existing commitments are not detailed enough. In those instances, there are a couple of options.

10. 'The Global GHG Accounting and Reporting Standard for the Financial Industry', PCAF, as of July 21, 2022.
11. Mark Segal, 'Investor group including Aviva, BlackRock, Macquarie draft ESG Covenant Package for infrastructure finance', ESG Today, January 19, 2022.
12. 'Environmental, Social and Governance Information Covenant Package', Aviva Investors, November 29, 2021.

Figure 3. **Scopes and emissions across the value chain**



Source: Greenhouse Gas Protocol, April 4, 2022.[13]

First, one can look at the past performance of the company and, in the absence of other factors, assume it is the best reflection of what may happen in future. Second, if information is not available on the company but is available at a sector level, a first step is to assume the company roughly falls in line with the average of that sector (or sector and region if available). This is where investors can begin to develop assumptions on how companies might evolve.

To ensure the assumptions remain realistic, they should be reviewed formally on an annual basis against companies' updated plans, commitments and actions. However, investors should also aim to maintain a sense of progress throughout the year through individual engagement.

13. Cristian Aldridge, 'You, too, can master value chain emissions', Greenhouse Gas Protocol, April 4, 2022.

Additional measurement and reporting challenges

There are still challenges, particularly when it comes to measuring and reporting progress.

Firstly, robust plans must ensure baseline measures consider and capture the different dimensions of carbon emissions, plans and reductions. Scope 1 and 2 emissions can be captured in many cases, but Scope 3 emissions are still patchy despite being a critical part of the overall picture.

Thankfully, work is underway in this area, and knowledge is improving rapidly. Although many companies don't yet report on their Scope 3 emissions and, even where they do, the information is often incomplete, it is possible to make progress.

One option is to start with data available at a sector level and use it to identify the biggest drivers of emissions for each and, by extension, for companies within a sector. Alternatively, models are available that can estimate Scope 3 emissions of a company based on its activities. Instead of trying to attain perfection from the start, using the 80/20 rule can help asset owners build an understanding of the most significant Scope 3 emissions across the different investments in their portfolio.

> Many companies don't yet report on their Scope 3 emissions but it is possible to make progress

This still leaves the issue of double counting since one company's Scope 3 emissions may be another's Scope 1 emissions if they are both part of the same portfolio. But while it is a valid point, one should question whether it matters in the context of the overarching goal – to decarbonise the real economy. Issues of potential double counting should not distract us from that aim – it is more important everyone moves in the right direction. This will facilitate reduction in carbon metrics relative to the baseline, even if double counting occurs.[14]

Accounting for Scope 3 emissions will also provide a much more complete picture of transition risks in the portfolio.

The second challenge in measuring and reporting progress is that, while data has significantly improved, it still comes with delays, which creates a mismatch with other portfolio data. Typically, portfolio emissions reported in 2022 will reflect investment positions at the end of 2021 but will be matched with emissions from earlier years, usually from 2020 or before. The emissions data for 2021 will eventually become available and one could then calculate the actual GHGs emissions of the 2021 portfolio, but that would require additional work.

Tracking and validating the progress companies are making in their transition plans is another issue. So far, most net-zero commitments can only be taken at face value and, over the next two to three years, companies will have to start demonstrating they are delivering against their targets. Finding robust ways to assess progress will be crucial. The challenge is twofold: to assess companies' performance against their commitments but also to understand if those commitments are enough to align them to a 1.5-degree pathway.

14. This is not to say that we should not strive to improve Scope 3 accounting. For example, having a very accurate value for a portfolio's emissions will be important for decisions about residual emissions and actions to offset them. However, accounting for Scope 3 emissions is progressing quickly. Approaches such as the production-focused one used in the One Earth Climate Model are already providing possible ways forward in this area.
Source: 'One earth climate model: Sectoral pathways to net-zero emissions', UNEP FI, May 2022.

Building for the future

From an asset class perspective, the approach needs to be incremental as some areas are still developing. The aim is to build on robust standards and methodologies and reflect on the international progression of this work. It is important to develop the capacity and capability to absorb this new knowledge and incorporate it into in-house processes (see *Building flexibility into plans*).

But having in-house capability also means investors can help shape these processes and accelerate the transition. Taking collective action, through some of the initiatives mentioned above but also engaging with other industry players, is key. These can range from credit rating agencies to stock exchanges, investment consultants, and data providers. It is a goal set out by the NZAMI, but beyond that, it is a crucial step to ensure all the products and services investors use to manage their assets are consistent with net-zero targets.

> Active engagement with governments and policymakers is essential

Active engagement with governments and policymakers to seek correction of market failures and mitigation of systemic risks, as well as creating an enabling environment to incentivise transition – what we call macro stewardship – is also essential. There is no comparison between most companies' emissions and those of an entire country, so successful macro stewardship could have a transformational effect on portfolios. Of course, both types of engagement, with companies and governments, must be aligned, because companies can influence their governments as well as being subject to their laws. Investors need to push on every front until regulations and company actions converge.

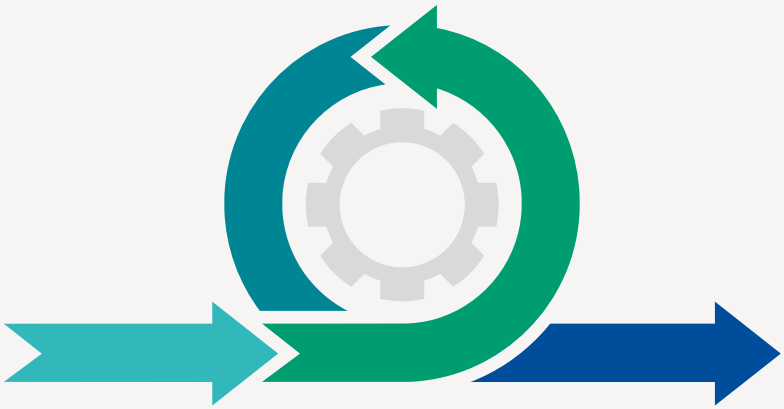
Figure 4. **Decarbonisation levers**

Immediate impact (signal)	• Security selection • Portfolio construction, strategic asset allocation and fund selection
Near-term impact	• Green investments • Transition investments • Corporate engagement • Client engagement
Impact from longer-term initiatives	• Policy and market engagement • Carbon-negative investments
Last-resort measures	• Divestment • Carbon offsetting

Source: Aviva Investors, August 2022.

Building flexibility into plans

Rapid progress and the need to act now make it important for investors to build flexibility into their transition plans in several areas.



01

Stranded assets: Most investors today have started considering where these lie in their portfolios, but it is still essential to map these risks (see *Stranded! When assets become liabilities*).[15]

02

The type of metrics used: Carbon intensity (CI), has been extensively used to measure progress and it is an important metric, but which permutation of it should be used?

There are different ways to express CI; enterprise value including cash (EVIC), revenue, or a physical variable (e.g. Kw/h) could all be used to normalise emissions data. Each of these has benefits and shortcomings that need to be built into the selection process.

Furthermore, CI is not enough. While it is useful to make comparisons between companies or countries, to track real change, actual emissions also need to be tracked.

03

The ability to add new asset classes as more frameworks are built: The process must be incremental to reflect new knowledge as it emerges.

04

Scenario analysis: There are different versions of how – and how fast – things might play out.

Analysing how a portfolio's carbon footprint might evolve under different scenarios in terms of new technologies emerging, regulation being adopted, or the transition efforts of different countries, for instance, will allow investors to understand what range of values their portfolio sits in.

15. 'Stranded! When assets become liabilities', Aviva Investors, February 28, 2020.

Investment considerations

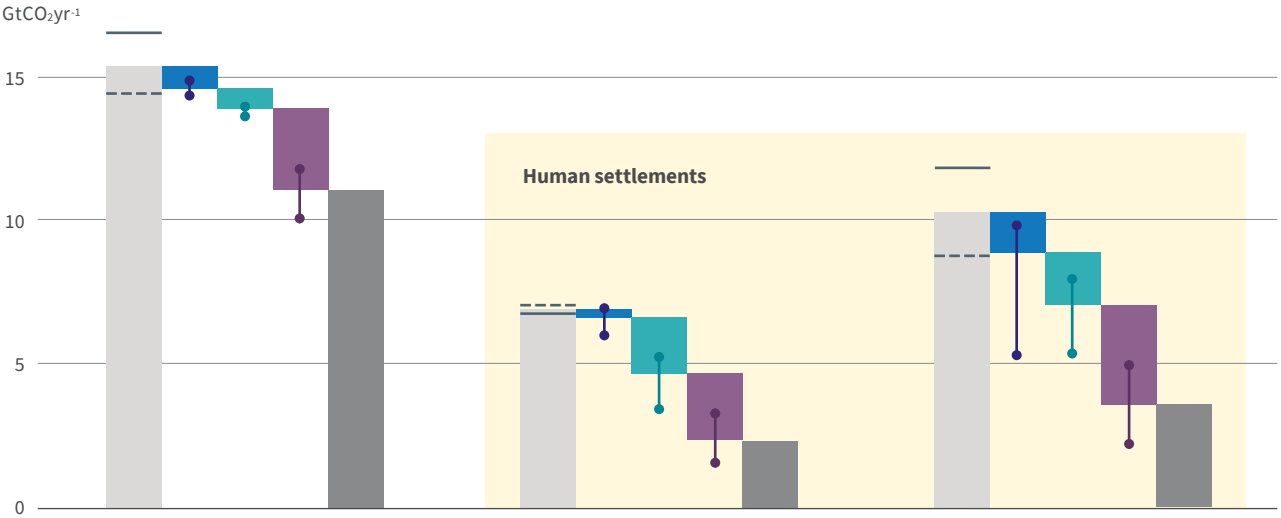
Going back to the process, once a quantitative analysis of the portfolio's emissions footprint is in place, it can be used to find outliers – companies with higher emissions in their group – and understand how they plan on addressing the transition challenge over the next five to ten years. This is important for two reasons. One is to engage and communicate our expectations to them; the other is to understand if they represent an investment opportunity – for example, if a high-emissions company can be transformed and become part of the net-zero transition (see Figure 5).

The next step, for individual asset owners and the industry, is to identify companies that aren't in line with expected transition plans, and to decide how and when to engage individually or as part of collective action. Formal assessments, active engagement and collective action are all important.

The investor will have to make a call on these companies if they are to reduce the portfolio's emissions within a given timeframe. That will mean striking a balance between engaging with the companies (or countries), setting timebound requests for change, and being prepared to reduce their exposure to those assets (e.g. sell shares they hold or not renewing a bond that has matured) if change is not actioned.

> Asset owners need to reconcile the decarbonisation they want for their portfolio with the reductions they want for the economy and the planet

Figure 5. **Towards a new economy: Necessary demand-side transformations by sector**



Industry	Land transport	Buildings
Manufactured products	**Mobility**	**Shelter**
Shift in demand towards sustainable consumption, such as intensive use of longer-lived repairable products.	Teleworking or telecommuting; active mobility through walking and cycling.	Social practices resulting in energy saving; lifestyle and behavioural changes.
Networks established for recycling, repurposing, remanufacturing and reuse of metals, plastics and glass; labelling low emissions materials and products.	Public transpot; shared mobility; compact cities; spatial planning.	Compact cities; rationalisation of living floor space; architectural design; urban planning (e.g., green roof, cool roof, urban green spaces etc.).
Green procurement to access material-efficient products and services; access to energy-efficient and CO2 neutral materials.	Electric vehicles; shift to more efficient vehicles.	Energy efficient building envelopes and appliances; shift to renewables.

Total emissions 2050: Mean; IEA-STEPS*; IP_ModAct; Socio-cultural factors; Infrastructure use; End-use technology adoption; Emissions that cannot be avoided or reduced through demand-side options are assumed to be addressed by supply-side options

Note: *See IPCC, 2022[16] for a description of the scenarios.
Source: IPCC, 2022.[16]

16. 'Climate change 2022: Mitigation of climate change', IPCC, 2022.

It is an important decision because asset owners need to reconcile the decarbonisation they want to achieve for their portfolio with the transformation needed for the economy and the planet.

Breaking down the portfolio is not only about identifying challenges, but also understanding what leverage investors have and where they can apply it. For example, investors could influence positive changes in corporate equity and debt, as well as direct real estate, because of their leverage in these areas, through voting (for equities) and engagement (credit and equities), and more control (for direct real estate). Most asset owners and asset managers will be focusing their efforts here, where there are established processes for engagement, as well as ongoing coordinated action.

While some sectors will be hard to decarbonise, such as oil and gas, it should not take companies long to change their business plans and dedicate the majority of their capital expenditure to activities that support the transition, like renewables. It will take time to implement changes but putting pressure on those companies to create robust transition plans is something tangible investors can do today.

Lean on me

Asset owners will likely need to build capacity to analyse and engage with companies. Those that do not have the resources should call on their passive-investment providers and asset managers to communicate well-articulated impact reporting. They can also look at the climate commitments made by those passive providers and asset managers and hold them to account.

As discussed earlier, asset owners can join forces with others through collective action, this time to make the point asset managers need to pull their weight. This is a critical point in time; we all respect competition laws, but there is room for collaboration, and we need to embrace it.

Adapting to a new era

However, the aim is not only to measure how close to zero emissions a portfolio might be; it is also to understand the nature of the investments and how they fit into the new sectors, market dynamics and economic activity necessary for a net-zero world. Building flexibility also means looking at how a portfolio can start moving to the new economy (see Figure 5).

Finally, talking about net zero implies investing in some carbon-removal activities to balance the portfolio's residual emissions. Again, it is important to start building those into portfolios early on because they are long-term projects, lasting a decade or more. Asset owners who want to truly balance their residual emissions can do more than buy offsets, i.e., negative emissions created by another organisation or activity; they can become the owners, custodians and enablers of activities that absorb emissions *(see Carbon removal)*.

Building a framework, understanding where a portfolio is and how it is evolving, tackling data challenges and taking a flexible, incremental approach that captures both challenges and opportunities will help asset owners adapt their portfolio for a new, net-zero economy.

Carbon removal

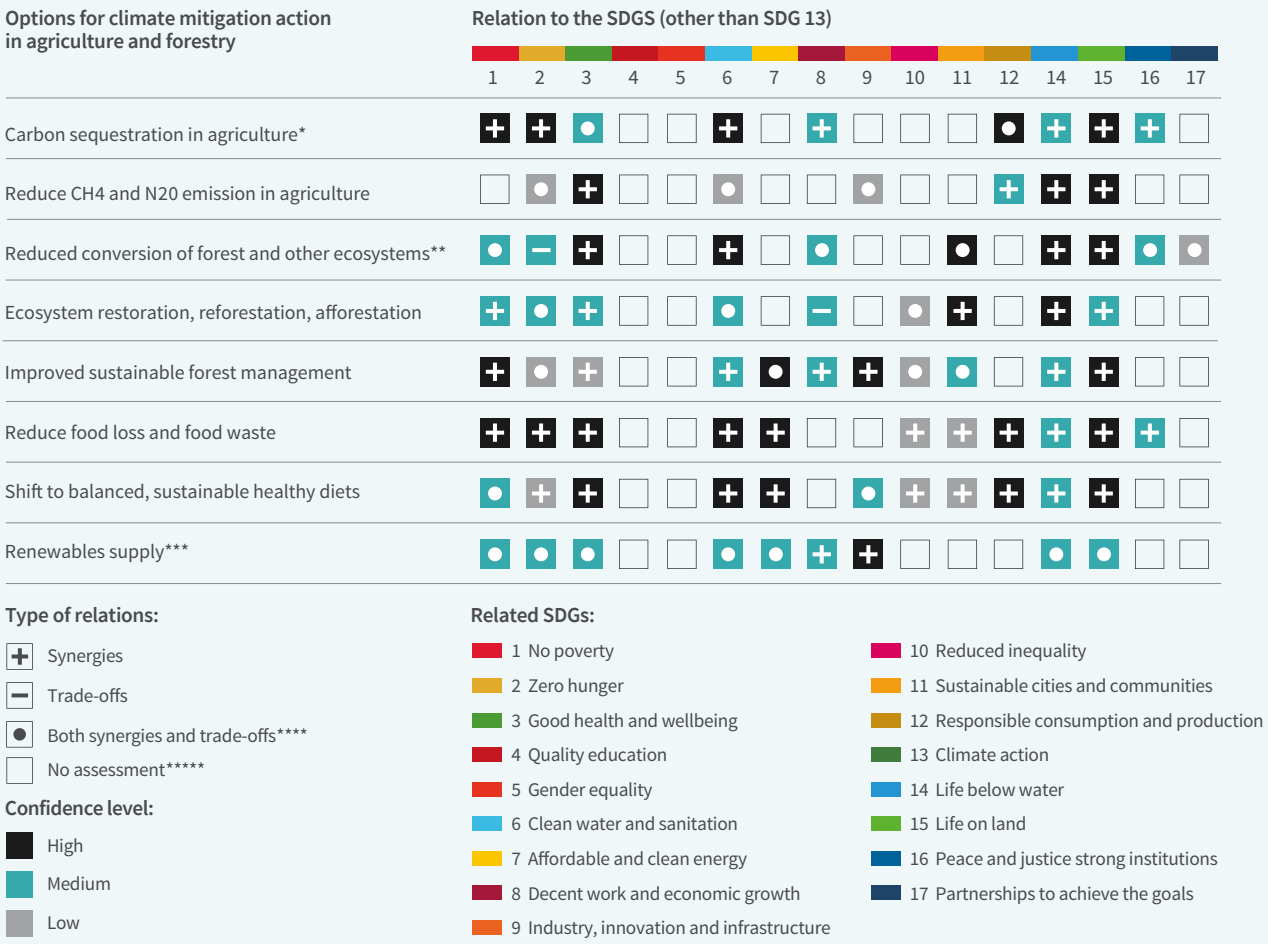
Investors often talk about nature-based solutions as the way to remove carbon from the atmosphere. It is important to understand this concept for two reasons.

Firstly, it recognises the need for a holistic approach that includes biodiversity, natural capital, and the health of the planet and communities, without which it will be impossible to solve many climate change issues. Similarly, climate change does not exist in isolation so it is important to find climate solutions that achieve multiple objectives and minimise negative impacts.

An example would be ensuring that ecosystem restoration provides benefits (e.g. food, income) for local communities as well as carbon sequestration (see Figure 6).

If you are going to invest in a new electric vehicle company, have you checked how it mined or acquired the precious metals used in the production process? We need to tackle these as interconnected problems.

Figure 6. **Example: Synergies and trade-offs between climate mitigation options in agriculture and forestry and the SDGs**



Note: *Soil carbon management in cropland and grasslands, agroforestry, biochar. **Deforestation, loss and degradation of peatlands and coastal wetlands. ***Timber, biomass, agri feedstock. ****Lower of the two confidence levels has been reported. *****Not assessed due to limited literature.

Source: IPCC, 2022.[17,18]

17. 'Climate change 2022: Mitigation of climate change', IPCC, April 4, 2022.
18. 'Climate change 2022: Mitigation of climate change', IPCC, 2022.

Secondly, even though there is an upper limit as to how much carbon the earth can absorb, planting more trees, regenerative farming and expanding mangroves, seagrass and other marine habitats still provides significant opportunities to absorb carbon. However, carbon offsets through nature-based solutions is not a "get out of jail free" card. Investing in nature-based solutions cannot be an excuse for us not to reduce emissions as much as possible.

Other ways to create negative emissions, using technology, are also important. For example, carbon can be absorbed from the atmosphere through direct air capture. Moreover, new technologies are being developed that can use carbon removed from the atmosphere or captured from factories and other activities, turning it into valuable products such as chemicals and carbon fibres or infusing it to reinforce concrete. Supporting these types of technological solutions can help shift entire sectors from emitting carbon to absorbing it.[19]

Focusing on carbon usage rather than storage is also important because it closes the carbon loop. The circular economy will be an important component of the new era, and investors should start incorporating it into their thinking (see *Waste not, want not: An investor's guide to the circular economy*).[20]

19. 'Putting CO2 to use: Creating value from emissions', IEA, September 2019.
20. 'Waste not, want not: An investor's guide to the circular economy', Aviva Investors, December 10, 2021.

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326902 - 31/08/2024

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