



FROM DISCLOSURE TO ACTION:

THE FIRST ANNUAL REPORT OF
THE PORTFOLIO
DECARBONIZATION
COALITION



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THE PORTFOLIO DECARBONIZATION COALITION

The Portfolio Decarbonization Coalition (PDC) is a multi-stakeholder initiative that seeks to reduce global greenhouse gas emissions by mobilising a critical mass of institutional investors committed to gradually decarbonizing their portfolios. The members of the PDC commit to (i) measuring and disclosing, via the Montréal Carbon Pledge, the carbon footprint of their investment portfolios on an annual basis, and (ii) taking action to decarbonize their investment portfolios.

The Portfolio Decarbonization Coalition was co-founded in 2014 by the United Nations Environment Programme (UNEP) and its Finance Initiative (UNEP FI), the fourth national pension fund of Sweden (AP4), Europe's largest asset manager Amundi and CDP, the most important mechanism for climate disclosure worldwide.

This report provides an introduction to the PDC and an overview of the decarbonization approaches and strategies of its members. It discusses the outcomes that have been achieved to date, and offers suggestions on how governments, investors and the PDC can accelerate the process of portfolio decarbonization.

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FOREWORD



Over the last decade, the investor community has played an active and vocal role on climate change. Investors have invested heavily in areas such as energy efficiency and renewable energy, pressed their governments, at the local, national and international levels to adopt more ambitious policies on climate change, and actively encouraged companies to reduce their greenhouse gas emissions.

Despite these important contributions, it is clear that much more is needed, and that investors need to look at the climate change impacts of their entire investment portfolios. The Portfolio Decarbonization Coalition (PDC) represents a major turning point on investor action and climate change. It moves the debate from one-off green investments towards a more holistic, and complete approach where investors align their entire portfolios, across all asset classes.

Portfolio decarbonization is about investors systematically integrating carbon information into portfolio design and capital allocation in ways that not only reduce investors' exposure to carbon-related risks, but that also put their portfolios at the service of the low-carbon economic transition. This will send a clear signal to companies and policymakers that climate change is a central issue for investors. If a critical mass of investors decarbonizes its portfolios, they will catalyze significant greenhouse gas emissions reductions in the real economy.

As one of the founding members of the PDC, I am extremely pleased to see the progress made since the UN Climate Summit in 2014. When we launched, we set ourselves the demanding goal of having investors commit to decarbonizing US\$100 billion in assets under management (AUM) by the time of COP21. PDC has significantly surpassed that target and has mobilized 25 investors worldwide with current and future decarbonization commitments of US\$600 billion AUM – a remarkable achievement in such a short period of time.

Our challenge now is to maintain the momentum; to better understand the variety of decarbonisation approaches and their implications, across asset classes; to encourage more investors to commit to portfolio decarbonisation and to support the delivery of real reductions in greenhouse gas emissions through the concerted action of a critical mass of investors. In doing so, the investment community can play its role in society's response to climate change.

A handwritten signature in blue ink, consisting of stylized, flowing letters that appear to read 'Mats Andersson'.

Mats Andersson,
CEO AP4

EXECUTIVE SUMMARY

DEFINITION: PORTFOLIO DECARBONIZATION

Portfolio decarbonization refers to systematic efforts by investors to align their investment portfolios with the goals of a low carbon economy. It includes, but is not limited to, efforts to reduce the carbon footprint of investment portfolios, to increase investment in areas such as renewable energy, to withdraw capital from high energy consumption activities and to encourage companies and other entities to reduce their emissions and support the transition to a low carbon economy.

The Portfolio Decarbonization Coalition (PDC) was co-founded in 2014 by the United Nations Environment Programme (UNEP) and its Finance Initiative (UNEP FI), the fourth national pension fund of Sweden (AP4), Europe's largest asset manager Amundi and CDP, the most important mechanism for climate disclosure worldwide. PDC's aim is to drive greenhouse gas emission reductions by mobilising a critical mass of institutional investors committed to gradually decarbonizing their portfolios.

As at 24 November 2015, PDC had 25 asset owner and asset manager signatories, representing over US\$3,200 billion in assets under management.

This report – the first progress report published by the PDC – demonstrates that investors can decarbonize their portfolios without harming investment performance. In fact, the view of PDC members is that portfolio decarbonization is likely to enhance long-term investment performance as it allows investors to reduce the risk of valuation impairment or stranded assets as a result of regulation, while also increasing their exposure to the winners of the energy transition and to the industries of the future.

PDC members have adopted a range of portfolio decarbonization strategies including investing in areas such as renewable energy, energy efficiency and clean technology, reducing or excluding investments in fossil fuels, moving capital from higher to lower carbon intensity companies, and encouraging companies to reduce their emissions and support the transition to a low carbon economy. While the specific impacts depend on the strategies adopted, PDC members report that their decarbonization activities have resulted in them reducing their carbon emissions, reducing their exposures to fossil fuels and increasing their investments in low carbon technologies and industries of the future. PDC members have not confined their efforts to their own portfolios and investments but have also encouraged policy makers and other investors to take effective action on climate change.

Finally, PDC members recognise that there is much to be done if decarbonization strategies are to be more widely adopted. Priority areas for action include: the development of investment products and investment solutions that enable investors to decarbonize their portfolios without compromising investment performance; the strengthening of corporate and investor reporting; the development of portfolio-level metrics that enable investors to track progress towards their decarbonization objectives; the development of a better understanding of the contribution that portfolio decarbonization can make to the goal of a low carbon economy and the timeframes over which this contribution can be made.

THE CHANGING POLICY AGENDA

To date much of the discussion about the role that policymakers play in encouraging investors to take action on climate change has focused on policy action in the real economy. The argument has been that the introduction of policy measures such as emissions trading will lead to investors paying greater attention to climate change-related risks and opportunities in their investment portfolios, positioning their portfolios to reflect the likely changes in climate change policy, and encouraging the companies that they are invested in to take similar actions. There is clear evidence – for example the large flows of capital into renewable energy, the pressure from investors for portfolio companies to set targets to reduce their carbon emissions – that these measures do affect investment practice and investment decision-making.

What this report shows is that policymakers can achieve much through relatively low cost measures that encourage investors to explicitly examine and report on their own decarbonization efforts. Examples include requirements to set explicit targets for portfolio decarbonization, to report on portfolio decarbonization activities and strategies, and to report on portfolio-related carbon measures. Well-designed policies can lead to investors looking at carbon emissions across their entire investment portfolios, increasing their investments in the industries of the future and/or reducing their investments in the industries of the past, engaging more assertively with the companies and other entities in which they are invested, and working together to ensure that they respond effectively to the policy signals and incentives being sent. In that context, it is no surprise that seven PDC signatories are French asset owners or asset managers, given the French government's long-awaited announcement in May 2015 that French institutional investors will be required to provide climate change-related disclosures for their investment portfolios by the end of 2016.

THE VIEW FROM PDC

UNEP has been greatly encouraged by the number of institutional investors that have joined the PDC since its launch in September 2014. This enthusiasm shows that there is real appetite in the investment community to support the transition to a low-carbon economy. It also underlines the importance of collaboration.

Working alone, individual investors cannot deliver change at the scale and rate needed to mitigate the worst effects of climate change. Only working together and with other stakeholders – in particular policymakers and companies – can green investment ambitions be realized effectively.

The analysis of the case studies in this report offers supportive evidence that portfolio decarbonization can both enhance investment performance and make a meaningful contribution to global efforts to move toward a low-carbon economy. Encouraged by these signs, the PDC will continue its work in helping develop metrics, tools and strategies to both decarbonize portfolios and report on performance outcomes in a consistent manner. The PDC will also work to increase the number of investors making commitments to portfolio decarbonisation and encourage policymakers to think creatively when it comes to increasing meaningful investor action on climate change.

Portfolio decarbonization plays a crucial role in the world's efforts to combat climate change. The PDC will continue to support the efforts of investors and policymakers who are committed to being part of the charge.

Achim Steiner,
Executive Director, UNEP

INTRODUCTION: SETTING THE SCENE

Societies cope with climate change by limiting greenhouse gas emissions and by adapting to its unavoidable impacts. Ultimately, responding to climate change will require systemic, transformative changes in the real economy, driven by well-designed and effectively implemented policy and regulation. Delivering change of this magnitude will require at-scale investment which, in turn, depends on the availability of capital. Given the fiscal constraints on many governments, private sector investors have a critical role to play not just in the provision of capital but in ensuring that this capital is diverted away from business-as-usual investments and towards alternatives that are low-carbon as well as climate-resilient.

DEFINITION: PORTFOLIO DECARBONIZATION

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“Financial investors are beginning to recognise that the markets they operate in are mispricing the risks posed by climate change. Low carbon investing is a question of both risk management and fiduciary responsibility.”

Pascal Blanqué,
CIO and Deputy CEO, Amundi

“Our decarbonization efforts are in line with the needs and interests of our clients who have a vested interest in the preservation of assets and the mitigation of macro risks such as disruptive climate change that may affect the long term stability of the whole financial system and wider economy.”

Daniel Wild,
Head of Sustainability Investing R&D and
Member of the Executive Committee,
RobecoSAM

There are various reasons for investors to decarbonize their investment portfolios: reducing the risks associated with carbon regulation, maximising the opportunities associated with the transition to the low carbon economy, meeting fiduciary duties, responding to stakeholder pressures, delivering on beneficiary expectations.

The actions taken by investors to decarbonize their portfolios have included making allocations to low carbon strategies (e.g. through green bonds, low carbon indices), encouraging portfolio companies to reduce their greenhouse gas emissions, and withdrawing capital from particular sectors or companies. Investors have also helped to unlock other sources of capital through their influence on the strategy and capital investment decisions of the companies that they invest in, and through encouraging governments to adopt policy measures that accelerate the transition to a low carbon economy.

THE PORTFOLIO DECARBONIZATION COALITION

Despite the important contribution that has been made by investors, there is a growing sense that there is a need to move on from one-off, often relatively ad hoc actions to a more systematic alignment between investment portfolios and the low-carbon economy. Encouragingly, investors – in developed and developing countries – have started to develop and implement portfolio-wide strategies to reduce their exposure to greenhouse gas emissions and to ensure that their portfolios are resilient to the weather and other impacts of climate change.

The Portfolio Decarbonization Coalition (PDC) is a multi-stakeholder initiative that seeks to reduce global greenhouse gas emissions by mobilising a critical mass of institutional investors committed to gradually decarbonizing their portfolios. The members of the PDC commit to (i) measuring and disclosing, via the Montréal Carbon Pledge,¹ the carbon footprint of their investment portfolios on an annual basis, and (ii) taking action to decarbonize their investment portfolios. By offering a platform for these leading action-oriented investors to work together, the PDC aims to stimulate and catalyse further decarbonization efforts.

This report provides an introduction to the PDC and an overview of the decarbonization approaches and strategies of its members. It discusses the outcomes that have been achieved to date, and offers suggestions on how governments, investors and PDC can accelerate the process of portfolio decarbonization.

1. <http://montrealpledge.org/>

2 PDC: DELIVERING CHANGE

The PDC was co-founded in 2014 by the United Nations Environment Programme (UNEP) and its Finance Initiative (UNEP FI), the fourth national pension fund of Sweden (AP4), Europe's largest asset manager Amundi and CDP, the most important mechanism for climate disclosure worldwide. PDC's aim is to drive greenhouse gas emission reductions by mobilising a critical mass of institutional investors committed to gradually decarbonizing their portfolios.

The PDC expects that having a critical mass of institutional investors – both asset owners and asset managers, thereby bringing the investment chain together – with commitments to decarbonize their portfolios, will send a strong and unequivocal message to policymakers and to companies that decarbonization is now a core concern for institutional investors, and that investors are looking to them to help accelerate the transition to a low carbon, climate resilient economy. To date 25 institutional investors have joined the PDC (see below).

PDC MEMBERS (AS AT 24 NOVEMBER 2015)

Organisation Name	Country of Origin	Organisation Type	Assets Under Management
A CAPITAL	Luxembourg	Asset manager	US\$50 million
ABP	Netherlands	Asset owner	US\$385 billion
Allianz	Germany	Asset manager	US\$670 billion
Amundi	France	Asset manager	US\$1,093 billion
AP4	Sweden	Asset owner	US\$35.8 billion
Australian Ethical	Australia	Asset manager	US\$850 million
BNP Paribas Investment Partners	France	Asset manager	US\$509 billion
Caisse des Dépôts Group	France	Asset manager	US\$166 billion
Church of Sweden	Sweden	Asset owner	US\$850 million
Environment Agency Pension Fund	United Kingdom	Asset owner	US\$4 billion
ERAFP	France	Asset owner	US\$25.7 billion
FRR (Fonds de Réserve pour les Retraites)	France	Asset owner	US\$48.8 billion
Inflection Point Capital Management	United Kingdom	Asset manager	US\$1 billion
Hermes Investment Management	United Kingdom	Asset manager	US\$46.9 billion
Humanis	France	Asset owner	US\$15.1 billion
KLP	Norway	Asset manager	US\$48 billion
Local Government Super (LGS)	Australia	Asset owner	US\$7 billion
Mandatum Life Investment Services	Finland	Asset manager	US\$2.8 billion
Mirova	France	Asset manager	US\$5.6 billion
MN	Netherlands	Asset manager	US\$117 billion
RobecoSAM	Switzerland	Asset manager	US\$10.4 billion
Sonen Capital	United States	Asset manager	US\$350 million
Storebrand	Norway	Asset manager	US\$65 billion
Toronto Atmospheric Fund	Canada	Asset owner	US\$23 million
University of Sydney	Australia	Asset owner	US\$1.04 billion

WHY JOIN PDC?

“The PDC represents a no-nonsense, action-oriented group of investors dedicated to tangible, measurable progress in this critical issue area. The primary benefit is adding our voice and our assets to the aggregated group of stakeholders who are working towards mobilising financial markets to drive decarbonization.”

Danielle Ginach,
Impact Manager, Sonen Capital

The main reason why investment organisations have joined PDC is to send a clear signal to policy makers and to other investors that there is an emerging critical mass of institutional investors committed to measuring and decarbonizing their portfolios. These signals are expected to encourage and support change through showing the art of the possible, and through inspiring others to act.

The other main reason for joining PDC is that it allows investors to work together to address common challenges and questions around the practicalities of implementing a portfolio decarbonization strategy. PDC members see that PDC can help them to develop performance measurement tools and portfolio decarbonization tools and strategies, can provide them with a forum to share expertise and knowledge, can help them to refine their own decarbonization strategies, and can help them to develop effective communication strategies to respond to the questions and issues being raised by clients, partners and beneficiaries about the long term investment risks associated with climate change.

WHY FOCUS ON INVESTORS?

“We joined the PDC because we are committed to managing the investment risks and opportunities associated with climate change as well as continually improving the carbon performance of our portfolios. We believe that the PDC will provide a useful platform for us to engage with the investment industry and to learn more about decarbonization strategies.”

Peter Lambert
CEO, Local Government Super

Investors have a critical role to play in modern economies, and in turn in the area of climate policy. The most obvious, and of most immediate relevance to PDC, is that they allocate capital. For infrastructure investments, the decisions that investors make about what to invest in, or not to invest in, has a critical impact on the shape and structure of the economy and, in turn, on current and future emissions. The most obvious examples are where investors choose between high and lower emitting investments (e.g. renewable energy compared to fossil fuel-based energy, higher versus lower emitting companies).

While the process of choosing between competing infrastructure-type investments is important, it is only part of the picture. Investors also make decisions about the asset classes they invest in (e.g. debt, equity), the size of the company or asset they invest in (e.g. small companies and start-ups, large established businesses), the sectors they do or do not invest in (e.g. mining), the sub-sectors they do or do not invest in (e.g. renewable energy, fossil fuel-based power generation) and the characteristics of the companies they invest in (e.g. more efficient companies, companies that are likely to benefit from the transition to a low carbon, climate resilient economy). These decisions affect the sectors where investors' capital is allocated, the types of companies that are invested in, and the conditions on which capital is provided. If investors make companies' climate change practices and performance an integral part of their investment decisions, this provides a powerful incentive for companies to take robust action to reduce their carbon emissions.

Investors also contribute by influencing the companies or other entities in which they invest. They can encourage companies to explicitly consider climate change and carbon emissions in their strategy development and capital investment, and they can challenge these companies when they consider that they are not taking appropriate account of the risks and opportunities being presented by climate change and carbon emissions.

Finally, investors can play a supportive role in the policy process through encouraging policymakers to develop and implement the policy frameworks and measures that are necessary to enable the transition to a low carbon economy. In addition, they can provide an important countervailing voice to those that are opposed to effective action on climate change.

While investors are a key actor, it is important not to overstate their influence. They are frequently just one influence on the actions taken by companies and policymakers. Furthermore, it often takes time for high level commitments – such as commitments to portfolio decarbonization – to translate into observable changes in investment practice, in portfolio composition or in the outcomes that are achieved. For example, it can take a number of years of dialogue and engagement before companies respond to investor requests to set emission reduction targets or take other actions. Similarly, it may take a number of years before a commitment to allocate capital to, for example, renewable energy projects, can be delivered given the lead times required for the planning and construction of such projects.

“Sharing our practice with institutional and sovereign investors at PDC meetings has enabled us to reflect on and improve our own decarbonization strategies.”

Pascal Blanqué
CIO and Deputy CEO, Amundi

3 IMPLEMENTING PORTFOLIO DECARBONIZATION

DEFINING DECARBONIZATION IN PRACTICE

PDC's high level definition of portfolio decarbonization is that it is the process through which investors align their investment portfolios with the goals of a low carbon economy. In practice, the manner in which decarbonization is defined and interpreted by individual PDC members depends on how they see and choose to manage or respond to the risks and opportunities presented by climate change.

Some PDC members focus on the Scope 1 and 2 emissions from the companies in their investment portfolios, where Scope 1 emissions are greenhouse emissions from sources that are owned or controlled by the company (or other entity)² and Scope 2 emissions result from electricity generation, heating and cooling, or steam generated off site but purchased by the company. There are various reasons for focusing on Scope 1 and 2 emissions: they are relatively well understood, there is reasonable data on these emissions, they minimise the risk of double-counting and they align with the areas where companies have the most control.

Other PDC members focus on Scope 1, 2 and 3 emissions, on the grounds that this provides a more complete picture of the overall emissions associated with a company's activities. Scope 3 emissions are emissions from sources not owned or directly controlled by the company, but where the emissions are related to or as a result of its activities.³ These emissions are particularly important in the case of the energy sector where the majority of emissions associated with coal, oil and gas result from their use in power generation rather than from their extraction and transport. However, Scope 3 emissions calculations protocols and reporting are less well developed than those for Scope 1 and 2 emissions, there are many gaps in the data that are reported by companies, and, in practice, companies may have relatively limited influence over these emissions.

One of the problems with focusing on emissions (whether Scope 1 and 2, or Scope 1, 2 and 3) is that it can obscure the wider impacts of companies on climate change or the wider contribution that they, or their products and services, make to the low carbon transition/economy. An example could be that of a wind turbine manufacturer, where emissions from the manufacturing process should be considered in the context of the contribution that the wind turbines could make to reducing emissions over several decades. Some PDC members have suggested that investors should use some form of life-cycle analysis to capture the full impacts – positive and negative – of individual companies. However, at this time, much of the data needed to conduct robust life-cycle assessments are not available and there is no consensus on how to address issues such as the potential double-counting of emissions (e.g. which entity should claim credit for emissions savings, the producer or the user of the product or service?) and how to deal with trade-offs (e.g. greenhouse gas emissions from production versus potential savings from product use).

This lack of consensus on the definition of decarbonization means that – as we discuss further below – PDC members have defined their targets in different ways, have adopted different implementation strategies and are using different metrics and measures to report on their performance.

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2. Scope 1 emissions can include emissions from fossil fuels burned on site, emissions from company-owned or leased vehicles, and other direct sources.
 3. These may include the emissions from the extraction and production of purchased materials and fuels, employee travel and commuting, from waste disposal, from leased space, and from other outsourced activities.

PDC Members' Decarbonization Commitments

The assets subject to decarbonization commitments can be defined in two ways. The first is where climate change-related activities or commitments drive the investment decision and where the impact on investment decisions and the portfolio as a whole can be clearly identified. This includes explicit commitments to reduce the carbon footprint of investment portfolios, to increase investment in areas such as renewable energy, to withdraw capital from high energy consumption activities, or to encourage companies and other entities to reduce their emissions and support the transition to a low carbon economy.

The second, which is somewhat broader, extends this definition to include investment processes (and associated objectives and targets) that consider climate change as an important part of wider analysis of and action on environmental, social and governance issues. In this approach, climate change-related activities or commitments are not the primary driver of the investment decision and the impact of climate change factors on investment decisions may be difficult to ascertain. Despite this, many such portfolios have lower emissions, higher rates of investment in decarbonization strategies and lower fossil fuel exposures than their relevant benchmark indices.

Under the narrower definition of decarbonization and excluding obvious cases of double counting (i.e. excluding those investments being managed by asset managers on behalf of asset owners that are also PDC signatories) PDC members have committed to decarbonizing approximately US\$600 billion of assets under management. For most of these assets – US\$580 billion out of the US\$600 billion in assets under management – the decarbonization process has already started and/or clearly specified, time-bound targets have been set for the decarbonization process. The balance represent assets where there is an explicit commitment to decarbonization but the asset owner or asset manager is still in the process of defining performance measures or researching the actions that might be set.

Under the wider definition of decarbonization (i.e. one that includes actions and activities where decarbonization is a secondary or indirect consequence of the actions taken), PDC members have committed to decarbonizing approximately US\$690 billion of assets under management.

PORTFOLIO DECARBONIZATION TARGETS

The targets used to track, assess and report on investors' portfolio decarbonization efforts can be defined in a variety of ways.⁴ In broad terms, investors should report on:

- The coverage of the target (specifically, on the proportion of the portfolio or the total assets covered by the target).
- The subject of the target (e.g. is the focus on emissions, on specific sectors or activities that are or are not being invested in).
- The specific outcomes being sought.
- The timeframes over which these outcomes are being sought.
- The actions to be taken to deliver the target.

Approximately half of the PDC members have set formal decarbonization targets. These provide valuable insights into current thinking on portfolio decarbonization and into what might be achieved over time. The targets vary in terms of the level of emissions reductions that are being sought, the scope of the commitments and the timeframes over which emissions reductions are expected to be delivered. For example, the FRR is seeking to achieve a minimum reduction of 50% in the carbon intensity and fossil fuel reserves in the investments it has made in low carbon equity indices relative to the relevant parent index. AP4 aims to have 100% of its global equities portfolio invested in low carbon strategies by

4. A useful description of the metrics that could be considered when defining portfolio decarbonization targets is provided in 2° Investing Initiative, UNEP FI and Greenhouse Gas Protocol (2015), *Climate Strategies and Metrics: Exploring Options for Institutional Investors. Final Draft for Discussion* – May 2015 (2° Investing Initiative, London) http://www.unepfi.org/fileadmin/documents/climate_strategies_metrics.pdf

“AP4 is more convinced than ever that it is necessary to incorporate climate risk into the investment process when managing pension funds with a long term horizon. The important step for us was to set ambitious targets, and then build our knowledge by constantly monitoring and reviewing the investment process.”

Mats Andersson,
CEO, AP4

the end of 2020, and RobecoSAM aims to reduce the carbon attributable to its core investments by 20% by the end of 2015.

Four PDC members – Australian Ethical, Church of Sweden, Toronto Atmospheric Fund, A CAPITAL – have set portfolio wide-targets, although the specific targets reflect how they have defined portfolio decarbonization and their historic decarbonization activities. Australian Ethical has set a target to fully de-carbonise its investments (i.e. net zero portfolio emissions by 2050), Toronto Atmospheric Fund is aiming for its portfolio to be 100% decarbonized, A CAPITAL has a target of investing 100% of its assets under management into low-carbon companies, and the Church of Sweden, having already divested from coal, oil and gas, is now looking to invest more heavily in low carbon technologies such as renewable energy and energy efficiency.

Case-study: Framing Decarbonization Targets

Australian Ethical has specified the following key criteria for its decarbonization target and path:

- Meaningful coverage of all material portfolio emissions, across all companies, sectors and countries.
- Creates incentives to invest in a clean energy economy, and avoids distorting incentives.
- Practical to implement and report.
- Offers a leadership model for other investors and companies.

Even though approximately half of the PDC members have not yet set formal portfolio decarbonization targets, all are working on the development of performance metrics and are already taking action to decarbonize their portfolios. These members point to two issues. The first is that there are significant gaps and uncertainties in the data that are available. PDC members have expressed concern that these data are not yet reliable enough to enable them to set decarbonization targets or to measure their performance against these targets.⁵ The second is that asset managers need to respond to the needs of their clients. That is, while asset managers can offer low carbon products and can commit to meeting particular decarbonization objectives within these products (e.g. that emissions are a certain proportion of the emissions from a reference index), the scale of investment depends on their clients' willingness to invest in these products.

PORTFOLIO DECARBONIZATION STRATEGIES

PDC members have adopted a range of strategies to decarbonize their investment portfolios in line with the goals of a low carbon economy. The specific strategies that have been adopted reflect their views and definitions of decarbonization, and their historic decarbonization activities. The most common decarbonization strategies are engagement, preferentially investing in particular sectors or activities and negative screening or exclusions. Many deploy multiple decarbonization strategies.

The specific strategies often differ between asset classes. This is partly because the level and quality of available data for different asset classes and different geographies differs. It is

5. Addressing these issues is a core goal of the Sustainable Energy Investment (SEI) Metrics project which aims to develop a climate performance framework and associated investment products that measure the exposure of financial portfolios to the new climate economy. See, further, http://2degrees-investing.org/IMG/pdf/sei_metrics_summary-3.pdf?iframe=true&width=986&height=616

partly because the investment opportunities differ between asset classes. It is partly because it is difficult to adopt a perfectly consistent approach across the entire portfolio. For example, one PDC member commented that a strict approach to screening would suggest that if it excluded fossil fuel companies from its equity portfolio, it could face pressure from beneficiaries or NGOs to also exclude bonds issued by countries that rely heavily on these energy sources.

ENGAGEMENT

PDC members have encouraged companies to report on their direct and indirect greenhouse gas emissions and to take action to reduce these emissions. This engagement has been conducted directly with companies as well through collaborative initiatives such as CDP and the major investor climate change networks.⁶ These collaborative initiatives have encouraged better company disclosure on climate change strategy (e.g. the CDP information requests), to set emission reduction targets (e.g. the Carbon Action initiative) and to take action on sector specific issues (e.g. on the control of fugitive emissions from the oil and gas sector).

One of the interesting features of this engagement is that it often goes beyond encouraging companies to reduce their Scope 1 and 2 emissions. There is an increasing emphasis on wider questions of corporate strategy and capital expenditures in the context of the need to transition to a low carbon economy, corporate risk from climate change regulation and the physical impacts of climate change.

Among asset owner members, fund manager engagement is also important. This includes setting targets for particular funds, encouraging fund managers to take action to decarbonize the investment portfolios they are managing and, encouraging the building of capacity, given the relative lack of investment managers and investment consultants with low carbon investment expertise.

“We recognise that those sectors that are responsible for a large share of global greenhouse gas emissions will be part of the solutions to climate change. That is why encouraging best practice through engagement and investing only in the most sustainable players and the most carbon efficient companies in each sector is an integral part of our approach to decarbonization.”

Philippe Desfossés,
CEO, ERAFP

“As a universal owner of global equities we looked for scalable solutions with a lot of impact but with minimal tracking error. Working with external partners enabled us to develop strategies and products which are investable for long time periods and with large allocations.”

Pascal Blanqué,
CIO and Deputy CEO, Amundi

6. The European Institutional Investors Group on Climate Change (IIGCC), the Asia Investor Group on Climate Change (AIGCC), the Australia/NewZealand Investor Group on Climate Change (IGCC) and the Investor Network on Climate Risk (INCR).

“We believe a multi-faceted response to climate change is most effective. For example, divestment and engagement reinforce the effectiveness of each other and create conditions which allow progressively more ambitious and creative forms of shareholder advocacy, and more ambitious policy responses by government.”

Phil Vernon,
Managing Director, Australian Ethical Investment

Case-Study: Environment Agency Pension Fund and Stranded Assets

In late 2013, the Environment Agency Pension Fund commissioned a detailed study on its exposure to the carbon embedded within fossil fuel reserves held by globally listed companies. One of the aims was to identify the risks that could be dealt with through its engagement with fund managers, and to look at the overall exposure of the pension fund to carbon stranded assets.

The Fund worked with its fund managers to discuss specific holdings identified as being at particular risk. It then asked them to ensure that their analysis of these companies took account of the risks of stranded assets, and to engage with fossil fuel based companies to challenge their capital expenditures on the exploration of new fossil fuel reserves. It also asked each manager to identify and engage with companies in their portfolios with direct exposure to fossil fuels or where fossil fuels were key to the supply chain.

PREFERENTIAL INVESTMENTS

PDC members have invested – directly or through fund of funds or other investment vehicles – in environmental technologies and renewable energies. The LGS case-study below illustrates the range of investment opportunities that may be available to large multi-asset investors.

Case-Study: Local Government Super and Low Carbon Investment

LGS invests more than US\$625 million in low carbon opportunities including:

- International listed equities – low carbon fund where all companies must derive 50% of value from low carbon assets or activities (US\$70 million)
- Direct property – internally managed green property portfolio of office, industrial and retail buildings (US\$453 million)
- Private equity – clean technology mandate covering renewable energy technologies and generation (US\$30 million)
- Sovereign bonds – global government bond mandate with 15% allocation to green bonds (US\$18 million)
- Absolute return – mandate to hedge climate risks faced by utilities through investing in electricity and environmental markets (US\$38 million)
- Infrastructure – infrastructure fund with 10% allocation to renewables (US\$16 million)

NEGATIVE SCREENING/EXCLUSIONS

A number of PDC members exclude companies involved in the mining of coal, in the extraction of tar sands, and in coal-fired power generation. Local Government Super, for example, excludes companies where more than 33% of their business is in coal mining, oil sands and/or coal-fired power generation. One interesting trend is that some of the PDC members that have had long-standing coal exclusions have now started to exclude other fossil fuels. For example, in 2011, Australian Ethical divested from the unconventional gas sector and, in 2014, the Church of Sweden divested from its few remaining gas investments.

Another increasingly common form of screening is the exclusion of companies on the basis of their carbon efficiency. For example, ERAFP has a segregated equities mandate (US\$1.2 billion), which excludes the worst 5% of companies in terms of carbon efficiency on a global basis, and the worst 20% of companies in terms of carbon efficiency in each sector.

Case-study: MSCI Low Carbon Leaders Index

FRR, Amundi and AP4 have collaborated with the index provider MSCI to develop the MSCI Low Carbon Leaders indices. These exclude the top 20% of companies in the relevant investment universe based on carbon emissions intensity (i.e. Scope 1 and Scope 2 emissions per million euros of turnover) as well the largest owners of reserves per dollar of market capitalisation in the index. The aim is to achieve at least a 50% reduction in carbon footprints relative to the relevant parent indices.

BEYOND PORTFOLIO DECARBONIZATION

PDC members recognise that reducing their own portfolio-related emissions is just part of their wider contribution to reducing greenhouse gas emissions. PDC members have, among other activities, supported the development of the green bond market, supported the development of low carbon indices (see, for example, the case-study of the MSCI Low Carbon Leaders Index above), and played an active role in policy debates on climate change, and collaborated with other investors, civil society organisations and companies, through initiatives such as the CDP, the Principles for Responsible Investment, and the Institutional Investors Group on Climate Change.

TRACKING PERFORMANCE

The variety of performance metrics being used – see Box - to describe and report on decarbonization efforts reflects the different views among PDC members about the meaning of portfolio decarbonization and the strategies that they are using to deliver on their decarbonization objectives.

Decarbonization Performance Metrics Used by PDC Members

- Scope 1 and 2 emissions
- Scope 1, Scope 2 and direct suppliers' emissions
- Scope 1, 2 and 3 emissions
- Potential greenhouse gas emissions from (proven) fossil fuel reserves
- Exposure to fossil fuel reserves.
- Total investments in low carbon strategies; these may be investments in specific areas such as renewable energy or wider investments in green real estate or infrastructure.
- Investments in companies with good carbon management scores.
- Investments in companies with good management of environmental and social issues.
- Emissions reductions that can be attributed to a company's products, activities or services.
- Proportion of companies or investments engaged on climate change-related issues.

“We are considering options to report progress to our target (net zero emissions by 2050) against multiple emissions metrics. We are considering tracking multiple pathways that show progress towards zero carbon electricity, zero fossil fuel reserves (already largely achieved), and zero emissions produced by companies we invest in (net of reductions in emissions our clean economy companies deliver for others).”

Phil Vernon,
Managing Director, Australian Ethical
Investment

“To date, a lot of asset classes are not covered by carbon footprint tools or decarbonization methodologies. As a first step we have decided to focus on our equity portfolio.”

Philippe Desfossés
CEO, ERAFP

PDC members use these metrics to track performance against their own organisational objectives, to track year on year changes in their performance, to understand the underlying drivers of performance, and to assess their performance against relevant reference benchmarks. They also use these metrics in their reporting to clients and to other stakeholders.

Not only do PDC members use quite different performance metrics but they also describe their performance outcomes in very different ways. Amongst others, PDC members normalise the performance metrics by the value of the fund or by the assets under management (i.e. performance is expressed per dollar invested in the fund or in the relevant portfolio), by the turnover of the companies in the fund or by the number of companies held.

To put their performance into context, PDC members often describe their performance by referring to particular investment benchmarks or indices. These may be the specific benchmarks against which their investment performance is assessed or generic benchmarks (e.g. standard global or national indices). The use of market benchmarks or indices raises the question of whether performance should be compared to standard large cap benchmarks or whether it is more appropriate to compare performance to other green funds or ethical indices. At present, both are used by PDC members depending on the audiences that they wish to communicate with and on how they wish to frame the performance outcomes that they have achieved.

Case-study: Using Carbon Data in Decision-making

Local Government Super (LGS) uses its analysis of its carbon performance to help answer the following questions:

- How do LGS' Australian and international equities portfolios' carbon footprints compare to their benchmark? Could this be a reason for relative out/under performance?
- Are there any particular sectors that have particularly large carbon footprints? If so what are the potential responses?
- Do any of LGS' external managers have particularly high or low carbon footprints? If so what are the reasons? Does this represent an engagement opportunity? Are the managers well-informed on carbon risks?
- Are LGS' low carbon thematic allocations actually low carbon?

“Undoubtedly, carbon is a risk which may overturn entire business models. There is also another risk which is the possibility to underestimate the wealth of investment opportunities that the “transition” entails. It is thus our responsibility to inform our beneficiaries on our level of exposure to this risk. With that in mind, we have been assessing and disclosing the carbon footprint of our equity portfolio for two years now.”

Philippe Desfossés,
CEO, ERAFP

“Data imperfections should not become an excuse for inactivity. Investors can make an enormous contribution to the climate challenge, even in the absence of perfect data.”

Matthew Kiernan, Founder and Chief
Executive, Inflection Point Capital
Management

PDC members have highlighted the challenges of developing performance measures that enable meaningful comparisons to be made between investors. They have pointed to the differences in views among PDC signatories on the definition of decarbonization and to the fact that performance outcomes strongly depend on the organisation's history of action on climate change. For example, organisations that have just started the process of decarbonizing their portfolios may be able to achieve more dramatic changes than organisations with a more mature portfolio decarbonization programme. At the same time, those organisations that have recently started the decarbonization process may find that their absolute performance (e.g. portfolio emissions on a per dollar invested basis, the level of investment in renewable energy) is significantly worse than those that have a number of years' experience with decarbonization. PDC members have also pointed to the significant limitations in the data that are available for assessing performance as another barrier to developing metrics that enable meaningful performance comparisons to be made.

These challenges reflect the fact that decarbonization and carbon footprinting are relatively new areas, and that practice on decarbonization has, in many ways moved ahead of debates on portfolio measurement and monitoring. It is also important to recognise that none of the challenges are seen as insurmountable. Rather they are a function of the current state of practice, and it is expected that greater clarity and consensus around performance tracking and measurement will emerge over time.

Case-study: Individual and Collective Action on Carbon Footprinting

The Montréal Carbon Pledge⁸ was launched on 25 September 2014 at PRI in Person in Montréal, and is supported by the Principles for Responsible Investment (PRI) and the United Nations Environment Programme Finance Initiative (UNEP FI). By signing the Pledge, investors commit to measure and publicly disclose the carbon footprint of their investment portfolios on an annual basis.

The Greenhouse Gas Protocol Portfolio Carbon Initiative⁹ (a joint initiative between UNEPFI, the Greenhouse Gas Protocol and the 2 Degrees Investing Initiative) aims to provide guidance on how to define, assess, and track climate performance for asset owners and banks, and to provide guidance on how to identify, assess, and manage “carbon asset risks” for financial institutions. One of the Initiative’s work streams is focused on asset owner climate performance. The workstream will produce a comparative analysis of current climate performance metrics, followed by climate performance accounting guidance for asset owners.

Individual PDC members such as Mirova and ERAFP are also taking action. For example, Mirova is working with Carbone4, a French consultancy specialising in carbon accounting, to develop a methodology that allows it to estimate the overall life-cycle contribution of companies to the energy transition and low carbon economy. ERAFP’s efforts include using and testing current carbon footprinting methodologies, working with its asset managers on portfolio decarbonization approaches, and disclosing the results of its work in these areas.

7. <http://montrealpledge.org/>

8. http://www.ghgprotocol.org/Portfolio_Carbon_Initiative

ARE PORTFOLIOS BEING DECARBONIZED?

There is clear evidence – see the box below – that decarbonization efforts are having an effect on the carbon characteristics of PDC members' investment portfolios and funds.

Portfolio Decarbonization Outcomes

- FRR: At the end of 2014, the carbon intensity – expressed in terms of the emissions per million Euros of turnover of the companies in the portfolio – of the FRR's equity portfolio was 12% less than that of its benchmark index.
- FRR: The companies in the FRR's equity portfolio whose revenues are generated by extractive operations represent 6.67% of the portfolio's total value, compared to 7.75% in its reference index.
- Australian Ethical: At the end of 2013, Australian Ethical's Australian shares had a carbon footprint that was one quarter of the carbon intensity of the ASX 200.
- ERAFP: At the end of 2014, ERAFP's equity portfolio had a carbon intensity that was 16% lower than its benchmark, the MSCI World.
- LGS: At 31st December 2014, LGS' Australian equities portfolio had 17% and 14% lower carbon emissions and intensity respectively than its reference benchmark.
- Environment Agency Pension Fund: The carbon footprint of the Environment Agency Pension Fund's active equities portfolio is currently 31% lower than the MSCI ACWI.
- Environment Agency Pension Fund: For active UK bonds the Environment Agency Pension Fund's portfolio is 48% more carbon efficient than the IBOXX benchmark (the bond market indices comprising liquid investment grade bond issues).
- AP4: By excluding companies with largest greenhouse gas emissions and, at the same time, remaining sector-neutral, AP4's North American equity portfolio's carbon emissions are 50% lower than its reference benchmark.
- RobecoSAM: In broadly diversified global portfolios, by avoiding the most inefficient companies through use of a best-in-class filter, RobecoSAM is able to reduce the carbon impact of its funds by up to 20%.
- Hermes: The emissions from Hermes' real estate portfolio have been reduced by an average of 6.5% per annum between 2006 and 2015.

Despite the positive outcomes at the portfolio level, it is not possible to offer a definitive view on how portfolio decarbonization efforts will affect the real economy. In part, it is because portfolio decarbonization is such a new activity. Inevitably, it takes time for high level portfolio commitments to translate into tangible on the ground changes. In part it is a question of scale. In fact, it may be that the overall contribution of portfolio decarbonization can only be robustly measured at an aggregate level, e.g. in terms of the absolute level of capital allocated to an area such as renewable energy, in terms of the impact on the share price or cost of capital of high emitting or high impact companies.

The impact on the real economy will also critically depend on the actual decarbonization strategies that are adopted. It is likely that the most tangible impacts will be seen in areas where capital is allocated directly to a specific activity (e.g. the provision of equity or debt to a new renewable energy project). For existing activities, even though the decisions made by individual investors as part of their portfolio decarbonization strategies may have limited impact on a company's access to or cost of capital, if a group of investors take the same decision, they may have a material effect on the company's cost of capital and may be able to create very strong incentives for emissions reductions. It is also worth noting that investors may adopt decarbonization strategies that enable them to manage their carbon and climate change-related risks – an example could be the use of hedging instruments – but do not affect the characteristics of their underlying holdings.

HOW IS INVESTMENT PERFORMANCE BEING AFFECTED?

“From an investment perspective, we expect our portfolio decarbonization efforts to enable us to reduce the risk of valuation impairment or stranded assets as a result of regulation. We also expect these efforts to give us exposure to the winners of the energy transition.”

Yves Chevalier and Olivier Rousseau,
Members of the Executive Board, FRR

It is too early to offer a definitive view on the relationship between portfolio decarbonization, and investment performance, although there is a clear consensus among PDC members about the long-term investment benefits. Those PDC members that offer or invest in strategies that seek to track the major investment indices (this includes those that have adopted sector neutral strategies) are clear that they expect to achieve the same investment performance as the major indices but with significantly lower carbon footprints. They also argue that decarbonized portfolios offer potentially significant long-term investment benefits, including a reduced risk of value impairment because of climate change-related regulation, reduced risk of carbon stranded assets and increased exposure to the companies that are likely to be the beneficiaries of the transition to a low carbon economy.

There is some evidence that decarbonization strategies have enhanced short-term investment performance. For example, the MSCI Europe Low Carbon Leaders Index outperformed its standard counterpart by 133 basis points from its launch on 16 September 2014 to 31 May 2015, and, at 31 May 2015, LGS had added 4 basis points to the MSCI World excluding Australia Index as a result of introducing its new high carbon sensitive screen in November 2014. While these findings are interesting, they should be treated with caution given the relatively short timeframes involved. Longer-term tracking and analysis of performance would be required before a definitive assessment could be made of the investment performance implications of decarbonization.

4 CONCLUSIONS

GENERAL FINDINGS

Perhaps the most significant conclusion to be drawn from this report is that, far from damaging investment returns, PDC members see portfolio decarbonization as a strategy that is likely to enhance long-term investment performance. Decarbonization can also enable investors to reduce the risk of valuation impairment or stranded assets as a result of regulation, and to increase their exposure to the winners of the energy transition and to the industries of the future. In fact, the case for action is so strong that many of PDC's asset owner signatories now see that identifying and managing the investment risks and opportunities associated with climate change is an integral part of the fiduciary duties that they owe to their beneficiaries.

It is also clear that portfolio decarbonization is a relatively new and rapidly evolving area. Even among the 25 PDC members, multiple portfolio decarbonization strategies have been implemented. These include preferentially investing in areas such as renewable energy, energy efficiency and clean technology, reducing or excluding investments in fossil fuels, and encouraging companies to reduce their emissions and support the transition to a low carbon economy. While the specific impacts depend on the strategies adopted, PDC members report that their decarbonization activities have resulted in them reducing their carbon emissions, reducing their exposures to fossil fuels and increasing their investments in low carbon technologies and industries of the future.

PDC members have not confined their efforts to their own portfolios and investments but have also supported wider decarbonization efforts to reduce carbon emissions, through encouraging policy makers and other investors to take effective action on climate change.

Finally, PDC members recognise that there is much to be done if decarbonization strategies are to be more widely adopted. Priority areas for action include:

- The development of investment products and investment solutions that enable investors to decarbonize their portfolios without compromising investment performance.
- The development of the investment case for decarbonization.
- The strengthening of corporate and investor reporting.
- The development of a better understanding of the contribution that portfolio decarbonization can make to the goal of a low carbon, climate resilient economy and the timeframes over which this contribution can be made.

THE POLICY AGENDA

The experience of PDC members shows that investors' contribution to the transition to a low carbon economy is not just about the level of investment being made in areas such as renewable energy. It is also about investors' wider role in encouraging other actors – companies and other investors – to adjust and adapt their business and investment strategies to deliver on the goal of a low carbon economy.

From a policy perspective, the experience of PDC members suggests that policymakers can, at relatively low cost, significantly scale up investor action on climate change. For example, if investors are required to systematically analyse and act on carbon emissions across their entire investment portfolios, it is likely that this will encourage them to accelerate the rate at which they deploy capital into the industries of the future, to reduce their investments in fossil fuels, to engage more assertively with the companies and other entities in which they are invested, and to work together to ensure that they respond effectively to the policy signals and incentives being sent. These actions, in turn, are likely to reinforce the support for effective policy action on climate change and ensure that investors have the skills and competencies to respond effectively to the signals being sent by policymakers.

THE PDC CONTRIBUTION

PDC has three important roles to play. The first is that it can help increase the number of investors making commitments to portfolio decarbonization, both through showcasing the work of PDC members and through developing the evidence base for decarbonization, in particular through showing that decarbonization strategies can enhance investment performance.

The second is that it can help build PDC member capacity. Within this, PDC can help to catalyse the development of tools and strategies that can be used by investors to decarbonize their portfolios, and can support the development of metrics and tools that enable PDC and its members to report on performance outcomes in a consistent, credible manner.

The third is that PDC can encourage policymakers to adopt policy tools and approaches that directly encourage investor action on climate change.

5 CASE STUDIES

The following chapter contains one page case studies for each PDC member. The case studies provide a summary of each organisation's decarbonization commitments, the specific decarbonization activities, key challenges and the case for action.



About A CAPITAL

A CAPITAL is a private equity growth fund with offices in Brussels, Beijing, Paris and Luxembourg. Established in 2012, A CAPITAL has deployed approximately US\$90 million so far.

Summary of Decarbonization Commitments

A CAPITAL's aim is to invest all of its assets under management into low-carbon and/or low-resources utilisation companies.

Portfolio Decarbonization Activities

A CAPITAL is committed to investing in the European environmental and energy sector. It sees that the leading technologies for increasing energy efficiency and reducing environmental damage are being developed in Europe, and that there is a huge global market for these technologies, internationally, particularly in urbanizing China and Asia.

A CAPITAL's investments must meet two distinct criteria: they must meet strict financial return criteria and they must make a positive contribution to sustainable development. More specifically, A CAPITAL focuses on three aspects when making investment decisions:

- Environmental standards: A CAPITAL only invests in companies that make a positive contribution to the environment, or are willing to become a positive contributor.
- Governance standards: A CAPITAL only invests in companies which are led by exceptional management teams committed to the greatest transparency and integrity.
- Social performance: A CAPITAL only invests in companies that are looking to grow their business, and therefore their talent pool and contribute to the communities in which they live.

A CAPITAL is developing a toolkit to measure both the carbon emission reduction impact of investee companies and the contribution of these companies to resource conservation (in particular water).

Key challenges

A CAPITAL has identified the absence of agreed carbon benchmarks as a key issue. The lack of consensus on these measures makes it difficult for private equity investors to make a robust assessment of their performance against that of their peers.

A related issue is the absence of agreed measures and benchmarks for resource conservation which makes it difficult to make a robust assessment of the overall environmental performance of a portfolio.

The case for action

A CAPITAL sees its involvement with PDC as offering two major benefits. The first is that, through being able to share experience and ideas with other investors, PDC helps A CAPITAL to build its own expertise in assessing the carbon footprint and resources intensity of invested companies.

The second is that the collective influence of PDC builds the case for investing in low carbon or ESG-aware companies. PDC helps raise market awareness of the investment case, and signals to companies and to entrepreneurs that there is capital available to enable them to grow and develop their businesses.

“A CAPITAL's vision is that private equity can be a force for positive change. By investing in growing companies in the environmental technology area, A CAPITAL enables these companies to make a greater contribution to environmental protection, to be more sustainable and to create more value for their shareholders, for their employees and for their clients.”

André Loesekrug-Pietri,
Founder and Managing Partner



About ABP

ABP is the Dutch pension fund for employees in the government and education sectors, providing retirement benefits for 2.8 million beneficiaries. ABP has approximately US\$385 billion in assets under management, with 30% of these invested in listed equities, 30% in government bonds, 15% in corporate bonds, 15% in alternatives (including hedge funds, private equity, infrastructure and commodities) and 10% in real estate.

Summary of Decarbonization Commitments

ABP has committed to:

1. reducing the carbon footprint of its entire listed equity portfolio by 25% per Euro invested between 2015 and 2020,
2. increasing its investments in renewable energy from EUR1 billion to EUR5 billion between 2014 and 2020 and
3. doubling its investments in solutions to sustainable development challenges from EUR29 billion to EUR58 billion over the period 2015-2020.

Portfolio Decarbonization Activities

Since 2013, ABP has measured and reported its carbon footprint. It measures the carbon footprint of its listed equity portfolio using an equity ownership approach (emissions multiplied by ABP's share in a company). In order to deliver on its 25% carbon reduction target by 2020, ABP has set firm, time-bound carbon budgets for each of its equity funds. It uses these budgets to track performance, hold investment managers to account and recalibrate its investment strategy as needed.

As part of its investment activities, ABP actively engages with companies and policymakers in order to encourage business models and policy interventions that align with the goal of preventing global temperatures from rising to more than two degrees above pre-industrial levels.

Key challenges

Our key challenge relates to finding investment opportunities that align with both our decarbonisation commitments and our financial objectives. We actively encourage our investment partners to identify and provide relevant investment opportunities. We explicitly focus attention on these investment opportunities.

The case for action

ABP sees that PDC has a critical role to play in raising the profile of portfolio decarbonisation in the investment community by showcasing the practical actions that can be taken by investors and demonstrating that decarbonisation can go hand in hand with good investment performance. This should encourage other investors to join PDC and commit to decarbonisation.

ABP also sees PDC as having an important role to play in the public policy arena. It allows investors to explain how they are managing climate change in their portfolios and to show the range of investment strategies that can be adopted for decarbonisation. This should provide the basis for a better, more informed discussion between investors and policymakers on the role that investors can play— individually and collectively – in the transition to a low carbon economy.

“By providing our investment managers with carbon budgets alongside the return objectives and risk budgets, we want to achieve the dual objective of good investment returns and continuous reductions in our carbon footprint.”

Corien Wortmann-Kool,
Chairman of ABP Pensioenfund

About Allianz

Allianz Group, headquartered in Munich, Germany, is a global financial services provider with services predominantly in the areas of insurance and asset management business. Allianz has approximately US\$670 billion in Group assets under management, with approximately 89% of these assets invested in various debt instruments (corporate fixed income, government bonds, etc), 7% in equities, 2% in real estate and the balance in cash and other asset classes.

Summary of Decarbonization Commitments

Allianz has committed to not investing in or financing coal-related businesses.

Portfolio Decarbonization Activities

Allianz's decarbonisation activities include:

- Committed to not making any further investments in mining companies deriving more than 30% of their revenues from mining of thermal coal and electricity utilities deriving more than 30% of their generated electricity from thermal coal. Allianz is currently actively divesting from existing equity investments in these companies and has put its fixed income investments into run-off mode (i.e. where existing investments will be run-off according to their maturity and no new investments in these companies are permitted).
- Invested approximately EUR 2.5 billion into photovoltaic and wind parks across Europe, with plans to double these investments in the medium term.

Allianz is currently developing a process ('ESG Scoring') for systematically integrating ESG issues (including climate change) into its investment processes. This will lead to transparency across the entire portfolio of its own investments by mid-2016, enabling a gradually more targeted management of ESG risks and opportunities.

Key challenges

From an investor's perspective, the key challenge is that there is seemingly no uniform public policy response to climate change in place. This leads to the difficulty of having to capture the cost of policy change and its consequences. Or more specifically, how to gauge what public policy responses may be across the globe and what effects they will have on the stability and productivity of different sectors.

The case for action

According to Allianz, PDC will make three important contributions:

- It will raise the profile of climate protection in the investment industry.
- It is a signal to policymakers that investors are concerned about climate change and are taking substantial actions to reduce climate change impacts of their investment portfolios.
- It provides a forum for best-practice sharing as well as capacity building.

“Aware of the two-degree target of the Paris climate negotiations as well as the economic risks of climate change, Allianz stopped financing coal-based business models and plans to double low-carbon investments.”

Oliver Bäte,
CEO

About Amundi

Amundi is the largest asset manager in France and one of the world's ten largest asset managers. As of 30 June 2015, Amundi had US\$1,093 billion in assets under management, with its major asset classes being bonds (over 50%), cash (17%) and listed equities (13%). Amundi is a signatory to the Principles for Responsible Investment (PRI) and a member of the United Nations Environment Programme Finance Initiative (UNEP FI).

Summary of Decarbonization Commitments

Amundi's objective is to offer decarbonized investment solutions and strategies that enable investors to lower their exposure to climate risk, across all of the major asset classes managed by Amundi. To date Amundi has decarbonized \$4 billion of assets under management on behalf of institutional and sovereign entities.

Portfolio Decarbonization Activities

Amundi has worked with AP4, FRR and MSCI to create the MSCI Low Carbon Leaders Index, which it offers to its clients. The index excludes the top 20% of companies based on carbon emissions intensity (i.e. Scope 1 and Scope 2 emissions per million euros of turnover), subject to a maximum exclusion of 30% of the companies by weight in any one sector. It also excludes the largest owners of reserves per dollar of market capitalisation, representing 50% of the reserves in the parent index. By excluding these companies, the index aims to achieve at least a 50% reduction in its carbon footprint relative to the relevant benchmark. The MSCI Europe Low Carbon Leaders Index outperformed its standard counterpart by 198 basis points in the period from its launch on 16th September 2014 through to 31st July 2015.

Amundi's other decarbonization initiatives include:

- Integrating climate change into its equity and fixed income research processes.
- Providing active low carbon investment strategies (stock picking and overlay).
- Establishing a partnership with EDF to create an asset management company to develop investment solutions in the illiquid universe.
- Decarbonizing a wide variety of indices from SRI indices to smart beta indices.
- Founding the Portfolio Decarbonization Coalition together with the United Nations Environment Program Finance Initiative (UNEP FI), AP4 and CDP.

Key challenges

Amundi has identified data quality - in particular the quality of carbon data for Scopes 1 and 2, and the lack of integration of Scope 3 data into carbon footprinting methodologies - as a key issue. Better quality data is important to ensure that carbon footprint studies provide a robust account of company performance and to enable meaningful comparisons to be made between the carbon footprints of different products.

Amundi has also noted that while there is a growing experience with decarbonization in equity and fixed income portfolios, investors now need to develop decarbonization strategies for all asset classes, including, for example, convertible bonds, government bonds and derivative instruments.

The case for action

Amundi sees its involvement with PDC as offering two major benefits. The first is that it allows Amundi to share its experiences with the institutional and sovereign investors that are members of PDC. The second is that it helps Amundi to strengthen its approach to decarbonization by allowing other organisations and experts to critically examine and challenge Amundi's approach and to offer suggestions for improvement.

“Financial investors are beginning to recognise that the markets they operate in are mispricing the risks posed by climate change. Low carbon investing is a question of both risk management and fiduciary responsibility.”

Pascal Blanqué,
CIO and Deputy CEO

About AP4

AP4 is a Stockholm-based governmental authority regulated by the Swedish National Pension Funds Act. Environmental and ethical issues must be taken into account in its investment decisions but without compromising the goal of best possible return. At the end of 2014, AP4 had approximately US\$35 billion in assets under management, with 41% invested in global equities, 18% in Swedish equities, 33% in fixed income and 9% in private equity and real estate.

Summary of Decarbonization Commitments

AP4's target is to have 100% of its global equities portfolio invested in low carbon strategies, with intermediate targets of 10% by the end of 2014 (target achieved) and 25% by the end of 2015. AP4 believes that today's corporate values do not reflect the rising costs of emissions. Its investments in low carbon strategies are expected to significantly reduce climate risk in its equities portfolio and provide the opportunity for positive returns in the long term. The strategies have, since inception, delivered better investment performance than AP4's benchmark indices, although it is too early to offer a view on long-term investment performance.

Portfolio Decarbonization Activities

AP4's long-term low carbon strategies aim to – under limited risk-taking – avoid investments in companies that have the largest and most negative impacts on climate change. AP4's strategies differ between regions:

- In North America, AP4 avoids companies with the largest carbon emissions while remaining sector-neutral. This strategy reduces its exposure to carbon emissions by 50%.
- In emerging markets, AP4 avoids companies with high carbon emissions and large fossil fuel reserves.
- In Europe, AP4 excludes companies with high carbon emissions and large fossil fuel reserves.

The metrics used by AP4 to assess the climate friendliness of its investment portfolio, include the capital allocated to low carbon strategies, portfolio carbon emissions and exposures to fossil reserves. These are tracked over time and connected to investment decisions on a scenario and actual basis. At the end of 2014, the carbon footprint of AP4's listed equities portfolio was 28% lower than the benchmark index.

AP4's other decarbonization activities include:

- Investing in green bonds.
- Co-founding and supporting the Portfolio Decarbonization Coalition.
- Sharing experiences and knowledge regarding both low carbon strategies and green bonds.
- Analysing how the carbon footprint of other asset classes can best be measured and reduced..

Key challenges

When AP4 initiated its low carbon equity initiatives, there was a lack of suitable investment products for large institutions. Through working with asset managers and index providers, AP4 has been able to develop and invest in strategies which meet AP4's requirements to invest for long time periods and with large allocations.

The other major challenge was the general lack of expertise – both within AP4 and in the investment markets as a whole – on decarbonization. AP4's creation of a global low carbon equity platform in such a short time period was driven by a strategic mandate from its board to manage climate risk, underpinned by ambitious, measurable targets, strong commitment from top management, an acceptance that there may be shortcomings and errors, and constant monitoring and review of the investment process.

The case for action

The primary reason for establishing PDC was to enable institutional investors such as AP4 to share best practices, with other investors and with governments on portfolio decarbonization.

AP4's low-carbon strategies have helped to substantially reduce its carbon emissions and, over time, should contribute to better investment returns.

“We know enough about climate risk to know that, as a pension fund, it is our responsibility to act. We have experience. We have scalable solutions. We now need to make what we are doing today, mainstream tomorrow.”

Mats Andersson,
CEO

About Australian Ethical

Australian Ethical is an ethical superannuation and investment fund manager with approximately US\$850 million in assets under management (70% listed equities and 30% in cash and fixed income).

Summary of Decarbonization Commitments

Australian Ethical has set a target to fully decarbonize its investments (i.e. net zero portfolio emissions) in the time-frame needed to limit warming to 2 degrees. Based on analysis from the Australian Climate Change Authority, it aims to achieve this net zero emissions target by 2050.

Australian Ethical is using a portfolio carbon intensity measure to monitor its progress, and will develop a path to achieve net zero emissions by 2050. The intensity measure will take account of company emissions relative to company revenue, as well as indirect emissions and emissions savings.

Portfolio Decarbonization Activities

Australian Ethical has never invested in the highest emissions fossil fuels since its inception 30 years ago, and it divested from the unconventional gas sector in Australia in 2011. Applying a methodology focussed on direct emissions as well as some upstream indirect emissions such as electricity, Australian Ethical's equity portfolios were assessed to be 70% of the carbon intensity of the ASX 200 and MSCI World ex-Australia indices (as at the end of 2014). Australian Ethical is developing a more comprehensive methodology to capture the true emissions impact (positive and negative) of its investments.

In order to achieve its net zero emissions target Australian Ethical will continue to exclude the highest footprint companies and sectors from its portfolios, to retain an investment focus on clean economy sectors such as renewables and energy efficiency, and to engage and divest to encourage companies to reduce their direct and indirect footprint.

Beyond its own portfolios, Australian Ethical also:

- Engages directly with companies on climate related transparency and strategy, as well as specific sector issues (e.g. fugitive emissions).
- Supports shareholder climate resolutions.
- Supports the development of the green bond market.
- Makes submissions to government on responsible climate policy.
- Collaborates with other investors, civil society organisations and companies.

Key challenges

Australian Ethical has noted that carbon data availability and quality are ongoing issues. Australian Ethical is working to improve this data through working with data providers, different data sources and developing footprint methodologies which offer greater insight into climate risk and opportunity.

Australian Ethical wants to ensure that its approach creates incentives to invest in all aspects of a clean energy future. Its decarbonization action aims to address the structural changes needed across the economy and society by driving capital to all the places it is needed – from zero emissions electricity generation (e.g. wind and solar) to low energy use sectors (e.g. software and digital content) to technologies which increase efficiency of energy use (e.g. LED lighting, recycling and smart energy products).

The case for action

PDC offers three important benefits:

- It provides Australian Ethical with valuable insights into the diversity of decarbonization action and motivations of investors and others.
- It provides Australian Ethical with the opportunity to test its own approach and thinking.
- It raises the visibility of institutional investor action on climate, and creates the impetus for investors, governments and companies to work together on reducing global greenhouse gas emissions.

“Through the PDC we can help decarbonize the global economy by the direct impact of our investment, divestment and engagement action, as well as by providing a leadership example for investors, governments, companies and individuals to align their actions with a low warming future.”

Phil Vernon,
Managing Director



About BNP Paribas Investment Partners

BNP Paribas Investment Partners ('BNPP IP') is the dedicated asset management business of the BNP Paribas Group. BNPP IP manages, and advises on, EUR 508 billion (as of 30 September 2015) of assets, 15% of which is in listed equities, 42% fixed income and convertibles and 14% in money markets.

Summary of Decarbonization Commitments

BNPP IP acknowledges the need of the economy to shift towards a 2 degree trajectory and reflect it in its business strategy. It believes that exceeding 2 degrees can pose a serious threat to economic stability and, therefore to investments and portfolios in the long term. It intends to offer customised investment solutions to its clients and progressively decarbonize portfolios in line with the emission reductions suggested by IPCC wherever possible. As the first stage in this process and in addition to providing bespoke solutions to institutional investors, it is working towards measuring, disclosing and integrating carbon risks in its portfolios, and influencing companies to report and reduce their carbon footprints.

Portfolio Decarbonization Activities

BNPP IP commits to continue working on widening and prioritising its low-carbon product offer, which currently includes:

- almost EUR 2 billion invested in exclusively environmentally focused businesses.
- EUR 568 million invested in green bonds (as of 30 September 2015).
- the launch of the first ever ETF to track a low carbon equity index (the Euronext Low Carbon 100 Europe Index).
- EUR 15.5 billion invested in large and medium-cap companies which are best placed in their respective sectors to reduce their emissions (thermal coal mining is prohibited and a strict policy on coal-power implemented). For carbon intensive sectors such as utilities, CO2 management accounts for 56% of the overall rating.
- EUR 840 million in ESG sovereign bonds for which national strategies and performance in carbon reduction and energy efficiency represent 42.5% of the overall score that determines their eligibility.
- In addition, BNP IP is committed to:
 - Measuring and reporting its portfolios' carbon footprint as part of the Montreal Pledge.
 - Developing an analytical methodology for 'de-carbonizing' equity portfolios to offer value-adding insights to clients by identifying where carbon risk lies in their portfolios.

- Exercising shareholder leverage on the companies it invests in so that they improve carbon reporting, reduce their carbon footprint and progressively move towards a 2 degree trajectory.
- Working with other investors towards a 2 degree world through active membership of the policy, corporate and property working groups of the Institutional Investors Group on Climate Change and the property group of UNEP FI.

Key challenges

BNPP IP has identified two challenges to its decarbonisation efforts. The first is methodological. Carbon reporting is still limited in its quality and scope and the measurement and aggregation of companies' carbon footprint across asset classes and strategies remains challenging. The lack of an agreed carbon benchmark renders impossible any comparison or sound evaluation of the real carbon performance of a portfolio.

The second set of challenges emerges from its role as a manager of its clients' assets. Although the decision to decarbonize ultimately lies with the client, it is necessary to provide them with a wide range of low carbon options. BNP IP works with its clients to encourage them to support and invest in low carbon products, thereby helping stimulate market demand and reduce the transaction costs associated with such products.

The case for action

Earlier this year BNPP IP was the first mainstream fund manager to sign the Montreal Pledge. Joining PDC is the next logical step. It acknowledges the power of joint action and aims to benefit from other investors' expertise while sharing its own knowledge. It hopes to build a critical mass of institutional investors that can collectively deliver a strong message to companies regarding the need to prepare themselves for a 2 degree world, and to policy makers of the need for a clear and ambitious 2 degree policy framework.

"Decarbonisation is a collective agenda. It requires asset owners, asset managers and other stakeholders to work together, to develop tools and to drive demand through the market."

Frederic Janbon,
CEO



About Caisse des Dépôts

The Caisse des Dépôts (CDC) group is a public entity, acting as a long term investor and supporting the economic development of France. It has approximately €157 billion Assets under Management.

CDC focuses on:

- managing regulated retail savings in order to finance public priorities, mainly social housing;
- is the banker of the judicial system and the social welfare system;
- managing public or semi-public pensions and solidarity plans;
- contributing to local development alongside local authorities;
- acting as a long term investor in the economy;
- participating in economic development through its operating subsidiaries.

Summary of Decarbonization Commitments

CDC is committed to measuring, publishing and reducing its listed equity portfolios' carbon footprint, with a market value of €55 billion as of December 31st, 2014.

Portfolio Decarbonization Activities

Due to its long term investment strategy, CDC aims to contribute towards decarbonizing the real economy, starting with its own investment portfolios.

CDC is setting a carbon footprint reduction goal of 20% per thousand euros invested in its directly held listed equity portfolios for the 2014 to 2020 period. Individual carbon performance targets have been set for each of the underlying portfolios. This target will position its portfolios on a greenhouse gas reduction path that is above the European target for the same period.

In conjunction with green investments and retrofit targets for real estate assets, this transition target requires a decarbonization strategy that focuses on improving the carbon performance of underlying assets, notably mainstream corporates. To reach this objective, CDC will systematize shareholder engagement on energy and climate issues, in order to foster corporate GHG emission reductions. If voluntary emission reductions by portfolio companies proves insufficient, the Group will reallocate its portfolios in order to reach its reduction target. CDC will also tighten its thermal coal screening, leading to minor reallocations.

Key challenges

CDC has acknowledged methodological and technical challenges in assessing the carbon performance of its diversified, listed equity portfolios.

In particular, it has noted that for some sectors, the bulk of corporate GHG emissions lie in scope 3 emissions. Yet corporate reporting on scope 3 is very limited and heterogeneous. In addition, there is the issue of double-counting, thereby making it difficult to include it in the footprinting methodology.

While supporting external methodological research and debate, CDC has focused on achieving its footprinting in house by involving its mainstream portfolio managers. To date this has enabled investment teams to:

- Grasp the strengths and limits of both existing methodologies and companies' underlying reported data;
- Identify, in each portfolio, the sectors and companies with the highest concentration of greenhouse gas emissions, and begun its engagement work with the highest emitters.

The case for action

An early signatory to the UNEP-FI and founding member of the PRI, CDC is striving to integrate environmental concerns in its mainstream asset management activities, in addition to specific environmental investment targets. It is joining the PDC to advance the methodological innovation linked to its new decarbonization commitments. While promoting a shared vision on the necessary transition to a low carbon economy, the PDC acknowledges that a multiplicity of investment approaches are needed to suit different investment strategies.

“The Caisse des Dépôts Group has pledged to foster the transition of the real economy towards low carbon models. We have committed to measure, disclose and reduce the carbon footprint of our investments and initiated implementation in 2015. In joining the PDC, we are joining a community of like-minded investors that are collaborating to overcome common obstacles and share expertise around individual solutions”

Pierre René Lemas,
CEO

About The Church of Sweden

The Church of Sweden has over 6 million members. At the national level, the Church of Sweden manages approximately US\$850 million in assets, which are maintained as a buffer against future needs. Of these assets, 60% are invested in equities, 30% in fixed income and 10% in real estate and alternative investments.

Summary of Decarbonization Commitments

The Church of Sweden wants to increase its exposure to climate solutions. At present, approximately 10% of its portfolio is dedicated to climate impact-related investments.

Portfolio Decarbonization Activities

The Church of Sweden divested from oil, coal and most gas in 2008 and 2009, and entirely from gas in 2014. It has invested in a green bonds fund and in several climate solutions funds. The Church requires all of its equity and fixed income investments to have strong ESG performance, which includes good carbon management.

The carbon emissions of the Church of Sweden's holdings have reduced substantially since it divested from oil, coal and gas. A recent assessment showed that only 3% of its shares are highly carbon intense (these are companies in the utilities and waste management sectors), and that the majority have robust carbon management practices and processes in place (with only 5% of the portfolio having the lowest carbon management scores based on an MSCI methodology).

The Church recognises that divestment is just one part of the picture and that investment in renewable energy and energy efficiency is essential in order to reach the 2 degree target. The Church seeks to increase its exposure to climate solutions, and is continuously looking at different options.

Key challenges

The Church of Sweden has pointed to the difficulty of finding suitable investment opportunities in the climate solutions area, but sees this improving quite rapidly in various asset classes.

Across investment markets more generally, the Church sees that there is a huge need for better index products and other low carbon products with low risks. Within this, index providers and asset managers need to demonstrate that these products deliver good financial performance compared to their high carbon peers.

The case for action

From an investment perspective the Church of Sweden has a track record of good financial performance since its decision to divest from oil and coal. Furthermore, this divestment decision has meant that the Church has a minimal risk of stranded carbon assets.

The Church decided to join PDC because it thought it could inspire others by sharing its experiences. Participating in PDC has allowed the Church to learn from seminars with prominent speakers, and has provided the Church with opportunities to network with others in PDC to learn about their experiences and to exchange views.

“The concept of investment risk has to be revised to explicitly include climate change-related risks. If asset managers could encourage asset owners (and vice versa) to be much more long-term oriented and to see the immense investment opportunities, this would create a win-win-win situation for asset managers, asset owners and the climate.”

Gunnela Hahn,
Head of Responsible Investment

Environment Agency Pension Fund

About Environment Agency Pension Fund

The Environment Agency Pension Active Fund is a defined benefit scheme with over 23,000 members and assets under management of approximately US\$4 billion. The fund invests in a range of asset classes, including listed equities, fixed income, private equity and sustainable real assets (e.g. property, infrastructure, forestry, agriculture).

Summary of Decarbonization Commitments

The Environment Agency Pension Fund is committed to systematic continuous year-on-year improvements in the carbon footprint of its investments.

Portfolio Decarbonization Activities

The Environment Agency Pension Fund limits its holdings in the most carbon intense companies. It acknowledges that some of these companies are changing and reducing their carbon exposure, and it, therefore, uses its ability to influence and hold these companies to account. This engagement is seen as being of particular importance given that other sources of capital are less engaged in tackling climate risk and may, as a consequence, be less forceful in their approach to long term stewardship and sustainability.

The key milestones and achievements of the Environment Agency Pension Fund's climate risk strategy include:

- The Fund was the first pension fund in the world to comprehensively evaluate its exposure to fossil fuels in 2013, complementing the carbon footprinting work it had undertaken annually since 2008.
- The Fund's investment managers integrate climate risk into their stock selection and engagement plans. This has resulted in the carbon footprint of the Fund's equity investments being reduced by 44% since 2008. Where the Fund has remained as a shareholder, it has continued to encourage companies to reduce carbon risks and thereby help address climate change more widely.
- The Fund has moved its index global equities (which invested broadly in most global companies) to a new fund, to be run against the new MSCI Low Carbon Target World Index. The amount involved is around £280m, over 10% of the Fund.
- The Fund has analysed and published details of its exposure to fossil fuels, and has committed to publishing regular updates on its progress in reducing this exposure.
- The Fund has met its target of investing 25% of its assets in clean and sustainable companies by 2015. The Fund's investments include: property opportunities targeting

energy efficiency, urban regeneration and sustainability; venture capital funding the next generation of technologies that provide new solutions – such as electric vehicles and LED lighting; long-term sustainable infrastructure, such as renewable energy and energy efficiency; listed companies demonstrating best practice in sustainability, improving efficiency and reducing social and environmental impacts.

Key challenges

The Environment Agency Pension Fund has identified two main challenges in implementing its decarbonization strategy. The first is finding managers who look at risk over the same long-term timeframes as the Fund. One of the consequences has been that many of the decarbonization strategies and products offered to the Fund do not deliver the changes required at the rate required. The second is that – because of capacity constraints and competing priorities such as pension deficits and regulatory changes – it can be difficult to encourage other investors to take action on decarbonization.

The case for action

The Environment Agency Pension Fund recognises that delivering change on the scale and at the rate required cannot be achieved by individual funds acting in isolation. There is a critical need for investors to work together to drive the market for products and to work towards changes in the wider investment system. As a practitioner-led initiative, the Environment Agency Pension Fund's expectation is that PDC will allow like-minded investors to work together to find practical solutions to the issues and challenges being faced.

“The Environment Agency Pension Fund's decarbonization strategy is risk-based. We limit our holdings in the most carbon intense companies, we use our influence to encourage companies to reduce carbon risks and we proactively invest in climate solutions and other sustainable investment opportunities.”

Mark Mansley,
CIO

About ERAFP

ERAFP is a fully funded, mandatory pension fund for France's 4.5 million civil servants. ERAFP has US\$25.7 billion in assets under management, with 48% invested in sovereign bonds, 27% in listed equity, 17% in corporate bonds, and the balance in a mix of cash, real estate and other assets.

Environmental, social and governance (ESG) issues have been a defining feature of ERAFP's investment policy since its inception. In 2005 the Board of Trustees decided that all of its assets would be managed according to a Socially Responsible Investment (SRI) policy, a commitment which continues to this day.

Summary of Decarbonization Commitments

ERAFP's aim is to reduce the greenhouse gas emissions from its portfolios, in line with widely agreed long-term climate change targets, notably the 2 degrees target.

ERAFP has not set quantitative portfolio decarbonization targets as it considers that the available data and performance indicators are not reliable enough to be used as portfolio management tools. ERAFP is supporting action in this area by using and questioning current carbon footprinting methodologies, by working with its asset managers on portfolio decarbonization approaches, and by disclosing the results of its work in these areas.

Portfolio Decarbonization Activities

ERAFP's decarbonization activities include:

- Using greenhouse gas emissions as one of the most highly weighted criteria in the ESG rating framework it applies to its entire investment portfolio.
- Preferentially investing, on a sector neutral basis, in companies demonstrating the highest level of performance on climate change.
- Adding an additional filter to a segregated account managed by Amundi for ERAFP (US\$1.2 billion). The filter excluded the worst 5% of companies in terms of carbon efficiency on a global basis, and the worst 20% of companies in terms of carbon efficiency in each sector.
- Engaging with investee companies to encourage them to reduce their greenhouse gas emissions.

At the end of 2014, the carbon intensity of ERAFP's equity portfolio was 16% lower than its benchmark (the MSCI World) and the carbon footprint of the fund managed by Amundi was approximately 40% lower than its benchmark.

Key challenges

The key challenge identified by ERAFP relates to performance measurement: there are inconsistencies in the data provided by companies; that there are many different methodologies that can be used to measure the carbon footprint of a portfolio; most methodologies only cover part of Scope 3 emissions; there are many technical issues (e.g. double-counting) that need to be addressed. These problems create the risk that adopting quantitative decarbonization targets may lead to biased investment decisions. ERAFP supports research programmes and collaborative initiatives to help address these issues, as well as boost reflection on the right balance to find between investment aiming at improving existing business models and investment to develop disruptive technologies.

The case for action

ERAFP's view is that its fiduciary duty requires it to analyse of all the factors – including greenhouse gas emissions – that may affect the long-term value of its assets in its investment process. ERAFP sees its decarbonization strategies as enabling it to manage the downside risks of climate change (e.g., the risk of entire business models being overturned), while also taking advantage of the wealth of investment opportunities presented by the transition to a low carbon economy.

ERAFP views its participation in PDC as a means of signalling to policymakers and some reluctant investment organisations that investors have a crucial role to play in the fight against climate change.

“There is no contradiction between best in class approaches and effective decarbonization.”

Philippe Desfossés, CEO



About Fonds de Réserve pour les Retraites

The FRR (Fonds de Réserve pour les Retraites) is a publicly owned State funded agency of the French State. It is responsible for managing the funds allocated to it up until 31 December 2010 to build up reserves contributing to the long-term future of the French pensions system. FRR has US\$48.8 billion in assets under management, with 40% invested in listed equities and 60% in corporate and government bonds.

Summary of Decarbonization Commitments

The FRR's objective is to gradually reduce its carbon footprint and its exposure to fossil fuel reserves but without excluding particular sectors from its investment universe. Because there is no consensus on how portfolio performance should be assessed, FRR has not yet set overall targets for its decarbonization efforts.

Portfolio Decarbonization Activities

The FRR has started to decarbonize its equity portfolios by:

- Investing approximately €200 million in fund of funds dedicated to environmentally innovative businesses. Approximately half of these portfolios are invested in companies that contribute directly to energy transition.
- Investing approximately €1 billion in low carbon equity indices. The FRR has, in collaboration with AP4, MSCI and Amundi, created the MSCI Low Carbon Leaders Index. The index excludes the top 20% of companies based on carbon emissions intensity (i.e. Scope 1 and Scope 2 emissions per million euros of turnover), with a maximum exclusion of 30% of companies by weight from any individual sector. The index also excludes the largest owners of reserves per dollar of market capitalisation, representing 50% of the reserves in the parent index. The index aims to have a carbon footprint that is at least 50% lower than the relevant parent index.
- Investing approximately €1.5 billion (Eurozone) in decarbonized smart beta. The aim is to reduce the carbon footprint of the portfolio by 50%, while maintaining smart beta characteristics and a low tracking error.

The FRR measures its performance in CO₂ equivalent (CO₂e) emissions per 1,000 Euro invested, in CO₂e emissions per million Euros of turnover of the companies held in its equity portfolios, and in its exposure (as a percentage of its portfolio) to companies that hold fossil reserves. At the end of 2014, the carbon intensity of the FRR's equity

portfolio was 419 tonnes of CO₂e per million Euro of turnover (12% less than the FRR's benchmark index) and absolute emissions were 357 kg CO₂e per 1,000 Euro invested (15% less than the benchmark index).

The FRR plans to decarbonize a further 1.2 billion Euro of equity assets: 500 million Euro in North America (in Smart Beta strategies), 300 million Euro in Eurozone (Smart Beta strategies) and 400 million Euro in Asia ex Japan (Smart Beta strategies and/or Low Carbon Leader Index).

Key challenges

Because of the lack of standardisation on metrics, the FRR has decided to assess and report on the carbon footprint of its portfolio in terms of the absolute emissions per 1,000 Euro invested, the carbon intensity of the companies in the portfolio, and the portfolio exposure to fossil fuel reserves.

The case for action

From an investment perspective, the FRR expects its portfolio decarbonization efforts to enable it to manage the carbon risks in its portfolio by reducing the proportion of companies with a high carbon footprint and with significant quantities of fossil reserves. In turn, this should reduce the risk of valuation impairment or stranded assets as a result of regulation.

Participating in PDC and taking action to decarbonize its portfolio allows the FRR to show its commitment to action on climate change, in particular ahead of COP21, to promote its approach to other investors, and to encourage other investors to move towards portfolio decarbonization.

“We hope that our actions and those of our partners – AP4, MSCI and Amundi – will encourage other investors to adopt a similar approach. This should help persuade companies to take action to reduce their carbon footprint.”

Yves Chevalier and Olivier Rousseau,
Members of the Executive Board

About Hermes

Hermes Investment Management is focused on delivering superior, sustainable, risk adjusted returns for its clients – responsibly. It has \$46.9 billion in assets under management, invested across equities, fixed income, alternatives and real estate. In addition, Hermes EOS provides stewardship services on more than \$180 billion of assets.

Summary of Decarbonization Commitments

Hermes have set long term targets to reduce its absolute (teCO₂) and relative to area (teCO₂/m²) carbon emissions from those assets in its real estate portfolio where it has direct management control by 40% by 2020 from a 2006 baseline. It also has operational targets to reduce its absolute carbon emissions (teCO₂) its relative energy consumption (kWh/m²) from these assets by 5% year-on-year.

Portfolio Decarbonization Activities

Hermes' approach is to act as engaged stewards of the investments it manages on behalf of its clients. While the specific details of implementing a decarbonisation strategy differ between asset classes, Hermes' approach to decarbonisation in each asset class is:

- To be aware and understand sector and company contributions to carbon emissions and specific exposures to climate change-related risks and opportunities (e.g. regulation, stranded assets) under a variety of climate change scenarios. Hermes uses this analysis to assess the best options to manage carbon risk, given funds' specific investment strategies.
- To make portfolio and specific investment decisions using analysis of carbon risks as one measure of risk. The investment decisions may include over or under-weighting companies, preferentially investing in green investment opportunities, or considering divestment in situations where carbon risks significantly affect value.
- To manage directly owned assets and engage with companies with significant carbon risk exposure in order to mitigate carbon emissions. For example, in its listed equity engagement Hermes focuses on issues such as the level of operational emissions, long-term portfolio resilience to climate change, the level of readiness to withstand the physical impacts of climate change and the governance of each of these issues.
- To proactively engage with governments, regulators and other key influencers to ensure that carbon is appropriately recognised as a cost to the global economy.

These actions have had an impact. For example, Hermes has reduced emissions from its real estate portfolio by an average

of 6.5% per annum since 2006, and the Hermes Environmental Innovation Fund (HEIF) has invested over £130m in the environmental/sustainable technology sector since 2010.

Hermes has measured the carbon footprint of its real estate portfolio, of its public equities and corporate bonds portfolios, and of its activities as a firm. This has provided a range of metrics (e.g. absolute and benchmark relative carbon footprints, carbon attribution between sector allocation and stock selection the largest risks by company) that enable Hermes to understand its carbon exposure and develop metrics (e.g. the proportion of infrastructure investments in renewable energy and low carbon transport, the proportion of carbon in equity portfolios being managed directly or engaged on carbon risks, the number of companies engaged on carbon issues) that it can use to track its activities and performance.

Key challenges

Hermes has encountered two main challenges. The first relates to the development of appropriate carbon metrics in private equity and infrastructure assets. The second relates to the development of appropriate performance measures for government bond investments. In both cases, Hermes is working with its investment teams and with third-party research providers to address these issues.

The case for action

Hermes sees climate change as a key risk for investors, given the potentially significant business impacts of regulation and of the physical impacts of climate change. Its view is that the effect of ignoring climate risk is to ignore valuation threats to portfolios and the future wealth and wellbeing of investor beneficiaries. However, many of the metrics and tools for assessing the investment implications of these risks remain relatively underdeveloped. Hermes sees PDC as having a key role to play in helping develop these metrics and tools, and in providing a forum for enabling investors to share best practices on achieving emissions reductions.

“It is crucial, and my responsibility, that we create the right outcomes from our investment decisions – and the right outcomes on a 30-year time horizon are those that mitigate risk, including carbon risk. In just 20 years, if circumstances don't change we will already be approaching dangerous levels of warming.”

Saker Nusseibeh,
CEO



About Humanis

Humanis is a French asset owner. It provides complementary retirement schemes, collective health insurance, and employee savings schemes. Humanis has US\$15.1 billion in assets under management, with 86% of these assets invested in bonds and the balance in listed equities.

Summary of Decarbonization Commitments

Humanis has committed to reducing the carbon emissions per Euro invested from its equity portfolios by 2% per annum.

Portfolio Decarbonization Activities

Humanis has measured the carbon footprint of its equity investment portfolios and used this information to inform the development of its emissions reduction target. It has used the carbon footprint information to identify carbon leaders and laggards and has sought to preferentially invest in those companies with lower carbon footprints. This approach has allowed it to remain sector neutral while reducing its carbon footprint on a year-by-year basis.

In addition to its equity investments, Humanis has established a green bond fund which can be used to finance decarbonisation. This fund, HGA Obligations Vertes, currently has over 125 million Euros invested, and avoids 1400 t CO₂ per million invested.

Humanis has also played a role in wider policy efforts to reduce greenhouse gas emissions. It has been a CDP signatory for more than 5 years, it has launched initiatives to encourage more disclosures by French mid-cap companies and it was a signatory to the G20 investor statement on energy efficiency.

Key challenges

One of the key challenges faced by Humanis has been that the carbon footprinting methodologies provided by research providers differ significantly, both in terms of the results that they provide (which makes it difficult to make comparisons with other asset owners and asset managers) and the manner in which the data can be used. Humanis uses two research providers and has found that the results from one of the providers are more suitable for company engagement whereas the results from the other are more suitable for stock picking and for the dynamic assessment of the portfolio's carbon footprint.

The case for action

Humanis' view is that climate change is a collective action problem, and that investors need to work together to respond to climate change. It sees that PDC has an important role to play in enabling investors to work together, in helping develop the tools and metrics to measure portfolio decarbonisation, and in signalling to policymakers that investors are committed to action on decarbonisation.

“The key to effective decarbonization is to develop and implement an approach that aligns with your core investment process and investment objectives. Our decision to remain sector neutral but to focus on leaders and laggards within sectors enables us to be much more effective in our engagement with companies as it means that we can link our engagement to our investment decisions.”

Jean Pierre Menanteau,
CEO

About Inflection Point Capital Management

Inflection Point Capital Management (IPCM) is a multi-strategy asset management advisory boutique offering exclusively sustainability-enhanced investment products across a broad range of asset classes. IPCM currently sub-advises on over US\$1 billion in equity assets, and provides advice on an additional US\$ 900 billion for clients including the Norwegian Ministry of Finance (which is responsible for the world's largest sovereign wealth fund).

Summary of Decarbonization Commitments

The LFIP Zero Carbon fund will have zero net carbon emissions.

Portfolio Decarbonization Activities

IPCM offers a range of products where climate change performance is taken into account. IPCM's approach to decarbonization is illustrated by the LFIP Zero Carbon fund, launched in June 2015. The fund has been developed in partnership with La Française who provided US\$28 million of initial seed capital.

The LFIP Zero Carbon fund is an active concentrated global equities strategy designed to help investors capture the upside from climate change opportunities while managing and minimising the downside risks. The fund invests in best-in-class fossil fuel-based companies, in low carbon solution providers and in innovative, breakthrough carbon reduction technologies and solutions. The fund also aims to be carbon neutral.

The fund mainly invests in:

- Best-in-class large-cap companies which, while currently emitting significant levels of greenhouse gases, have superior carbon-efficiency (i.e. lower carbon emissions per dollar of EBITDA). Typically, such companies are already in the process of making significant reductions in their emissions.
- Solutions providers. These are companies whose primary business activity is producing goods and services explicitly designed to reduce greenhouse gas emissions. These companies are typically, but not necessarily, smaller and more focused.

The carbon performance of the fund is measured by offsetting the carbon emissions generated by the companies in the portfolio with the carbon avoided through the renewable energy generated by the companies in the portfolio.

Key challenges

IPCM has identified the limitations in carbon data as a key issue. Two aspects are of particular concern. First, most of the data that are available relate to Scope 1 and 2 emissions, with some limited data on Scope 3 emissions. However, to make a meaningful assessment of a company's total emissions, there is a need to take account of the whole product life-cycle, in particular emissions linked to the use of the company's products. Second, with the exception of the carbon emissions reductions that can be attributed to renewable energy, there is no consensus on how emissions offsets are to be calculated. This is particularly the case for companies in transition where it is not clear how the emissions reductions achieved during the transition are to be calculated or allocated.

The case for action

PDC allows IPCM to meet with, interact with and learn from a coalition of like-minded investors.

IPCM believes that it has a critical role to play – both through its own efforts and through collaborative initiatives such as PDC – in mobilising investors to actively allocate capital to technologies and companies that will help the transition to a low carbon economy. IPCM acknowledges that there are challenges (e.g. in relation to carbon data) but sees that most of these will be addressed through 'learning by doing'. As such, it believes that investors and the financial sector as a whole should start this learning curve as soon as possible.

“Inertia and risk-aversion are preventing asset owners from embracing new low-carbon instruments in the numbers and with the speed required. Insisting on a 3-year track record for an innovative new offering is simply an abdication of responsibility, in a context where the biggest risk may well be doing nothing.”

Dr Matthew Kiernan,
Founder and Chief Executive



About Local Government Super (LGS)

LGS is the manager of US\$7 billion of retirement savings for around 90,000 current and former local government employees in Australia. Of these assets, 42% are invested in listed equities, 15% in fixed income, 12% in hedge funds, 10% in cash and the balance in a mix of private equity, property, infrastructure and other assets.

Summary of Decarbonization Commitments

LGS' policy states that climate change is the most significant long-term investment risk facing the fund. LGS has significant investments in low carbon investment strategies across a range of asset classes. It has also introduced an investment screen that automatically excludes companies and industries most sensitive to carbon risks.

Portfolio Decarbonization Activities

LGS invests more than US\$625 million in low carbon opportunities, including:

- International listed equities – low carbon fund where all companies must derive 50% of their value from low carbon assets or activities (US\$70 million).
- Direct property – internally managed green property portfolio of office, industrial and retail buildings (US\$453 million).
- Private equity – clean technology mandate covering renewable energy technologies and generation (US\$30 million).
- Sovereign bonds – global government bond mandate with 15% allocation to green bonds (US\$18 million)
- Absolute return – mandate to hedge climate risks faced by utilities through investing in electricity and environmental markets (US\$38 million).
- Infrastructure – infrastructure fund with 10% allocation to renewables (US\$16 million).

In 2014, LGS introduced a new investment restriction on high-carbon sensitive activities. This screen excludes companies in sectors considered to be the most sensitive to the investment risks associated with climate change, including companies with more than 33% of their business in coal mining, oil sands and coal-fired power generation. This required US\$20m worth of divestment of existing stocks. LGS tracks the investment performance impact of stocks that have been excluded under LGS screens. They have added to the fund's investment performance. LGS is considering extending its high carbon sensitive screen.

LGS also conducts carbon audits that track its performance relative to mainstream benchmarks. At the end of 2014 LGS' Australian equities portfolio had 17% and 14% lower carbon emissions and intensity respectively relative to its benchmark index. Its international equities portfolio achieved 30% and 18% lower carbon emissions and intensity relative to its benchmark index.

Key challenges

In the course of developing its low carbon investment strategy, LGS has identified three key needs for the investment industry. The first is to build the capacity and understanding of external managers and consultants on the long term investment risks presented by climate change. The second is to increase the pipeline of low carbon investment opportunities, which in turn will require policy certainty to reduce investment risk. The third is to develop tools and metrics that enable investors to measure and categorise carbon risks across investment portfolios.

The case for action

LGS joined the PDC because it is committed to managing the investment risks and opportunities associated with climate change as well as continually improving the carbon performance of its portfolio. LGS believes that the PDC will provide it with a useful platform to engage with the industry and learn more about decarbonization strategies. It will also enable institutional investors to demonstrate that it is possible to design investment strategies that meet risk-adjusted return objectives and reduce carbon footprints.

“Since implementing a negative screen on some fossil fuels and power utilities last year, we have reduced the carbon intensity of our international share portfolio to 30% below its benchmark, during which time the portfolio has continued to outperform the market.”

Peter Lambert,
CEO



About KLP

Kommunal Landspensjonskasse (KLP) is Norway's largest life insurance company. It offers financial and insurance services - including pensions and life insurance, non-life insurance, fund management and banking - to public sector, to enterprises associated with the public sector and to the employees of these organisations. The common portfolio of KLP has NOK 409 billion (US\$48 billion) in assets under management, with these invested in a mix of shares (approximately 20% of the total), fixed income (50%) and other asset classes (30%).

Summary of Decarbonization Commitments

KLP does not invest in the debt or equity of mining and utility companies where a majority of these companies' revenues derive from coal or coal-based activities.

Portfolio Decarbonization Activities

KLP has taken a variety of actions directed at reducing its portfolio-related emissions. These have included:

- Divesting from coal companies, which it defines as mining companies and utilities where a majority of their revenues derive from coal or coal based activities.
- Committing approximately 1 billion NOK to new renewable energy generation capacity in developing countries.
- Partnering with CDP to advocate for improved corporate reporting, across equities and fixed income, on greenhouse gas emissions and on climate strategy.
- Engaging in dialogue with publicly listed companies on their climate strategy and reporting.
- Making significant investments in Norwegian hydro power. By the end of 2014, KLP had investments worth of approximately 19.9 billion NOK in renewable energy in Norway.

KLP first estimated its carbon footprint in 2014, and published its first carbon footprint report in 2015. This report measures the emissions associated with KLP's funds, and compares these to the emissions from benchmark indices in order to illustrate the effect of coal divestment. KLP also reports quarterly on the value of its investments in renewable energy projects and companies.

To date, KLP's decarbonisation activities have enabled it to reduce the carbon footprint of its global equity and bond portfolios, to increase its allocations to renewable energy, and to raise internal awareness on climate, carbon and energy related issues.

Key challenges

KLP has faced two distinct challenges. The first is that the quality and comparability of data provided by companies and by external data providers is not yet sufficiently robust. The second is that there is no consensus on the definition of a coal company or of companies that support the transition to more climate-friendly energy sources. KLP is working with companies, with research providers and organisations such as CDP to improve the quality of corporate reporting and to encourage consensus on key definitions and metrics.

The case for action

KLP has made a commitment to decarbonize its investment portfolios because it considers it important that investors play their role in efforts to keep global temperature rise below two degrees. It believes that it can do this without adversely impacting long-term investment performance.

KLP has joined PDC because it wants to help raise the profile of portfolio decarbonisation within the wider investment industry. Participation in PDC is seen as sending a clear signal to policymakers and to other investors about the importance of portfolio decarbonisation..

“By divesting from coal we want to send a clear signal that we would like to take part in the transition to a low carbon society. This screening allows us to demonstrate that it is possible to decarbonize investment portfolios without taking too much financial risk.”

Sverre Thornes,
CEO

About Mandatum

Mandatum Life is the third largest life insurance company in Finland. It provides life, critical illness and disability insurance, and voluntary corporate and private pension scheme services. The asset management division of Mandatum Life Insurance Company, Mandatum Life Investment Services, has approximately US\$2.6 billion in assets under management.

Summary of Decarbonization Commitments

Mandatum Life Investment Services' objective is to support Finnish investors with decarbonizing their portfolios by offering them cost-effective tools that allow them to reduce the investment risks associated with carbon emissions and climate change.

Portfolio Decarbonization Activities

Mandatum Life has recently launched a new investment product which allows Finnish investors to reduce their carbon emission-related risks while also participating in the fight against climate change. The index-based low carbon equity product, which is offered in partnership with Amundi, is based on the MSCI Low Carbon Leaders Index. It excludes the top 20% of companies based on carbon emissions intensity (i.e. Scope 1 and Scope 2 emissions per million euros of turnover), subject to a maximum exclusion of 30% of the companies by weight in any one sector. It also excludes the largest owners of reserves per dollar of market capitalisation, representing 50% of the reserves in the parent index. By excluding these companies, the index aims to achieve at least a 50% reduction in its carbon footprint relative to the relevant benchmark.

As the first product of its kind in the Finnish market, Mandatum Life's expectation is that it will attract significant funds from both institutional and private investors. Over the next two to three years, Mandatum Life's ambition is that the assets under management in its low carbon product range will exceed US\$200 million, representing between 3 and 8% of its total assets under management.

Mandatum Life is at the initial stage of the portfolio decarbonisation process. It is using the skills and expertise it develops in bringing the low carbon equity product to the Finnish market to develop its own internal expertise on climate change. One

particular area of focus is exploring how it might prepare a carbon footprint of its unit-linked portfolio.

Mandatum Life is also using the product to raise awareness externally and internally of how decarbonisation strategies can be delivered without compromising investment risk-return objectives. Mandatum Life's efforts include client and stakeholder events, employee training and public awareness campaigns through its own direct marketing, through proprietary media and through mainstream business news publications.

Key challenges

In Finland, the demand for decarbonisation products is growing and the public discussion on climate change is gaining momentum. However, relatively few investors have assessed the risks and opportunities associated with climate change and there has been a lack of suitable investment products with an explicit decarbonisation focus. As an asset manager Mandatum Life's challenge has been to find a third party product solution that is transparent, robust and scalable, while also offering attractive investment returns.

The case for action

As the first professional financial service provider in Finland to join PDC, Mandatum Life sees joining the coalition as sending an important signal to customers, to other finance sector organisations and to policymakers that decarbonisation is an effective tool to reduce the investment risks related to carbon emissions and climate change.

Furthermore, Mandatum Life sees joining PDC as providing it with the opportunity to work with and learn from other investors in finding new ways to help its customers reduce carbon emission and climate change-related risks.

“Through our range of low carbon index products, our clients can invest in companies that are committed to effective action on climate change without compromising investment returns. These are also the companies that are most likely to be the successful companies of the future.”

Petri Niemisvirta,
CEO

About Mirova

Mirova is a subsidiary of Natixis Asset Management dedicated to responsible investment. Mirova has US\$5.6 billion in assets under management, with 60% in equities, 30% in bonds and 10% in infrastructure.

Summary of Decarbonization Commitments

Mirova recognises the importance of portfolio decarbonization. It is a signatory to the Montreal Carbon Pledge and is currently developing metrics and indicators that will allow it to set decarbonization targets and to report on the contribution of Mirova's funds to the low carbon energy transition.

Portfolio Decarbonization Activities

Mirova conducts, in all of its portfolios, an in-depth analysis of the opportunities offered by companies in the context of climate change. This analysis is used to increase the share of companies with products and services providing solutions to mitigate climate change. This approach has also resulted in the absence of companies with activities in the field of oil extraction, utilities with high carbon intensity (mainly those producing electricity from coal-fired power plants) and of companies fully involved in the extraction or the global supply chain of coal.

Mirova offers three specific funds that are dedicated to decarbonization. These are its Global Energy Transition Fund (equity) which only invests in companies providing solutions to the energy transition issue, its Green Bond fund and Mirova Eurofideme 3, a fund dedicated to renewable energy infrastructure.

Mirova's view is that traditional carbon footprinting does not provide complete account of how a given portfolio or a given company contributes to the transition to a low-carbon economy. It is working with Carbone4, a French carbon accounting consulting company, to develop a methodology that allows it to estimate induced Scope 1, 2 and 3 emissions, and avoided emissions (through the company's products and services). Once developed it will use these indicators to track the share of green companies in its portfolios and to provide an overall account of the carbon impact of the portfolio.

Key challenges

Mirova has identified the limitations of traditional carbon footprinting as a key issue for decarbonization efforts. Its view is that carbon footprinting needs to take account of the full carbon impacts of a company (i.e. not just its direct and indirect emissions, but also the emissions associated with its products and services, and the emissions avoided through use of these products and services).

The other major issue is the economic barriers to decarbonization. Mirova's view is that governments need to do more to make energy transition-related investments more attractive. It acknowledges that there has been progress (e.g. the creation of EU Long Term Investment Funds) but sees that more is needed to increase the pool of capital available for companies and infrastructure projects over the long term.

The case for action

From an investment perspective, Mirova's view is that portfolio decarbonization efforts should enable investors to avoid risk and access opportunities related to the transition to a low carbon economy.

Mirova sees PDC as providing an important opportunity for Mirova to share and publicise its work and the knowledge it has developed from the decarbonization of its portfolios.

“PDC and the Montreal Carbon Pledge have created an important and valuable momentum around the issue of greenhouse gas emissions at portfolio level, and can help accelerate the transition to a low-carbon economy.”

Léa Dunand-Chatellet,
Head of Equities



About MN

MN is one of the largest pension administrators and asset managers in the Netherlands. MN manages assets worth approximately US\$117 billion for pension funds mostly hailing from industrial and maritime sectors in the Netherlands. Its largest clients include: Pensioenfond Metaal en Techniek, Pensioenfond Metalektro en Pensioenfond Koopvaardij. In addition, MN currently administers pensions for nearly 2 million people and more than 41,000 employers. MN's core activities are asset management, pension administration, insurance administration, with an emphasis on sustainability.

Summary of Decarbonization Commitments

MN is committed to measuring and publicly reporting its carbon footprint on a yearly basis. In addition, it intends to kick-start an intensive two year engagement program with the heaviest CO₂ emitters from its equities portfolio regarding lowering their carbon footprint by transitioning to cleaner technologies. These activities cover US\$35 billion (roughly 30%) of MN's AUM.

Portfolio Decarbonization Activities

In view of its background – one strongly anchored in the industrial and maritime heartland of the Netherlands – MN intends to emphasize the importance of innovation in the transition to cleaner technologies. Maintaining a constructive but critical dialogue with heavy emitters, based on clear S.M.A.R.T. goals is a powerful tool in pushing for lower levels of CO₂ emissions. As shareholders, MN continues to have influence on the strategies of its investee companies. In MN's view, 'simply' selling carbon intensive assets lowers the CO₂ footprint of a portfolio, but does less to ensure that actual CO₂ emissions in the atmosphere are lowered. MN will evaluate the progress of this strategy after two years.

Currently, MN measures and reports the carbon footprint of the equity portfolios of its major clients on a yearly basis.

Key challenges

According to MN, setting clear targets is not yet a good fit with its engagement based climate policy. Even though it will do its utmost to influence heavy emitters to lower their emissions, the portfolio's footprint is still derived from investee companies' actions. Through an engagement strategy, the influence on the actual emissions from MN's portfolio is indirect. Therefore, it is challenging to set targets at this stage.

Advising clients that are deeply committed to showing leadership on climate change, but that also represent the industrial and maritime backbone of the Dutch economy, is a large and exciting responsibility. Showing that they can take on this leadership role in a constructive way, emphasising the importance of innovation and future sources of growth employment in a 'new' economy is a key success factor.

MN's clients have recently decided to make some fundamental changes to their portfolio. Some have opted for negative screening, and excluding companies that do not perform well in terms of ESG. Another client is developing a concentrated ESG portfolio. Generally, clients prefer to test run these new portfolios and build a track record before making any new decisions on decarbonization.

The case for action

PDC represents an opportunity to join a prestigious network of forward looking investors with which to share knowledge and insight about measuring carbon footprints, designing policy responses and quantifying these results. The Coalition also provides an opportunity for joint corporate and policy engagements on climate change issues. As MN is an active member of the IIGCC, joining PDC was the logical next step. Additionally PDC offers a platform for signalling to stakeholders and policy makers that MN clearly sees climate action as part of its fiduciary duty.

“MN and our clients represent the very center of the Dutch industrial heartland. It is from this unique perspective that through dialogue with emitters we support the transition to a low carbon, climate resilient economy. Innovation is key. The PDC offers us a valuable platform of like-minded parties with whom we can collaborate to fulfil our clients' climate action agenda.”

René van de Kieft,
CEO

About RobecoSAM

RobecoSAM is an investment specialist focused exclusively on sustainability investing. It offers a range of investment services including asset management (with over US\$10 billion in assets under management, advice and/or license in listed and private equity), indices, engagement, voting, impact analysis, sustainability assessments, and benchmarking services. Together with S&P Dow Jones Indices, RobecoSAM publishes the globally recognised Dow Jones Sustainability Indices (DJSI).

Summary of Decarbonization Commitments

RobecoSAM aims to offer core investment strategies with at least a 20% reduction in carbon by December 2015.

Portfolio Decarbonization Activities

RobecoSAM integrates its research into climate-related risks and opportunities into all of its investment processes. For example:

- Based on its Corporate Sustainability Assessment (an annual ESG analysis of 2,900 listed companies in 59 sectors), RobecoSAM tracks firms' Scope 1 and 2 greenhouse gas emissions, energy consumption and corporate climate strategy. On an annual basis it engages with hundreds of assessed companies to improve their operational eco-efficiency and carbon emission disclosure.
- In its thematic investment strategies, Robeco invests in solution and service providers that address challenges related to climate change. For instance, its Smart Energy fund focuses on investment in alternative sources of energy and energy efficiency.
- RobecoSAM offers its investor clients the ability to quantify and reduce the carbon impact of their public investments through its impact investing offerings. For example, in broadly diversified global portfolios, RobecoSAM is able to reduce the carbon impact by up to 20% without detriment to investment performance. This is achieved by avoiding the most inefficient companies through the use of a best-in-class filter.
- RobecoSAM has a ongoing decarbonization engagement programme with 14 electricity utilities. The aims of this engagement are to encourage these companies to integrate a realistic carbon price into their investment decisions and to commit to shutting down less efficient coal plants.

Key challenges

RobecoSAM has identified data availability and the ability to meaningfully compare the carbon efficiency of companies as a key issue when defining where to prioritise its engagement efforts and when assessing the carbon footprint of individual holdings and the associated carbon impact per invested dollar.

RobecoSAM has also identified client communication as an issue, noting that technical terms such as tonnes of carbon dioxide often have limited meaning for clients. It has addressed this by expressing carbon reductions and savings in more tangible terms, e.g. the number of equivalent passenger cars that are on European roads for one year.

The case for action

RobecoSAM sees its participation in PDC as offering two main benefits. The first is that it provides a mechanism for investors to work together, to share their experiences and to develop new decarbonization strategies. The second is that it sends a strong signal to policymakers on the need for a managed transition to a low carbon economy.

“Our decarbonization efforts are in line with the needs and interests of our clients who have a vested interest in the preservation of assets and the mitigation of macro risks such as disruptive climate change that may affect the long term stability of the whole financial system and wider economy.”

Daniel Wild,
Head of Sustainability Investing R&D and Member of
the Executive Committee

sonen CAPITAL

About Sonen Capital

Sonen Capital is a dedicated impact investment management firm dedicated to providing clients with investment solutions that achieve competitive financial returns alongside meaningful and measurable social and environmental impact. Sonen presently manages three stand-alone investment strategies - Global Public Equities, Global Fixed Income and Global Sustainable Real Assets – and has US\$350 million in assets under management.

Summary of Decarbonization Commitments

Sonen Capital has not set formal targets for decarbonization. However, as a consequence of its investment focus on socially and environmentally beneficial opportunities, many of which support a low-carbon economy, Sonen's strategies are not exposed to coal exploration or development, or to the exploration or production of natural gas or oil.

Portfolio Decarbonization Activities

Sonen Capital believes that the proactive integration of social and environmental factors into investment research and decision-making processes is an integral part of responsible investing, and is necessary to appropriately manage risk and evaluate opportunities over the long term. Sonen's approach to portfolio decarbonization is considered a natural outcome of this investment philosophy. More specifically:

- Sonen's Global Equity strategy is "fossil fuel free" as a result of its proactive focus on corporate ESG leaders and companies contributing solutions to key thematic impact issue areas such as water scarcity, energy efficiency and waste management. The portfolio's carbon emissions are approximately a ninth of those of comparable mid- and large-cap indices.
- Sonen's Global Fixed Income strategy invests in municipal bonds that provide critical community services including pollution mitigation, infrastructure and resource efficiency; corporate bonds of companies demonstrating ESG leadership; international development institutions; World Bank Green bonds whose focus is climate mitigation and resiliency projects; and sovereign bonds for countries with high ESG ratings.
- Sonen's Global Sustainable Real Assets strategy aims to address the pressing challenge of resource scarcity which, when combined with increasing resource demands, drives a fundamental market opportunity to address issues of sustainability, efficiency, renewability and restoration of resources. Its six focus sectors – clean power, sustainable

timber, agriculture & farming, land & water resources, green real estate, environmental infrastructure – reflect the areas in which Sonen Capital believes that these impact and investment objectives are not only compatible but mutually reinforcing.

Key challenges

Sonen Capital has identified two specific challenges in implementing a portfolio decarbonization strategy. The first is that ESG data remains limited and of variable quality, making it difficult to provide robust portfolio-wide ESG performance reporting, especially within fixed income investments. The second is that there are many "grey areas" in thematic investments, e.g. a water infrastructure company may also provide services to companies in the oil and gas sector. Sonen has developed impact frameworks, investment methodologies and revenue thresholds that explicitly analyse these complexities and potential trade-offs for conflicts.

The case for action

Sonen Capital's founding belief is that positive social and environmental outcomes and financial returns should be mutually reinforcing.

Sonen joined the PDC based on its belief that institutional investors need to send an unequivocal sign to regulators and policymakers around the world that strong emission reduction targets and climate policies are urgently needed. It also considers that its participation in PDC will allow it to share best practices with and learn from other investors.

"The PDC represents a no-nonsense, action-oriented group of investors dedicated to tangible, measurable progress in this critical issue area. The primary benefit is adding our voice and AUM to the aggregated group of stakeholders who are working towards mobilizing financial markets to drive decarbonization."

Danielle Ginach,
Impact Manager

About Storebrand

Storebrand is a Norwegian financial services company, offering life, property and casualty insurance, asset management, pension and banking services to companies, public sector entities and private individuals. It has approximately US\$65 billion in assets under management.

Summary of Decarbonization Commitments

Storebrand intends to increase its investments in portfolios that deliver index returns while also offering significantly higher sustainability ratings than the reference index.

Portfolio Decarbonization Activities

Storebrand has a strong commitment to sustainability and sustainable savings. All of its assets under management are covered by a sustainability analysis, with climate change being a key area of focus. Storebrand aims to consistently improve the sustainability rating of all of its portfolios, as an integral part of its process for generating secure long term returns.

In relation to climate change, Storebrand utilises three main strategies:

- Risk-based exclusions. Of the more than 180 companies excluded from Storebrand's investment portfolios, 60 have been excluded for climate reasons such as their involvement in activities such as coal mining, oil sand production or palm oil plantations. Storebrand believes that not investing in these companies reduces its likelihood of investing in stranded assets, and reduces its exposure to regulations directed at reducing carbon emissions.
- Active ownership (engagement, direct dialogue, voting) to encourage companies to better manage climate change-related risks and opportunities.
- Investing in climate change solutions. Storebrand is working systematically to shift investments into more sustainable companies, projects and assets.

Storebrand has transferred almost all of the passively managed listed global equities in its life companies – approximately US\$2.1 billion – from index funds to portfolios that seek to deliver index returns with significantly better sustainability ratings. Storebrand intends to increase these investments over time.

Storebrand measures its performance in a number of ways. It uses its own sustainability ratings (which take account of companies' performance on ESG issues) as the primary measure of company performance. Since signing the

Montreal Pledge in 2014, Storebrand has also started to measure the total portfolio carbon and carbon intensity of its listed equities portfolios, the total carbon-related portfolio risk, and the level of capital being allocated to green bonds.

Key challenges

Storebrand has identified two main challenges. The first is that, due to the differences in the methods used by investment managers to calculate their carbon footprint, Storebrand cannot compare its performance to that of its peers. It has commented that this lack of comparability makes it difficult for customers or investors to make meaningful comparisons between investment managers. The second is that the inconsistencies in the quality of data provided by companies make it difficult to set and monitor portfolio performance.

The case for action

Storebrand has had a long-standing focus on sustainability-related issues in its investment processes and in creating products and services focusing on sustainable savings. Since 2013, Storebrand has divested from companies for climate change-related reasons.

Joining PDC was seen as a natural extension of this work, as it offered Storebrand the opportunity to learn from its sector peers, to increase the visibility of its decarbonization efforts and to support wider efforts to encourage the investment sector to professionalise its approach to sustainability and climate concerns.

“The process of complementing our sustainability rating with carbon performance has been hugely beneficial. It has enabled us to identify and critically assess different strategies for value creation with a lower carbon footprint, and to drive improvements in our practices and processes.”

Filippa Bergin,
Group Head Sustainability

About Toronto Atmospheric Fund

Toronto Atmospheric Fund (TAF) was established in 1991 to assist the City of Toronto in advancing solutions to climate change and air pollution. Toronto's goal is to reduce greenhouse gas (GHG) emissions 30% by 2020 and 80% by 2050. TAF has a CAN\$23 million endowment from the City of Toronto, and the earnings are used to provide grants to projects of non-profit organisations and to undertake strategic initiatives focused on low-carbon solutions. The endowment is invested 55% in listed Equities, 25% in Bonds, 17% in Direct Investments (private debt and other financing) and 3% in Private Equities.

Summary of Decarbonization Commitments

TAF is aiming to decarbonize 100% of its investment portfolio. At present, 80% of the portfolio is invested in alignment with its mandate.

Portfolio Decarbonization Activities

TAF's decarbonization activities have included:

- Appointing an Investment Committee comprised of financial professionals who understand ESG (public market) and direct (private) financing.
- Revising its investment policy to clearly state its belief that carbon risk can impair performance over the long-term, and that attention to environmental, social and governance issues enhances investment returns.
- Hiring investment managers - Greenchip Capital and Generation Investment Management – with recognised expertise in low-carbon and sustainability investing.
- Investing in innovative local projects with three returns on investment:
 - Risk-adjusted financial ROI,
 - Actual GHG reduction and potential for significant reduction at scale, and
 - Demonstration and de-risking of approaches and opportunities to mobilise public and private capital for low-carbon solutions.

Analysis of the carbon footprint of TAF's equities portfolio ranks it in the top quartile of equity funds.

Key challenges

TAF has noted that it does not yet have a viable decarbonization strategy for fixed income, although it is exploring how green bonds may provide part of the solution.

For originating and transacting direct Investments, transaction costs (e.g. legal costs, education of investees at the front end) and the lack of analytical tools and metrics (which are not as well developed as for listed equities) are also important obstacles.

The case for action

TAF sees its decarbonization activities from both a mission-driven and prudent investing perspective.

Financially, decarbonization enables it to improve investment performance by accessing new investment opportunities and by shielding itself from the financial risks posed by carbon-heavy investments.

TAF joined PDC to signal its own commitment to decarbonization, to demonstrate risk that low-carbon portfolios are possible and prudent, and to mobilise other investors to decarbonize their portfolios and to provide the capital needed to advance the low-carbon economy.

“TAF is small in terms of assets under management, but our enthusiastic participation in PDC can demonstrate to other smaller funds that it is possible to take effective and meaningful action on climate change without compromising financial return, and in fact protecting their investments from the risks posed by climate change.”

Julia Langer,
CEO

About the University of Sydney

The University of Sydney is an Australian public research university in Sydney. It had a total investment portfolio of US\$1.04 billion as of 31 Dec 2014, of which US\$833 million is its long term endowment.

Summary of Decarbonization Commitments

In February 2015, the University of Sydney announced a target to reduce the carbon footprint – in terms of the Scope 1 and 2 emissions for each portfolio company, normalised by sales in US dollars, as a proportion of the overall portfolio – by 20 per cent relative to its listed equity composite benchmark by 2018.

Portfolio Decarbonization Activities

The University's emission reduction goal applies to its entire listed equity portfolio, including Australian equities, international equities and emerging market mandates. The University's equity portfolio represents approximately 35% of its total assets under management.

The University's carbon footprint reduction goal is expected to be delivered through applying its ESG integration framework, through engagement and through altering the mix of equity investments over time. The actions the University has taken to date have included:

- Updating its Investment Policy to reflect this goal.
- Communicating with its equity investment managers that they will be evaluated against this target annually.
- Surveying all its investment managers on their approach to climate change risk management and reducing carbon emissions. The University has indicated that, if there are fund managers that are unwilling or unable to reduce the emissions and support the fund's 20% reduction goal, it will – subject to other risk/return and portfolio structure considerations – consider the merit of retaining these fund managers.
- Joining CDP (formerly known as the Carbon Disclosure Project) and, through CDP, working with other global investors to encourage companies to measure and reduce their carbon emissions.

Key challenges

The University sees that one of its key challenges will be finding the right balance between achieving its risk/return objectives and its carbon reduction goals at the portfolio level. As a relatively small fund, the University sees that it is relatively more difficult for it to encourage its underlying fund managers to reduce the carbon intensity of their portfolios.

A second early challenge for the University was communicating its approach to stakeholders, some of whom may have preferred a more direct approach such as excluding certain sectors. The University's analysis concluded that an exclusion approach would not be particularly effective at reducing portfolio emissions, could have unintended consequences on its ability to select investment strategies, and could result in sub-optimal environmental outcomes (e.g. divestment could result in the exclusion of some fossil fuel producers are also investing heavily in renewable energy sources). The exercise of assessing the implications of investment exclusions was important to enable the University to communicate clearly and persuasively on its preferred approach to portfolio decarbonization.

The case for action

Participating in the PDC has provided the University of Sydney with a number of significant benefits:

- It helps the University to communicate externally and with its stakeholders about how it is managing climate change risk alongside other investors.
- It enables the University to leverage its commitment to reducing financed emissions in order to inspire other investors and investment managers to do likewise.
- It provides leadership, legitimacy and a credible network for investors to work together to reduce emissions over time.

“The University's strategy is about getting the balance between financial and environmental responsibilities right, while also making investment in clean energy a better economic and investment proposition.”