



ROUND TABLE ON SUSTAINABLE DEVELOPMENT

Integrating Climate Change-related Factors in Institutional Investment

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Executive Summary and Questions for Discussion

Climate change has and will continue to have profound implications for investment, business and the economy. Investors, corporations and policy makers increasingly recognise the potentially material impacts of climate-related risks on corporations and the financial sector. Investors and lenders exposed to sectors with carbon-intensive assets are vulnerable to investments being impacted by their underlying assets becoming “stranded”, e.g. in the coal sector. At the same time, climate change also represents an opportunity in terms of new markets, investments, business models and innovation, as action on climate change scales up and accelerates.

The physical, liability and transition risks stemming from climate change may even pose risks to systemic financial stability if not addressed early enough. Conversely, pervasive and large-scale “bad” climate assets might limit governments’ abilities to scale up climate mitigation action and transition to a low-emissions development path in line with the goals of the Paris Agreement. This would result in excessive greenhouse gas (GHG) emissions and a longer-term build-up of physical and liability risks.

Recent OECD work has concluded that the integration of climate-related and broader environmental, social and governance (ESG) factors is consistent with institutional investors’ responsibilities and investment governance. An increasing number of stakeholders share the view that such integration is compatible with fiduciary duties. This is in addition to broader and more traditional responsible business conduct considerations about firms’ impacts on society and the environment.

Institutional investors – who manage up to USD 84 trillion in assets in OECD countries alone – are therefore increasingly seeking to integrate climate-related factors into their investment decisions. This is reflected in the number of commitments and actions linked to the Paris Agreement led by or involving institutional investors’ groups.¹

Institutional investors are taking action to integrate climate-related risks and opportunities in their own portfolios. There is no one-size-fits-all approach; various tools and actions are available, based on emerging practices and the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), which are quickly gaining traction. Options for institutional investors include:

- Using enhanced climate-related financial disclosures as a tool to encourage improved information flows and more effective integration by institutional investors (including asset owners and asset managers) and investee corporations.
- Ensuring that investment and corporate governance frameworks adequately reflect climate-related factors.
- Integrating climate-related factors in strategic and financial planning processes and risk management (e.g. using scenario analysis).
- Adapting their portfolios and investment strategies, including by reducing exposure to carbon-intensive assets and increasing exposure to climate-aligned assets. There are a number of different ways in which both of these can be done

(e.g. through exclusionary screening, divestment or thematic investment, in addition to best-in-class investing). Institutional investors can also engage with investee corporations through active ownership.

- Developing metrics, targets and benchmarks to assess and integrate climate-related factors in disclosure schemes.

However, there are practical implementation challenges to integrating climate-related factors – including methodological issues (e.g. forward-looking scenario analysis), technical limitations (e.g. data availability and comparability) and behavioural issues. The decision-making process of institutional investors is also limited by existing climate-related disclosure from investee corporations, a key obstacle to effective implementation of the TCFD recommendations.

Industry-led initiatives to integrate climate-related factors do not operate in a vacuum. Progress is also hampered by the potential lack of regulatory clarity and misalignments in existing policy frameworks.

Governments are keen to leverage private capital, notably from institutional investors, in support of the goals of the Paris Agreement and the Sustainable Development Goals (SDGs) more generally. Yet only 1% of large public and private pension fund assets surveyed by the OECD are invested directly in infrastructure, and only a fraction of that percentage is invested in low-carbon and climate-resilient infrastructure. Governments, financial supervisors and international organisations are increasingly launching or considering initiatives and regulations to encourage the integration of climate risks in investment decisions. Examples include the EU High-Level Expert Group (HLEG) on Sustainable Finance; France's Article 173-VI of the Law on Energy Transition for Green Growth; Switzerland's voluntary evaluation of pension funds' and insurers' asset disclosures; the revision of Japan's stewardship code on ESG factors; and efforts by central banks in the UK and the Netherlands.

Approaches will depend on national circumstances. Relevant policies and standards include: the establishment of disclosure schemes and reporting requirements for investors and corporates, whether mandatory or voluntary; prudential regulations of institutional investors and regulations of market transparency and integrity; corporate governance standards; stewardship codes; policies for promoting responsible business conduct; accounting standards; stock exchanges' requirements and indices; and other securities regulations. A coherent, system-wide approach is needed to ensure an effective policy response given the pervasive, cross-sectoral nature of the problem and sometimes fragmented regulatory structures.

Questions for discussion

1. What are the next steps for institutional investors and investee corporations to overcome barriers to implementing the TCFD recommendations on climate-related financial disclosures and ensure they are effective? How can institutional investors adopt ambitious yet achievable climate-aligned investment strategies, and how can organisations such as the OECD support progress?
2. a. Should regulators and institutional investors support mandatory climate disclosure schemes?
b. If so, how can regulators work towards an international agreement on mandatory climate disclosure?

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3. Beyond climate disclosure requirements, what other regulations and policies influence the integration of climate factors by institutional investors? How can regulators co-operate across policy areas, and with institutional investors, to address outstanding policy misalignments?

Introduction

Addressing Lloyd's of London in September 2015, Bank of England Governor Mark Carney described climate change as the "tragedy of the horizon", referring to the short-termism of the business cycle, political cycle and regulatory approaches of technocratic authorities (Carney, 2015^[1]). He stressed three main channels through which climate change can impact financial stability: physical risks linked to climate impacts on physical assets; liability risks, linked to loss or damage from climate change effects; and transition risks associated with the potentially disruptive impact of the low-carbon transition.

Climate change has and will continue to have important consequences for investors, corporations and other economic actors. Investment opportunities are arising as new business models and markets emerge, while climate-related risks are growing. Investors and lenders exposed to sectors with carbon-intensive assets and activities are especially vulnerable to the risk of their investments being impacted by corporate-level "stranded assets", as can already be seen in sectors such as coal mining and unregulated energy utilities. Financial and non-financial stakeholders thus have an incentive to consider climate-related factors in their investment and business decisions.

While recognising the importance of other financial and non-financial stakeholders (such as banks and corporations), this paper focusses on institutional investors. OECD institutional investors manage up to USD 84 trillion² in assets – OECD asset owners alone manage around USD 54 trillion.³ Institutional investors include asset owners, such as pension funds, insurance companies and sovereign wealth funds, as well as investment funds and asset managers. With regard to insurers, the scope is on their role as portfolio investors, not as insurance providers.

Since 2015, a growing number of institutional investors are seeking to integrate climate-related factors in their investment decision-making. They integrate climate-related factors both to address climate-related risks in their portfolios, and to benefit from climate-related investment opportunities. Different actions and tools available for institutional investors integrate climate-related factors – and especially climate-related risks.

Institutional investors face practical implementation challenges to integrate climate-related factors. The integration of climate-related factors can be viewed as being consistent with fiduciary duties, broader investors' duties and investment governance, although there is still debate on this issue, with many arguing that investor governance standards such as fiduciary duty present an obstacle. Leaving aside the question of governance standards applicable to institutional investors, the integration of climate-related factors faces practical operational, methodological and technical obstacles.

Several industry-led initiatives have been launched to encourage climate integration, including the Task Force on Climate-related Financial Disclosures (TCFD). As emphasised by the TCFD recommendations, launched in June 2017, climate-related

financial disclosures can contribute to the integration of climate-related factors by both institutional investors and investee corporations. Along with the TCFD recommendations, other tools and options are available for institutional investors to factor climate change in their governance, strategy risk management and performance indicators. Several investment strategies are notably available, including: divestment and exclusionary screening; thematic investment; active engagement and ownership; best-in-class investing; and general ESG integration.

At the same time as climate change will impact investment decisions, scaling up financial flows will be critical to address the global climate change challenge and implement the goals of the Paris Agreement. Various policies and regulations can influence institutional investors' behaviours and encourage them to integrate climate-related factors. From the policy makers' perspective, governments are increasingly inclined to exploit the scale of institutional investment's assets to support the aims of the Paris Agreement and broader Sustainable Development Goals (SDGs). Yet only 1% of the assets of large public and private pension fund surveyed by the OECD are invested directly in infrastructure, and only a fraction of that percentage is in low-carbon, climate-resilient infrastructure.

This paper reviews existing international and domestic initiatives launched by policy makers to encourage the financial sector – and especially institutional investors – to factor climate change issues. Several policy makers, financial supervisors and international organisations are setting initiatives, policies or regulations to encourage the integration of climate risks, despite outstanding gaps. They are doing it through a broad range of policy options, be it through voluntary or mandatory disclosure schemes, reviewing prudential regulations, revising stewardship codes or corporate governance standards, or setting policies to encourage responsible business conduct.

Given emerging investor practices and policy approaches, what are next steps to address the practical challenges faced by institutional investors to integrate climate-related factors – and especially climate risks – in their investment governance and risk management? Which policies and regulations influence such integration?

The paper is divided into three sections:

- Section 1 provides an overview of the rationale for institutional investors to integrate climate change and other ESG factors in the context of fiduciary duties and broader investors' obligations.
- Section 2 discusses key priorities and implementation challenges for institutional investors to integrate climate-related factors.
- Section 3 explores the possible role of regulators and policy makers to help institutional investors integrate climate change.

1. Rationale for Institutional Investors to Integrate Climate and other ESG Factors

1.1. Integration of ESG and climate-related factors in the context of fiduciary duties

1. There has been much debate about the integration of environmental, social and governance (ESG) factors – including those related to climate change – into the decisions and disclosures of institutional investors. A key point of contention is whether such integration is in line with fiduciary duties.

2. Fiduciary duties refer to the legally-binding obligations of institutional investors to their beneficiaries.⁴ There is no precise common definition, as standards and their application vary across contexts. The OECD has identified three aspects of fiduciary duties that are common across jurisdictions, however (OECD, 2017_[2]):

- Fiduciary principles impose a duty of care and a duty of loyalty on fiduciaries towards their beneficiaries.
- Fiduciary duties address the behaviour and processes used by fiduciaries, rather than the outcomes they achieve.
- Interpretations of fiduciary duties are flexible and adaptable.

3. Literature suggests that integration of ESG factors is compatible with fiduciary duties and investors' obligations.⁵ The OECD report *Investment Governance and the Integration of Environmental, Social and Governance Factors* assessed the evolution of the interpretation of investors' responsibilities and whether they include an obligation to consider the impact of their investments on the environment.⁶ It noted that "traditional" investors believe that ESG factors do not improve their capacity to meet their obligations, which are purely financial, and that ESG risks are already priced in the market. This is in line with traditional portfolio management, influenced by Modern Portfolio Theory (MPT) and the Capital Asset Pricing Model (CAPM). "Universal" investors, however, argue that their ongoing ability to pay financial benefits is inherently tied to ESG issues.⁷

4. The OECD report *Responsible Business Conduct for International Investors* emphasised that whether or not institutional investors decide to integrate ESG and climate factors into their investment governance depends on the extent to which they believe that these factors have a material impact on their ability to meet liabilities now and in the future (OECD, 2017_[3]).

5. Indeed, not considering long-term investment value drivers including climate change and other ESG issues is increasingly viewed as a failure of fiduciary duties, though few jurisdictions specifically refer to ESG factors in their investment governance standards. Against this background, regulators in a number of jurisdictions have taken steps to clarify that regulatory frameworks do not prohibit ESG integration as long as it

does not jeopardise portfolio performance, as discussed in Section 3. Some within the investment industry believe that there should be a positive duty to consider ESG and climate-related factors.

1.2. How are climate-related factors relevant?

1.2.1. Climate-related risks and opportunities

6. In his 2015 speech, Mark Carney described three types of climate-related risks that could affect financial stability: 1) *physical risks* (damage to assets arising from climate- and weather-related events); 2) *liability risks* (parties who have suffered climate-related loss or damage seeking compensation from those they hold responsible), and 3) *transition risks* (reassessment of the value of assets as a result of the process of adjustment towards a low-carbon economy) (Carney, 2015^[1]). Investors and corporations may also face reputational risks stemming from assets and businesses “engaging in, or connected with, activities that some stakeholders consider to be inconsistent with addressing climate change” (Ernst & Young, 2016^[4]).

7. There is increasing consensus that ESG factors can have an impact on the performance of institutional investors’ portfolio holdings.⁸ ESG factors – especially climate-related factors – can influence investment returns through their potentially material impact on corporate financial performance of portfolio holdings and the risks they pose to broader economic growth and financial stability (OECD, 2017^[2]).

8. Beyond ESG risks to institutional investor investments and investee corporations, OECD work has stressed the importance of responsible business conduct (RBC) risks, which include risks to society and the environment. RBC risks refer here to adverse impacts on issues covered by the *OECD Guidelines for Multinational Enterprises*, such as information disclosure, human rights, employment and industrial relations, environment, combatting bribery and corruption, consumer interests, science and technology, competition, and taxation (see Section 3). RBC risks thus exceed ESG risks, despite significant overlaps.

9. Along with risks, climate change mitigation and adaptation efforts also create investment opportunities (e.g. in low-carbon infrastructure projects) as well as positive impacts on businesses (e.g. resource efficiency and cost savings, or the development of new products and services).⁹

1.2.2. The impacts of climate on financial performance

10. For decades, insurers have acknowledged the losses and costs associated with the physical risks of climate change. Since the 1980s the number of registered weather-related loss events has tripled; in 2017 alone, the global insurance industry faced a record USD 135 billion in costs from natural disasters, almost three times above the ten-year average of USD 49 billion (Financial Times, 2018^[5]). Studies have also highlighted the impact of physical risks of climate change on asset value.¹⁰

11. Credit ratings agencies, consultancy firms, think tanks, investors and academia are also increasingly calling attention to value depreciation and the potential for stranded assets linked to transition risks. Stranded assets can be defined as assets that “have suffered from unanticipated or premature write-downs, devaluations or conversion to liabilities” (Caldecott and McDaniels, 2014^[6]). Baron and Fischer (2015^[7]) stressed that the significant economic and technological transformations needed to meet the 2°C goal

will impact asset value, and gave examples of the value destruction that could accompany the transition to a low-carbon global economy. Moody's has warned that carbon-intensive sectors (e.g. unregulated utilities and power companies, and coal mining) face significant credit risk (Moody's, 2017_[8]).

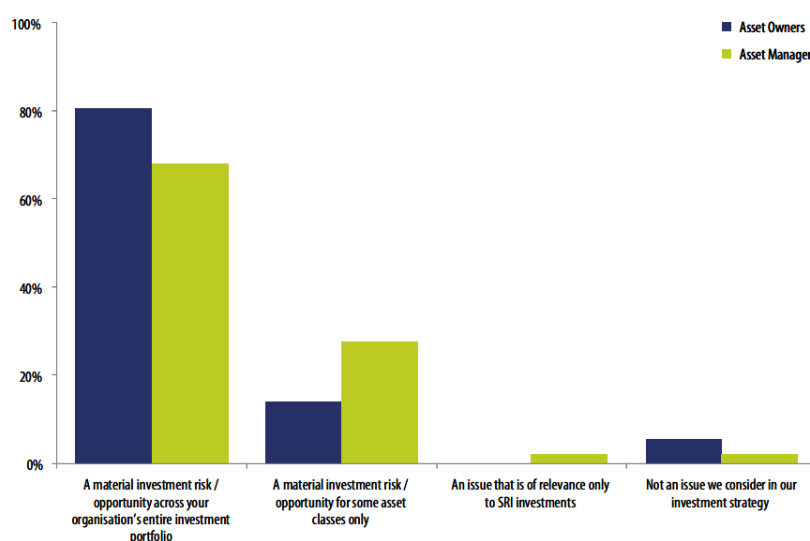
12. Coal companies have experienced value depreciation associated with climate-related factors, as well as competition from cheaper alternative energy sources such as shale gas in the US or renewable power. The market capitalisation of Peabody Energy, the largest coal producer in the United States, has declined by USD 20 billion over the past few years (Reuters, 2016_[9]). Research in 2013 estimated that fossil fuel reserves already far exceeded the carbon budget to keep global warming below 2°C (Carbon Tracker Initiative and The Grantham Institute, 2013_[10]).

13. As a result, several scenario analyses estimate that climate change will inevitably have an impact on investment returns. For example, Mercer estimates that under a scenario in which countries manage to meet the 2°C goal, investors would experience a negative impact on returns linked to developed market equity and private equity, especially in the industrial and energy sectors.¹¹ A report by the Cambridge Institute for Sustainability Research suggests that climate impacts on markets in the short term will be driven by projections of likely future impacts¹² and warns against the risk of abrupt changes in portfolio strategy by financial stakeholders anticipating future climate-related risks (CISL, 2015_[11]).

1.3. Where do institutional investors stand?

14. Institutional investors are becoming more concerned about climate change risks, despite uneven perceptions. According to Mercer's *2013 Global Investor Survey on Climate Change*, the majority of responding asset owners (81%) and asset managers (68%) already view climate change as a material risk or opportunity across their entire investment portfolio (Figure 1.1).

Figure 1.1 Investor perception of climate change risk materiality



Source: Mercer (2013_[12]), *Global Investor Survey on Climate Change: 3rd Annual report on actions and progress*, Commissioned by the Networks of the Global Investor Coalition on Climate Change, http://www.iigcc.org/files/publication-files/2013_Global_Investor_Survey_Report_Final.pdf.

2. Priorities and Challenges for Institutional Investors to Integrate Climate-related Factors

2.1. High-level commitments on climate change

15. Institutional investors are increasingly committing to initiatives and recommendations aimed at raising industry awareness of climate change, such as the Principles for Responsible Investment (PRI),¹³ the Montréal Carbon Pledge,¹⁴ the Portfolio Decarbonization Coalition¹⁵ and the Task Force on Climate-related Financial Disclosures (TCFD).

16. They are also joining efforts by industry associations and civil society, such as the 2014 Global Investor Statement on Climate Change¹⁶ and the Climate Action 100+ initiative launched at the One Planet Summit, among others.¹⁷

17. Industry associations and civil society are leading public advocacy on climate change-related factors by encouraging disclosure, integrating climate change risks or advocating policy makers to adopt stronger, coherent climate change policies (e.g. on carbon prices or reforming fossil-fuel subsidies).

2.2. How can institutional investors integrate climate-related factors?

18. This section presents tools and actions available for institutional investors to integrate climate-related risks into their investment decisions. Additional analysis is needed to prioritise and assess the ambition and effectiveness of individual options.

19. The integration of climate-related factors by institutional investors is considered here as: 1) recognition in an institutional investor's investment policy or principles that climate-related factors may impact portfolio performance and so affect the investor's ability to meet their obligations; and 2) using analysis of climate-related impacts to inform asset allocation decisions and securities valuation models.¹⁸

20. Options for institutional investors include:

- using **climate-related financial disclosures**, drawing notably on the recommendations of the TCFD;
- aligning **governance** frameworks with climate-related factors;
- considering climate-related factors in **strategy** and **risk management**; and
- developing **metrics and targets**, including carbon footprint, to assess and integrate climate-related factors in disclosure schemes.

2.2.1. Enhanced climate-related financial disclosures

21. Before institutional investors can integrate climate-related factors into their decision-making, investors and businesses must first supply reliable information. There is currently no universally agreed definition of climate-related information, though it can include (OECD-CDSB, 2015^[13]):

- **strategies, governance practices and policies** implemented to mitigate, adapt to and manage climate change impacts, including extreme weather events, resource shortages and changing market conditions;
- **resource consumption** that affects climate change, including that of fossil fuels;
- **production of waste and pollutants** that affect the climate, including GHG emissions;
- **principal risks and opportunities** expected as a result of climate change, e.g. demand for new products, regulation related to climate, increased costs to transition to low carbon, and supply chain resilience.

22. Recognising that inadequate information about climate change risks can lead to mispricing of assets and capital misallocation – which in turn can impact financial stability – stakeholders are increasingly calling for enhanced disclosure. In July 2016, in response to a formal review of the US Securities and Exchange Commission’s corporate disclosure requirements, 45 investors representing USD 1.1 trillion in assets under management signed a letter calling for improved climate risk disclosure (CERES, 2016_[14]). In April 2017, the G20 Finance Ministers and Central Bank Governors asked the Financial Stability Board (FSB) to “convene public- and private-sector participants to review how the financial sector can take account of climate-related issues” (G20 FMCBG, 2015_[15]).

The Task Force on Climate-related Financial Disclosures

23. Following the G20 request and Mark Carney's call to action, the FSB announced the creation of the Task Force on Climate-related Financial Disclosures (TCFD) during the UN climate negotiations in Paris in December 2015. The industry-led task force was mandated to design a set of recommendations to encourage climate disclosure by both financial and non-financial institutions and to assess the type of information that should be released by organisations to shift financial flows towards a low carbon economy.

24. The TCFD recommendations were launched in June 2017. They are structured around four thematic areas – ***governance, strategy, risk management*** and ***metrics and targets*** (Figure 2.1) – and are complemented with guidance for all sectors. Supplemental advice is provided for banks, insurance companies, asset owners, asset managers and non-financial sectors.

Figure 2.1. Core elements of the TCFD recommendations



Source: TCFD (2017_[16]), "Recommendations of the Task Force on Climate-related Financial Disclosures", <https://www.fsb-tcfid.org/wp-content/uploads/2017/06/FINAL-TCFD-Report-062817.pdf>

25. The recommended disclosures are voluntary and should: represent relevant information; be specific and complete; be clear, balanced and understandable; be consistent over time; be comparable among companies within a sector, industry or portfolio; be reliable, verifiable and objective; and be provided on a timely basis (TCFD, 2017_[16]).¹⁹ They are in line with other industry-led initiatives such as the Global Reporting Initiative (GRI);²⁰ the Sustainability Accounting Standards Board (SASB);²¹ the International Integrated Reporting Council (IIRC);²² the Climate Disclosure Standards Board (CDSB);²³ and CDP²⁴, and apply to both investors and corporations.

26. The TCFD recommendations are quickly gaining traction. As of December 2017, 237 companies with a combined market capitalisation of over USD 6.3 trillion had publicly committed to support the TCFD (TCFD, 2017_[17]). France, Sweden and the UK have also endorsed or welcomed the recommendations. The January 2018 final report of the EU High-Level Expert Group (HLEG) on Sustainable Finance recommended that the EU should endorse the TCFD guidelines and implement its recommendations at the EU level (see Section 3).²⁵

27. Institutional investors also publish guidance for implementing climate-related disclosure and reporting. For instance, the Swedish Investment Fund Association has developed guidance for investment fund reporting of carbon footprints and a standard for the reporting of sustainability practices (Fondbolagens Förening, 2016_[18]; Fondbolagens Förening, 2016_[19]). Institutional investors have also urged banks to strengthen their climate-related disclosures.²⁶ Regulations, standards and country schemes can also play a role, as discussed in Section 3.

28. Whether or not they lead to actual disclosure, the TCFD recommendations are a useful reference for the integration of climate-related factors into institutional investment. The four thematic areas represent core elements of how organisations operate, and were informed by emerging good practices. As such, **the TCFD framework likely constitutes an important pre-requisite for proper integration of climate-related factors by institutional investors and investee corporations, though it does not constitute integration in and of itself.**

2.2.2. Governance

29. Governance by both boards and management is important in encouraging institutional investors and investee corporations to integrate climate risks and opportunities. PRI has developed guidance on the selection, appointment and monitoring of managers to help asset owners integrate ESG factors.²⁷

30. Despite this recognition, a 2018 report on *Global and Regional Trends in Corporate Governance* finds that while most investors now consider climate change risk and sustainability to be mainstream priorities, and while boards are expected to understand climate risks, there is as yet no expectation that investors will appoint climate experts to boards (Russell Reynolds, 2018_[20]). There has been discussion as to whether asset owners should consult with ultimate beneficiaries, for instance pension plan members, regarding their ESG preferences (if any) in order to take their preferences into account.

2.2.3. Strategy and risk management

31. The TCFD recommends that asset owners and managers integrate climate factors in their strategic, business and financial planning processes by (TCFD, 2017_[21]):

- **Identifying** climate-related risks and opportunities over the short, medium, and long term, by sector and/or geography.
- **Assessing** the impact of climate-related risks and opportunities on an organisation's businesses, strategy and financial planning.
- **Enhancing** the resilience of strategies to climate-related risks and opportunities.

32. Methods to achieve this include integrating climate risks in risk management tools and shifting investment strategies to factor in climate change.

Integrating climate risks in risk management tools, including scenario analysis

33. Defined as a “process for identifying and assessing a potential range of outcomes of future events under conditions of uncertainty”, scenario analysis can help assess how climate-related physical and transition risks may impact businesses, strategies and financial performance over time. Ideally, scenario analysis should be forward-looking, consider a diversity of scenarios (e.g. a 2°C or 3°C scenario) and assumptions, and be geography specific.²⁸ Some central banks are also recommending climate-risk stress tests, a tool similar to scenario analysis (see Section 3).

34. There are significant methodological and data challenges to integrating scenario analysis in investors' strategies, however, as well as a lack of consensus on the definition of a 2°-aligned portfolio.

35. The PRI has provided reporting indicators and guidance for portfolio managers to monitor GHG emissions risks, and to formalise emissions risk monitoring and reporting into contracts when appointing managers (Responsible Investor, 2017_[22]). MSCI has also developed a framework for assessing climate-related risks (and opportunities) (MSCI, 2017_[23]).

Shifting investment strategies to factor in climate change

36. A variety of investment strategies are being employed by asset owners and managers to take account of climate and other ESG factors. They include: (OECD, 2017_[2]):

- **Reducing portfolios' exposure to carbon-intensive assets** and other assets incompatible with the transition to a low-carbon, climate-resilient economy (i.e. through exclusionary screening in the due diligence process and divestment).
- **Increasing portfolios' exposure to assets aligned with low-carbon, climate-resilient pathways**, by investing in low-carbon, climate-resilient assets and building a specialised portfolio of related assets (i.e. thematic investment).
- **Engaging with investee corporations** through active ownership (i.e. stewardship) and active engagement.
- **Adopting best-in-class investing** or general ESG integration strategies tailored to climate change risks.

37. Institutional investors have very different priorities and orientations; assessing which strategies may be most effective will depend on their choice of investments across asset classes, asset types, fund sizes, mandates and investment types.²⁹

Exclusionary screening

38. Exclusionary screening is the most widely used form of ESG investing. It entails blacklisting sectors or companies based on one or more ESG characteristics. In the case of climate-related factors, exclusionary screening involves excluding assets (e.g. in coal mining or energy utilities) based on their carbon-intensity or other climate metrics. An advantage is that it is cheap and easy to implement.

Divestment

39. Divestment is “the action or process of selling off subsidiary business interests or investments” motivated by climate-related risks (Stevenson, 2010_[24]; Baron and Fischer, 2015_[7]).³⁰ Divestment has been driven in part by active engagement from civil society, such as the Carbon Tracking Initiative, ShareAction or the 350.org fossil-fuel divestment campaign. It is worth noting, however, that some institutional investors believe that divestment conflicts with their obligation to invest prudently, as it involves straying from established market benchmarks.

40. In recent years, multiple institutional investors have committed to divesting from carbon-intensive assets. One year after the adoption of the Paris Agreement, total divestments from fossil fuels reached USD 5 trillion worldwide.³¹ Norway's sovereign wealth fund (the Government Pension Fund Global, which manages assets worth more than USD 1 trillion, thanks to surplus revenue from the country's petroleum industry) has taken notable steps to divest coal assets, including an ambitious proposal to remove gas and oil stocks from the Fund's benchmark entirely.³² In the United States, the New York State Common Retirement Fund (the third largest public pension fund in the US) announced in January 2018 plans to divest fossil fuel investments over the next five years, following a call by the Governor of New York (Reuters, 2018_[25]).

Thematic investment in low-carbon, climate-resilient assets

41. Another approach is for institutional investors to focus on low-carbon, climate-resilient investments, especially infrastructure projects, thereby increasing their portfolios' exposure to assets aligned with the low-carbon transition. Many institutional investors are indeed trying to unlock such investment opportunities, through direct and indirect channels and across asset classes, i.e.:

- **brownfield infrastructure and real estate** (e.g. energy efficiency projects in real estate) and **greenfield infrastructure** (e.g. in new renewable power infrastructure projects);
- **fixed-income assets** in corporate or project-level green bonds, or in green bond indices; and
- **private equity, private debt or listed equity** in companies with activities that directly contribute to mitigating or adapting to climate change (e.g. manufacturers of solar panels, wind turbines or electric vehicles).

42. Although not the focus of this paper, it is important to recognise outstanding challenges for institutional investors to engage in climate-friendly investment opportunities. These include: classification and definition of green, climate-friendly investments; channels to engage in low-carbon infrastructure projects;³³ allocation across asset classes; characteristics of projects;³⁴ and policy barriers to private investment in low-carbon, climate-resilient infrastructure.³⁵

Active ownership and engagement with investee companies

43. Active ownership (also referred to as “stewardship”) and engagement with investee companies is a strategy whereby asset owners and managers use their ownership stake in a company to influence its decision-making. It provides an alternative to divestment for equity investors, both in private and listed equity.³⁶ Several asset owners and asset managers are increasingly using this investment strategy, including through continuous engagement with investee corporations in terms of risk management or climate disclosures, or through shareholders' resolutions. It can encourage better disclosure and better practices related to climate risks, and improve data availability and the ability of investors to assess climate-related risks.

44. The TCFD recommendations can also be used as an engagement tool. By providing the same framework for both corporations and investors, they create a common language between the two.

45. Indeed, asset managers and owners have used climate disclosure as a tool for engagement with their investee companies through internal risk management and engagement with investees' boards and management. SWEN Capital Partners, a French asset manager dedicated to responsible investing, has been analysing and measuring since 2012 how management firms under portfolios integrate extra-financial ESG and climate information in investment process, especially for private equity and infrastructure. The analyses' results are used as an asset management tool, integrated within ESG reporting, and presented during an annual “ESG Best Practices Honours”.³⁷

46. At the One Planet Summit in December 2017, 225 investors with USD 26.3 trillion of AUM launched the Climate Action 100+ coalition. They pledged to engage with the 100 most polluting corporates, responsible for about two-thirds of worldwide

emissions from industry, and to step up their ambition on climate action (Climate Action 100+, 2018_[26]).

47. There is room for improvement, however. The perception of climate change as a financial risk is much lower amongst corporations and assets owned by institutional investors than amongst institutional investors (as discussed in Section 2). According to KPMG's *Survey of Corporate Responsibility Reporting 2017*, 72% of surveyed companies still do not acknowledge the financial risk of climate change in their annual reports.³⁸ Among the world's 250 largest companies, a higher 48% acknowledge this risk, despite discrepancies across countries.³⁹ Additionally, a recent SASB report on the sustainability-relevant disclosures of top companies found that sustainability disclosure mostly consisted of "boilerplate language" (SASB, 2017_[27]).

48. In addition to internal engagement, several asset owners committed to address climate-related risks are increasingly using shareholders' resolutions to encourage investee corporations to consider and disclose climate change risks (see Box 2.1). Through this process, they are also engaging large asset managers to commit on climate risks and climate disclosure. Civil society is also putting pressure on institutional investors to influence corporations' business strategies through shareholders' resolutions in the oil and gas sector.⁴⁰

Box 2.1. The power of shareholders' resolutions: the oil and gas sector

In May 2017, leading asset managers BlackRock, Vanguard and State Street supported a shareholders' resolution requesting ExxonMobil to report annually on how its business model will be affected by global efforts to meet the 2°C goal.⁴¹ A similar proposal was adopted earlier in May 2017 at Occidental Petroleum, supported by California Public Employees' Retirement System (CalPERS). As a result, ExxonMobil joined Total as one of the founding members of The Climate Leadership Council, which calls for a gradually rising and revenue-neutral carbon tax. In December 2017, ExxonMobil announced that it will start publishing reports on the possible impacts of climate change policies on its business activities.⁴²

The votes at ExxonMobil and Occidental Petroleum mark a shift in behaviour from leading asset managers. It was the first time that BlackRock had supported a climate-related shareholder proposal. A recent report by an interest group, Preventable Surprises, had denounced the voting records on climate disclosure of leading asset managers (Preventable Surprises, 2017_[28]).⁴³ However, likely as a result of shareholder pressure, BlackRock announced in December 2017 it encouraged companies under management to report on climate change risks, in line with the TCFD.⁴⁴ In January 2018, BlackRock's Chairman and chief executive wrote that companies would now need show how they are making positive contributions to society, beyond profit making, to retain BlackRock's support.⁴⁵

Sources: Institutional Investor (2017_[29]) *ExxonMobil Passes Proposal for New Climate Change Report*, <https://www.institutionalinvestor.com/article/b1505q3s04rbks/exxonmobil-passes-proposal-for-new-climate-change-report#.WTbrlm997IU>; The Church of England (2017_[30]) *Victory for ExxonMobil shareholders*, <https://www.churchofengland.org/more/media-centre/news/victory-exxonmobil-shareholders-climate-change-disclosure-resolution>; Ceres (2017_[31]) *Investor Support of Portfolio Resilience Resolutions*, <https://www.ceres.org/2DSResolutions>; Business Green (2017_[32]) *ExxonMobil agrees to step up climate risk disclosure*, <https://www.businessgreen.com/bg/news/3022894/exxonmobil-agrees-to-step-up-climate-risk-disclosure-after-shareholder-pressure>; Preventable Surprises (2017_[28]) *The Missing 55% Voting records for the 10 largest utility investors show divergence on climate risk*, <https://preventablesurprises.com/wp-content/uploads/2017/11/Missing-55-V7-1.pdf>.

General ESG integration tailored to climate change

49. Institutional investors can also adopt general ESG integration strategy tailored to climate change risks, by including systematically and explicitly climate change risks and opportunities in investment analysis. The OECD has stressed that it can be expensive to gather or buy the required data, however (OECD, 2017_[12]).

Best-in class investing

50. Best-in-class investing is a type of inclusionary screening strategy which allows investors to maintain the sectoral and industrial split within their portfolio, while only including the best-performing companies within each sector or industry according to climate or ESG criteria. Institutional investors can notably raise the threshold for GHG emissions inclusion in their best-in-class investing strategy, in key carbon-intensive sectors, to achieve an impact on their portfolio in terms of GHG emissions reduction.

51. As with active ownership, best-in-class investing requires institutional investors to gather improved information and data from investee companies. This is critical for institutional investors to analyse companies' risk exposure and risk management, measure companies' exposure to transition risk and their risk mitigation efforts, and identify best-in class (and worst-in-class) companies.

2.2.4. Metrics and targets

52. The Montreal Pledge, the Portfolio Decarbonization Coalition and the TCFD all encourage institutional investors to gather data and develop metrics and targets to assess climate-related risks and opportunities. A mix of various indicators is needed to guide investors' strategy and decision-making.

TCFD recommended disclosures on metrics and targets

53. The TCFD recommends that insurers, asset owners and asset managers (TCFD, 2017_[16]):

- Disclose the metrics used to assess climate-related risks and opportunities in line with the investor's strategy and risk management process.
- Disclose GHG emissions, including Scope 1, Scope 2 and, if appropriate, Scope 3 emissions, and related risks;⁴⁶ and for asset owners and managers, consider the weighted average carbon intensity of funds or investment strategy.
- Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.

Carbon footprint

54. Carbon footprint can be a useful metric for identifying portfolio areas with exposure to carbon-intensive assets (e.g. thermal coal power plants or oil sands) or exposure to low-carbon technologies (e.g. solar and wind power plants). It can provide a useful baseline to inform future actions. The carbon footprint metric has important limitations, however. For example, it is often limited to Scope 1 and Scope 2 emissions, while the most relevant Scope 3 emissions are often challenging to consider.

55. Carbon footprint has become the main metric used by institutional investors to report on integrating climate-related factors, mostly on Scope 1 and Scope 2 emissions.

Both the Montreal Pledge and the Portfolio Decarbonization Coalition encourage institutional investors to disclose their portfolios' carbon footprint. As of June 2016, more than 80% of signatories to the Montreal Pledge had done so (MSCI, 2017_[23]). Several financial institutions have developed methodologies to measure their carbon impact in terms of carbon footprint.⁴⁷ Recent studies confirm that institutional investors have primarily focused their efforts on assessing the carbon exposure of their equity portfolios in terms of carbon footprint (Figure 2.2) (MSCI, 2017_[33]; MSCI, 2017_[23]).

Other metrics, targets and benchmarks

56. Other metrics and targets are available for institutional investors to assess and manage relevant climate-related risks and opportunities. They include:

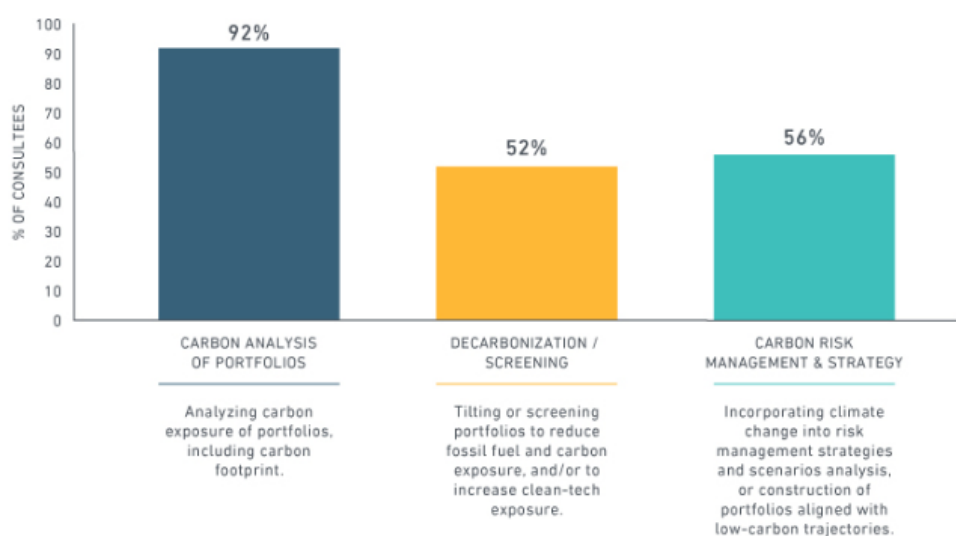
- Other exposure metrics, including weighted average carbon intensity,⁴⁸ total emissions and carbon intensity.⁴⁹
- Various metrics on the financial aspects related to revenue, costs, assets, liability and capital allocation of key carbon-intensive sectors.⁵⁰
- Climate-related targets and goals, including targets related to GHG emissions, water usage, or energy usage, to anticipate regulatory requirements or market constraints or other goals.

57. Investors and studies have also emphasised the need for benchmarks. In 2017, the report *Better Business, Better World* recommended creating an open-access and standardised system for companies to report on their performance on supporting the SDGs and enable sustainability benchmarking (Business & Sustainable Development Commission, 2017_[34]). The World Benchmarking Alliance was launched in September 2017 to achieve this goal.

2.3. Do institutional investors integrate climate-related factors?

2.3.1. Overall trends amongst institutional investors

58. MSCI research suggests that the integration of climate-related factors by institutional investors remains limited, despite growing demand and investor interest. Across asset classes, institutional investors have primarily focused their efforts, by decreasing order of preference, on: assessing the carbon exposure of their equity portfolios in terms of carbon footprint (92%); integrating climate risks in risk management and scenario analysis (56%); or adopting exclusionary screening or thematic investment to decarbonise their portfolios (52%) (Figure 2.2).

Figure 2.2. Institutional investor priorities for managing carbon risk across asset classes

Note: MSCI ESG Research consulted with both asset managers (64% of consultees) and asset owners (36%) across Europe, Middle East, Africa, Asia Pacific and North America.

Source: MSCI (2017_[33]), "How Institutional Investors are Responding to Climate Change", <https://www.msci.com/www/blog-posts/how-institutional-investors-are/0734772568>

59. There are geographic differences in institutional investors' approaches to integrate climate-related factors and manage transition risk. European institutional investors tend to show more interest in approaches to integrate climate change in risk management strategies and scenario analysis ("Carbon Risk Management"), while US institutional investors tend to prefer "Decarbonization / Screening" approaches, though there are exceptions (MSCI, 2017_[23]).

2.3.2. Differences between asset owners and asset managers

Asset owners

60. The Asset Owners Disclosure Project's annual *Global Climate 500 Index* assesses climate-related strategies employed by the world's largest 500 asset owners – including pension funds, sovereign wealth funds, insurance companies, foundations and endowments – totalling USD 40 trillion assets under management (AUM).

61. Before COP21, the 2015 Index showed asset owners were primarily focussed on climate risk communication. At that time, only 7% of asset owners were able to calculate their emissions (AODP, 2015_[35]). Just two years later, the 2017 Index highlights that a majority (60%) of rated asset owners recognised the financial risks and opportunities of climate change and were taking new action, while only 40% still ignored the risks and opportunities of climate change. Compared to results from the 2016 Index, the share of the rated asset owners taking tangible action to address climate risks and opportunities increased by 16%, to 23% (AODP, 2017_[36]).

62. Research suggests that asset owners are often constrained by the limited range of ESG-compatible investment products on offer (PRI, UNEP FI and The Generation Foundation, 2016_[37]). Additionally, some stakeholders argue that asset owners must require asset managers to align their investment practices with the goals of the Paris

Agreement, to create demand and send a clear market signal to asset managers. Bilateral engagement must run parallel to collaborative engagement among asset owners. The recently launched Climate Action 100+ initiative is a welcome step in this direction.

Asset managers

63. Available data suggests that asset managers are ahead of their clients in their efforts to manage the financial impacts of climate change on investment portfolios. The 2017 AODP *Global Climate Index for Asset Managers* rated the world's 50 largest asset managers on their approach to managing the financial impact of climate change on investment portfolios. Results suggest that climate change is now a mainstream concern amongst the investment community of top asset managers, and that asset managers are overall performing better than asset owners. Almost half (46%) of the rated asset managers are taking tangible action to manage the risks and opportunities associated with climate change, compared to 23% of asset owners (AODP, 2017_[36]).

64. Asset managers can play a constructive role in helping asset owners recognise the benefits of factoring climate-related risks by providing tangible evidence on climate-risks impacts on portfolio, using scenario analysis. They can also support investor education and engagement to help convince asset owners that integrating climate- and other ESG-related risks does not require compromising returns.

2.4. Challenges for institutional investors to integrate climate-related factors

2.4.1. Practical implementation challenges

65. Many organisations and initiatives recognise the practical difficulties for institutional investors to integrate climate change factors in their portfolios. The OECD, for example, has highlighted that lack of regulatory clarity, practical complexity and behavioural issues may discourage ESG integration. To address those issues, the OECD has stressed the importance of enhancing transparency around climate and ESG-related disclosure, and building more evidence about the impact of climate and ESG analysis on portfolios' financial performance (OECD, 2017_[2]).

Data availability and comparability, and methodological constraints

66. Enhancing climate-related disclosures and related metrics and targets is hindered by data constraints. Such data challenges include for instance: limitations with the use of the carbon footprint metric;⁵¹ data availability, comparability limitations and methodological issues with developing comparable and reliable data and metrics;⁵² and lack of commonly-accepted methodologies, definitions and harmonisation.⁵³ Institutional investors are likely to demand flexibility in the short-term with respect to metrics and methodologies, with a longer term objective of greater standardisation.

Issues with climate disclosure and implementing the TCFD recommendations

67. The quality of climate-related disclosure from investee corporations can hinder climate-integration by institutional investors. Corporate climate disclosure is variable in scope and quality, even as corporate ESG data is increasingly available. Broadly speaking, the TCFD recommendations and recent efforts to enhance climate-related financial disclosures highlight the need to move away from a compliance approach (e.g. disclosure or reporting undertaken to address reputational risks and demand for transparency) to an impactful tool for decision-making and financial performance (e.g. to

make sure climate disclosure is useful and impactful both for investors and corporations, or to integrate climate risks in financial performance modelling and financial planning).

68. Moving forward, several issues may hinder the effective implementation of the TCFD recommendations. In particular, stakeholders have noted that a missing piece in TCFD recommendations is the link between institutional investors and investee companies. Even though the TCFD provides a common voluntary framework for both investors and corporations, there is a risk that new reporting and disclosure takes place in a vacuum, with no use for investors. Disclosures from investee corporations and institutional investors are not fully integrated yet, and consist mostly so far of disconnected communications from both sides. Additional work is also needed to better understand the interactions between asset managers and asset owners.

69. Another important gap of the industry-led TCFD recommendations is that although they recognise the alignment with existing frameworks, they do not yet provide a framework for alignment with existing regulations, the need to revise existing regulations, and for institutional investors to engage with regulators (e.g. to increase enforcement of climate reporting and disclosure). Additional work is therefore needed to align policy frameworks with the TCFD recommended disclosures.

70. Climate disclosures also need to be tailored across different investment strategies (e.g. active and passive investment strategies) and asset classes (e.g. listed equity, private equity, fixed income or real estate, in addition to brownfield and greenfield infrastructure). Although efforts have been made to integrate climate risks for equity, and to unlock climate opportunities for fixed-income assets (green bonds), additional efforts are needed from public and private stakeholders to clarify priorities to integrate climate factors across strategies and asset classes.

Issues with scenario analysis

71. The use of forward-looking scenario analysis is expected to spread amongst institutional investors in the coming years. However, there are several methodological issues.⁵⁴ Several organisations have worked to understand how scenario analysis can work for individual investors or companies.⁵⁵ Scenarios have to be fit for purpose and allow shareholders to understand exposure company to company, in order to start a discussion between shareholder and company. Co-operation amongst regulators, international organisations, civil society and institutional investors is needed to help refine scenario analysis.

Short-termism of financial performance and mandates

72. In 2012, the Kay Review emphasised the problem of short-termism in UK equity markets, largely driven by the decline of trust and the misalignment of incentives throughout the equity investment chain (Kay Review, 2012_[38]). More recently, the report *All Swans are Black in the Dark* highlighted a possible mismatch between the time horizons in long-term investors' portfolio management (15-30 years) and the short-term timeframe of equity research and credit rating analyses for stocks and bonds. It also suggested that long-only mutual fund managers have a short portfolio turnover.⁵⁶ This is however not true across institutional investors and asset classes, and is debated amongst experts (2° Investing Initiative and The Generation Foundation, 2017_[39]).⁵⁷

Modelling and valuation techniques

73. Institutional investors also face modelling challenges with incorporating climate- and other ESG-related factors in traditional financial models, since those factors do not always have a short-term financial impact. Further research is needed to assess how to integrate climate-related factors in valuation techniques, e.g. securities valuation models.

2.4.2. The interaction of investors' initiatives with policy and regulatory frameworks

74. Industry-led initiatives to integrate climate-related factors do not operate in a vacuum; they interact with policy and regulatory frameworks (whether at international and domestic levels, through regulations, laws, principles or standards, and across various policy areas).⁵⁸ More broadly speaking, policy frameworks are critical in influencing institutional investors' efforts to integrate climate-related factors. The next section discusses relevant policies and regulations that can help institutional investors to integrate climate-related factors in their investment decisions.

3. How Can Regulators and Policy Makers Help Institutional Investors Integrate Climate-related Factors?

75. Should regulators and policy makers support mandatory climate disclosure schemes? What other regulations and policies influence the integration of climate factors by institutional investors? How can regulators co-operate across policy areas, and with institutional investors, to address outstanding policy misalignments?

76. This section reviews existing policy and regulatory instruments that can influence institutional investors' behaviours, either by encouraging or deterring them to incorporate climate-related risks and opportunities in their portfolios. In addition to international agreements and initiatives, relevant policies include:

- prudential regulations of institutional investors;
- disclosure schemes and reporting requirements;
- corporate governance standards;
- stewardship codes;
- policies for promoting responsible business conduct;
- accounting standards;
- stock exchanges and low-carbon indices; and
- securities' regulations.

77. A diverse range of policy options and regulatory approaches is available for governments to encourage institutional investors to integrate climate-related factors, depending on their national circumstances. These include voluntary or mandatory disclosures, redefining investment duties to consider climate-related risks, undertaking climate-risk stress testing or revising existing regulations. Various types of regulators are implementing these policies, whether through supervision from finance ministries, environmental agencies, central banks or other financial supervisory authorities.

78. This section does not cover policies and regulations that can help drive institutional investment in climate change opportunities, nor outstanding policy impediments to doing so.⁵⁹

3.1. Are current regulatory frameworks aligned with climate goals?

79. In general, regulatory frameworks in OECD and non-OECD countries allow scope for integrating climate-related risks into investment governance, but rarely make explicit reference to climate change or broader ESG factors. It is therefore often up to institutional investors to decide whether and to what extent ESG integration is consistent with their obligations (OECD, 2017_[2]).

80. Misalignments of financial regulations and other policies (e.g. reporting requirements or corporate governance standards) with climate goals can hinder the allocation of long-term finance to low-carbon infrastructure investment. Well-aligned policy packages are needed to mobilise financing and investment in low-carbon, climate-resilient infrastructure, while enhancing growth (OECD et al., 2015_[40]; OECD, 2017_[41]).

3.2. Stocktaking of relevant policy and regulatory frameworks

3.2.1. International agreements and initiatives

Paris Agreement and the SDGs

81. Governments may rely on broader international agreements to encourage investors and corporations to integrate climate-related factors, such as the 2015 Paris Agreement adopted during COP21 and the UN Sustainable Development Goals (SDGs). The Paris Agreement specifically calls for “making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development” (UNFCCC, 2015^[42]).

The EU High-Level Expert Group (HLEG) on Sustainable Finance

82. At the EU level, in September 2016 the European Commission launched the High-Level Expert Group (HLEG) on Sustainable Finance to examine how to integrate sustainability considerations into the EU’s financial policy framework. Building on the recommendations provided in the HLEG’s final report (Box 3.1), the European Commission will launch a broad Action Plan on sustainable finance in March 2018, as part of its aim to build a Capital Markets Union.

Box 3.1. Recommendations of the High-Level Expert Group (HLEG) on Sustainable Finance

Interim report (June 2017)

The HLEG’s interim report recommended integrating sustainability into the EU’s regulatory and financial policy framework through climate disclosure, accounting, fiduciary duties, corporate reporting and stewardship codes.

It also advised clarifying that fiduciary duties encompass sustainability; reviewing provisions in key directives such as Solvency II or the Institutions for Occupational Retirement Provision (IORP II) Directive; setting EU best practice on corporate governance; including sustainability in stewardship codes; and reviewing EU non-financial reporting, as discussed subsequently.

Following the HLEG recommendations, at the end of 2017 the European Commission launched a public consultation on institutional investors and asset managers’ duties regarding sustainability.

Final report (January 2018)

The HLEG’s final report was released on 31 January 2018. It stressed that moving towards “sustainable finance”⁶⁰ involves two imperatives: improving the contribution of finance to sustainable and inclusive growth as well as the mitigation of climate change; and strengthening financial stability by incorporating ESG factors into investment decision-making.

The report’s some 30 proposals included eight key recommendations:

- Clarify investor duties (and existing EU rules that deal with fiduciary duties) to extend the time horizons of investment and bring greater focus on ESG factors into investment decisions.
- Upgrade disclosure rules to make climate change risks and opportunities fully transparent.
- Reform governance and leadership of companies to build sustainable finance

competencies.

- Include sustainability in the supervisory mandate of European Supervisory Authorities (ESAs) and extend the horizon of risk monitoring.
- Empower and connect Europe's citizens with sustainable finance issues.
- Introduce a common sustainable finance taxonomy at the EU level to ensure market consistency and clarity, starting with climate change.
- Develop and implement official European sustainability standards and labels, starting with green bonds.
- Establish Sustainable Infrastructure Europe to expand the size and quality of the EU pipeline of sustainable assets.

The final report also calls on the OECD to: produce a convention on long-term sustainability risks clarifying that investor duties should incorporate sustainability issues; and support and measure adult financial literacy on sustainable finance issues.⁶¹

Sources: HLEG (2017_[43]) *Interim Report by the High-Level Expert Group on Sustainable Finance: Financing a Sustainable European Economy*, https://ec.europa.eu/info/sites/info/files/170713-sustainable-finance-report_en.pdf; European Commission (2018_[44]) *Public consultation on institutional investors and asset managers' duties regarding sustainability*, https://ec.europa.eu/info/consultations/finance-2017-investors-duties-sustainability_en; HLEG (2018_[45]) *Final Report by the High-Level Expert Group on Sustainable Finance: Financing a sustainable European economy*, https://ec.europa.eu/info/sites/info/files/180131-sustainable-finance-final-report_en.pdf.

The G20 Green Finance Study Group

83. The G20 Green Finance Study Group (GFSG) is advancing work on environmental risk analysis (ERA) and the datasets needed to support it, in particular publicly available environmental data (PAED). The aim is to deepen understanding of the nature, extent and effectiveness of ERA conducted in the financial sector, assess how the sharing of ERA practices and techniques could be promoted, as well as how the availability, accessibility, and relevance of PAED – which underpins this analysis along with corporate disclosure – could be improved. The GFSG was renamed the Sustainable Finance Study Group under the 2018 Argentinian G20 Presidency.

3.2.2. Prudential standards and investors' obligations

84. Prudential standards and investor obligations are similar across OECD countries. Pension funds and insurance companies are expected to: invest prudently; act in the best or sole interests of beneficiaries; take a long-term view; avoid conflicts of interest; and diversify their portfolios (OECD, 2017_[2]). Some or all of these prudential standards apply to asset managers in a few OECD jurisdictions.

85. Recent OECD work shows that prudential standards, risk-based controls, legal requirements, conflict of interest safeguards and other obligations rarely make explicit reference to ESG or climate factors, with a few exceptions.⁶²

86. In addition to prudential standards, some institutional investors are subject to legally binding fiduciary duties towards their beneficiaries (as discussed in Section 1). Recent regulations clarify that prudential standards and other obligations do not prohibit the integration of climate and other ESG factors (OECD, 2017_[2]):

- In March 2017, the UK's The Pensions Regulator (TPR) provided new investment guidance for defined benefit (DB) schemes, which includes material

new ESG content. This follows similar guidance for defined contribution (DC) published by TPR in 2016.⁶³

- The US Department of Labor issued in 2015 new guidance that clarified that the 2008 Interpretive Bulletin 2008-1 (IB 2008-1) had unduly discouraged fiduciaries from considering ETIs and ESG factors.⁶⁴
- In South Africa, the 2011 Government Employees Pension Law Amendment Act specified that prudential investing includes material ESG factors (OECD, 2017_[2]).
- The EU has proposed in 2014 a revision ("IORPII") to the 2003 IORP (Institutions for Occupational Retirement Provision) Directive to improve the governance, risk management, transparency and information provision of IORP, including through disclosing ESG factors.⁶⁵ IORPII text is expected to: encourage occupational pension funds to consider ESG factors in their investment policies, without obliging them; and require them to publicly disclose whether and how they do so, and include such factors in their risk management systems.⁶⁶

87. International prudential regulations can also impact institutional investors' ability to incorporate climate-related risks and opportunities. For example, Basel III's implementation has constrained investment in capital-intensive renewable power infrastructure (Ang, Röttgers and Burli, 2017_[46]). New research is needed to assess Basel III's effect on institutional investment in thematic renewables investment, and other climate-integration strategies.

88. Experts also argue that the EU's Solvency II Directive – which reviews the EU's prudential regime for insurance and reinsurance undertakings – reduces the willingness of institutional investor to consider ESG factors, as it forces insurers to reduce their portfolio weightings in equities, the asset class where ESG-integration strategies are most developed. Solvency II introduces a “market-consistent” valuation of assets and liabilities for insurers, which creates artificial volatility in balance sheets.⁶⁷

3.2.3. *Climate disclosure schemes and reporting standards*

89. The 2015 report *Climate Change Disclosure in G20 Countries* found that by end 2015, at least 15 G20 countries had mandatory corporate climate reporting schemes in place, all of which required reporting of direct greenhouse gas emissions. Regimes varied significantly in terms of data calculation and reporting, however, and most were limited in scope. Only two schemes required reporting beyond national boundaries and only six required reporting of emissions related to consumption of purchased energy (OECD-CDSB, 2015_[13]).

90. A 2017 update of this report stressed that climate disclosure schemes take various forms across G20 countries, are implemented by different actors and serve a number of objectives, including to:⁶⁸

- Facilitate policymaking by analysing emissions across organisations, sectors, or countries, providing a basis for emissions projections to inform climate strategies.
- Support policies and regulations (e.g. carbon prices), by providing reporters with a uniform methodology to calculate, report, monitor and verify emissions.
- Inform national GHG inventories under the UNFCCC.
- Provide information to investors to facilitate their involvement.

- Help reporting entities assess their climate risks and opportunities.

91. Efforts to encourage transparency on ESG issues and environmental disclosure are accelerating, but reporting requirements are usually voluntary and do not specify methods or metrics to be used. This means that data is incomplete and not directly comparable across companies, sectors and countries.

92. The 2017 OECD-CDSB report also highlights outstanding gaps with existing climate-related reporting schemes in OECD and G20 countries. Key issues include: insufficient integration within financial and corporate reporting; gaps in sector-specific reporting; unsupportive enabling environment; absence of mechanisms for impact evaluation; lack of coherence; and insufficient forward-looking information. Such gaps can limit the impact, outcome and efficacy of reporting.

93. Initiatives like the TCFD and regulations such as Article 173 have tried to address some of these challenges. Outstanding gaps remain, however, to encourage forward-looking scenario analysis or to improve data quality, metrics and harmonisation, while recognising specific national circumstances. Stakeholders have stressed that climate disclosure will remain wishful thinking until scenario analysis is performed not only by institutional investors but also by financial supervisors (i.e. stress tests) (OECD, 2017^[47]).

94. The following sections review briefly recent government initiatives to encourage climate disclosure for institutional investors.

Article 173-VI of France's Law on Energy Transition for Green Growth

95. France is the first country to require asset owners and investment managers to disclose climate-related financial risks and report on how ESG criteria are considered in their investment decisions. Article 173-VI of the Law on Energy Transition for Green Growth (Legifrance, 2015^[48]) and its implementing decree use a “comply or explain” mechanism to require asset management companies (already targeted by article 224 of the 2010 Grenelle II Law), and, for the first time, institutional investors, to report on the methods for incorporating ESG factors into investment strategy, and the means employed to support the energy and ecological transition.⁶⁹

96. At the end of 2017, several consultancy and audit firms and NGOs undertook assessments and reviews of institutional investors' first year of reporting under Article 173-VI. Key findings are summarised below:⁷⁰

- Initial takeaways are mixed in terms of both scope and number of institutional investors who disclosed information, despite progress and the positive impact of Article 173-VI. Around 70% reported as of November 2017. 30% did not report.
- There is a large heterogeneity in the published reports. Amongst those that reported: 30% reported for the first time; only 20% published detailed reports.⁷¹
- A majority still face methodological and data availability challenges to set metrics, performance indicators, and quantitative objectives with a timeframe.⁷²
- There seems to be progress in acknowledging climate risks (60% of reports refer to both physical and transition risks), suggesting that Article 173 had a positive impact. However only a few investors have assessed their exposure to climate risks (only 22% for physical risks and only 9% for transition risks).
- Most investors still do not engage with investee companies, e.g. through direct engagement with management or voting proxy.

97. The French Treasury is expected to publish its own review of Article 173's implementation decree by the end of 2018.

98. Article 173's implementing decree provides little mandatory provision, which allows for flexibility for investors to report in a way that suits their portfolio (PRI, 2017_[49]). Allianz Global Investors predicts a move away from the "comply or explain" model towards a learning-by-doing and more flexible market driven approach (MarieSybille Connon, 2016_[50]).

EU Non-Financial Reporting Directive

99. As of 2018, the EU Non-Financial Reporting Directive (NFRD) requires around 6000 large firms to include non-financial statements in their annual reports and disclose relevant information on environmental and social aspects. In line with recommendations of the *OECD Guidelines for Multinational Enterprises*, this directive includes reporting on due diligence processes as well as the risks of environmental and social impacts with regard to own operations or products, services and business relationships (European Commission, 2014_[51]). The HLEG's final report recommended using the NFRD as a "unique opportunity to explore how the NFRD requirements could be better aligned with that of the TCFD", given "the momentum behind the TCFD and its promising role as an international standard on climate-related disclosure", and drawing on Article 173's experience (HLEG, 2018_[45]).

Switzerland's climate compatibility pilot project

100. In Switzerland, the Federal Office for the Environment (FOEN, or *Bundesamt für Umwelt*, BAFU) and the State Secretariat for International Financial Matters offered Swiss pension funds and insurers an opportunity to participate in a "climate compatibility pilot project", which aimed to bring transparency to the carbon-intensity of their assets. The tests were undertaken by 2° Investing Initiative on volunteering investors' equity and corporate bond portfolios, to see if they are compatible with a 2°C scenario⁷³ across key carbon-intensive sectors including energy, electric power, transport, cement and steel. The Swiss Pension Funds Association (ASIP) encouraged its members to take part in the pilot tests. In total, 79 pension funds and insurers, managing about two third of Swiss pension funds and insurers, volunteered.

101. The resulting report concluded that, collectively, financial flows underlying the corporate bonds and listed equity portfolios of Swiss pension funds are currently on a 6°C pathway, with the exception of fossil fuels, where investment in new production has decreased due to macro-economic factors (2° Investing Initiative, 2017_[52]).

Box 3.2. Other countries with relevant reporting requirements

- In Denmark, financial statements must include environmental information and a link this to overall corporate strategy and performance.
- In Japan, the Ministry of Economy, Trade and Industry (METI) launched in December 2017 a new working group of companies, investors and industry players to research and discuss best corporate practice for disclosing long-term, strategic information to investors under the new Japanese Guidance for Integrated Corporate Disclosure and Company-Investor Dialogues for Collaborative Value Creation.⁷⁴
- In South Africa, an independently-assessed integrated reporting is required on a “comply or explain” basis.
- In the US, publicly traded companies are required to disclose material risks on their business related to climate change in periodic reports, not in financial fillings, under the US Securities and Exchange Commission (SEC).

Source: OECD (2017^[2]) Investment governance and the integration of environmental, social and governance factor, <https://www.oecd.org/investment/Investment-Governance-Integration-ESG-Factors.pdf>

3.2.4. Corporate governance standards

102. Good corporate governance can support economic efficiency, sustainable growth and financial stability by facilitating companies’ access to capital for long-term investment and ensuring that shareholders and other stakeholders who contribute to the success of the corporation are treated fairly. Corporate governance standards can play an important role in encouraging active responsible ownership by institutional investors to their investee corporations.

103. Developed by the OECD in 1999 and updated in 2004 and 2015, the *G20/OECD Principles for Corporate Governance* are a globally recognised benchmark for assessing and improving corporate governance. Principle V notably encourages companies to “disclose policies and performance relating to business ethics, the environment and, where material to the company, social issues, human rights and other public policy commitments” (OECD, 2015^[53]).

104. There are emerging good practices with revising corporate governance rules to integrate climate or other sustainability factors. This has been addressed in some corporate governance codes, as in France, Germany and the Netherlands. In particular:

- The German 2015 Corporate Governance Code was amended in 2017 to include a reference to sustainability for institutional investors.⁷⁵
- The Dutch Corporate Governance Code was amended in 2016 to give a central role to long-term value creation. It notably states that companies should pay attention to environmental matters.⁷⁶

105. Several other international organisations⁷⁷ and governments have established relevant corporate governance frameworks, which may not yet take into consideration climate-related factors. Additional research would be needed to take stock of existing OECD and G20 governments’ corporate governance rules, and to assess what could be undertaken to encourage them to further integrate climate-related factors.

3.2.5. Stewardship codes

106. Stewardship – also referred to as “active ownership” – does not constitute ESG integration in itself but is often part of ESG-inclusive investment strategies. It entails enhancing the value of portfolio investments by engaging with investee companies, often through a dialogue about ESG practices such as board composition or other aspects of responsible behaviour.

107. Stewardship codes are in place in several jurisdictions; they are usually voluntary or imposed on a “comply-or-explain” basis. They may be introduced by regulators, as in Japan, or by industry bodies, as in Canada.⁷⁸ For examples of stewardship codes that consider responsible investment practices, see Box 3.2.

Box 3.3. Stewardship codes that consider responsible investment practices

Examples of stewardship codes that consider ESG factors include:

- Japan’s Stewardship Code (2014) explicitly refers to risks arising from ESG factors as relevant for investors monitoring their investee companies.⁷⁹ In 2017, the code was updated to refer to opportunities arising from social and environmental matters.⁸⁰ Support to the code however remains low amongst corporate pension funds.⁸¹
- The Financial Reporting Council, the UK watchdog, is expected to issue a consultation on the 2012 UK Stewardship Code by mid-2018 to seek input on environmental, social and governance (ESG) factors.
- The Code for Responsible Investment in South Africa provides guidelines for institutional investors on integrating ESG factors in investment processes.
- In the European Union, the HLEG final report stresses that for investor stewardship to be effective, it is critical to integrate the consideration of sustainability risks and opportunities in the governance of investee companies; “the exercise of stewardship responsibilities is a key expression of investor duties to integrate material ESG risks into their investment process”. The HLEG recommends: adopting minimum stewardship standards for investment mandates across all asset classes and relevant institutions; embedding a clear sustainability commitment in the duties of company directors and in relevant governance rules; and extend the Stewardship Principles for institutional investors, e.g. by amending the Shareholder Rights Directive or a similar instrument.

Sources: EGCI (2017^[54]) *Good Activist/Bad Activist: The Rise of International Stewardship Codes*, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3036357; HLEG (2018^[45]) *Final Report by the High-Level Expert Group on Sustainable Finance: Financing a sustainable European economy*, https://ec.europa.eu/info/sites/info/files/180131-sustainable-finance-final-report_en.pdf.

3.2.6. Instruments and policies to encourage responsible business conduct

108. The *OECD Guidelines for Multinational Enterprises* are the most comprehensive international instrument and set of government-backed recommendations on what constitutes responsible business conduct (RBC) (OECD, 2011^[55]). Revised most recently in 2011, they provide voluntary principles and standards for RBC consistent with applicable laws and internationally recognised standards. They include an expectation that businesses avoid and address adverse impacts that they cause, or contribute to, and seek to prevent or mitigate adverse impacts directly linked to their products, operations or services by a business relationship.⁸² The OECD Guidelines cover all major RBC areas.⁸³

109. The OECD Guidelines encourage disclosure through social and environmental risk reporting particularly in the context of greenhouse gas emissions, as the scope of their monitoring is expanding to cover direct and indirect, current and future, corporate and product emissions.

110. Governments who adhere to the Guidelines are required to set up a National Contact Point (NCP) to investigate “specific instance” complaints against companies and contribute to their resolution. Over the past two years, the financial sector has submitted the most cases to NCPs, accounting for over 20% of all new submissions. The first ever climate change-related case was recently submitted in November 2017 regarding ING Bank’s climate risk management and reporting practices⁸⁴, and Credit Suisse’s investment in the Dakota Access Pipeline (DAPL). These cases demonstrate the potential of NCPs to serve as a non-judicial grievance mechanism for “sustainable finance”.

111. The OECD recently published *Responsible Business Conduct for Institutional Investors*, which provides guidance on how institutional investors can comply with the OECD Guidelines, and carry out responsible business conduct due diligence, to manage environmental and social risks among the companies they invest in.⁸⁵ The report provides tailored, practical recommendations on how to implement due diligence, building on existing practices for asset owners and asset managers. Specifically, this report recognises alignments between RBC standards and fiduciary duties or prudential investment. It clarifies that shareholders, including minority shareholders, in a vast majority of cases, will be directly linked to adverse impacts caused or contributed to by companies in their portfolio. It also recognises that investors should factor risks to society and the environment when carrying out due diligence, not simply commercial risks (OECD, 2017_[3]).

112. By carrying out due diligence in line with the OECD Guidelines, investors will be able to avoid negative impacts of their investments on society and the environment. They will also be able to avoid financial and reputational risks, respond to the expectations of their clients and beneficiaries and contribute to global goals on climate and sustainable development. Strong due diligence processes can help ensure that investments are put towards projects and companies that behave responsibly and ultimately help to contribute to achieving the Sustainable Development Goals (SDGs).

3.2.7. Accounting standards and international reporting standards

113. The TCFD recognised the need to undertake further work on the interconnectivity of its recommendations with existing accounting standards. The TCFD made explicit references to standards and guidance issued by the two main accounting standard setting bodies, the International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB). Such standards and guidance aim to address risks and uncertainties affecting companies and guidance on how to account for and disclosure contingencies. They include notably: IAS 37 "Provisions, Contingent Liabilities and Contingent Assets"; Accounting Standards Codification (ASC) 450 "Contingencies"; as well as IAS 36 "Impairment of Assets" and IAS 38 "Intangible Assets" that provide guidance on assessing the impairment of long-lived assets (TCFD, 2017_[21]).

114. Several stakeholders have called for standardisation of climate reporting to ensure a comparable implementation of the TCFD recommendations, as well as standardisation in measuring how to align financial portfolios with climate change. As a result, an international standardisation initiative has been launched to help financial institutions design and implement climate targets and manage climate risks.⁸⁶

3.2.8. *Stock exchanges and low-carbon indices*

115. Nearly 70 stock exchanges worldwide have signed up to the UN's Sustainable Stock Exchanges Initiative, which aims to encourage transparency on ESG issues. South Africa, Brazil, Australia and Hong Kong have included ESG information in their listing requirements, often on a "comply or explain" basis. The Shanghai stock exchange has issued guidelines on disclosures of environmental information for listed companies. Several urban financial centres have also launched specific green or sustainable finance initiatives.⁸⁷

116. Despite several stock exchanges developing sustainability-related indices,⁸⁸ their significance in overall portfolio allocation remains minimal. Several index and benchmark have also developed low-carbon indices; however the development of low-carbon indices as benchmarks has been marginal.⁸⁹ Asset owners such as the Norwegian Pension Fund and HSBC's UK Pension Fund are integrating climate factors in their core benchmarks. Low-carbon indices follow an approach similar to the best-in-class investing strategy. While substantial work has been done on green bonds, additional research is needed to integrate climate-related factors in passive investment strategies, including through low-carbon equity indices and benchmarks.

3.2.9. *Securities regulations other than disclosure requirements*

117. Additional research is needed to assess how securities' regulations can affect the ability of institutional investors to integrate climate-related factors in their investment decisions, across asset classes. Investors have for instance suggested that conditions set by the 2009 European Directive on Undertakings for Collective Investment in Transferable Securities (UCITS) can constrain the ability of mutual funds, insurance companies and their asset managers to invest in unlisted green securities. This is because under the UCITS Directive, assets must be liquid and subject to verifiable valuation on a daily basis, and unlisted green securities cannot be marked to market every day.

3.3. **The role of regulators and supervisory authorities**

118. Several types of regulators can influence institutional investors' integration of climate-related factors. They include notably: central banks; other financial supervisory authorities; treasury departments; accounting and disclosure standard-setting agencies and organisations; corporate governance regulators; securities regulators; and RBC national contact points. Credit ratings agencies can also contribute to such integration.

119. Central banks have taken a central role in assessing the impacts of climate change risks on insurance companies and pension funds, especially the Bank of England in the UK⁹⁰ and the central bank De Nederlandsche Bank (DNB) in the Netherlands.⁹¹ At the One Planet Summit, a group of eight central banks and financial supervisors of OECD countries and China launched the network "Greening the Financial System".⁹² Existing tools developed by central banks include notably climate-risks stress testing, which are similar to TCFD's scenario analysis.

120. Financial supervisory authorities (including central banks) have a key role to play in integrating climate factors in their prudential and financial regulations, as highlighted by the HLEG on the role of European Supervisory Authorities (ESAs) and the European Commission's Communication on ESAs in September 2017.

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¹ Such as the Montreal Carbon Pledge, the Portfolio Decarbonization Coalition or Climate Action 100+ initiative; See Section 2; for a comprehensive list, please see: UNFCCC (2018_[145]).

² Including investment funds and asset managers.

³ Including OECD asset owners (pension funds, insurance companies and global public pension reserve funds), and excluding investment funds, as of December 2016; Source: OECD Global Pension Statistics, Global Insurance Statistics and Institutional Investors databases, and OECD staff estimates.

⁴ Asset owners have beneficiaries while asset managers typically have clients (OECD, 2017_[2]).

⁵ Freshfields (2005_[137]) and the UK Law Commission (2014_[135]) conclude that ESG integration is compatible with beneficiaries' interests and can help more reliably predict financial performance. The Asset Management Working Group's (AMWG) Fiduciary II report considers how best to operationalise ESG integration (UNEP FI, 2009_[136]). *Fiduciary Duty: UK and US Roadmaps* (PRI, UNEP FI and The Generation Foundation, 2016_[37]) suggests that fiduciary duties make a positive case for integrating ESG factors in investment processes.

⁶ This OECD report was published in May 2017 at the request of the French COP21 Presidency. It examined how pension funds, insurance companies and asset managers approach ESG risks and opportunities in their investments, and whether current legal and regulatory frameworks encourage or discourage asset owners from integrating ESG factors in their decision-making.

⁷ Universal investors believe they have a financial responsibility to support global economic health and the ESG factors are drivers of future systemic risks (OECD, 2017_[2]).

⁸ This supports the "modern" interpretation of institutional investors' duties. See, for example: Cai et al. (2014_[61]); Attig et al. (2013_[62]); Hoepner et al. (2013_[63]); Friede et al. (2015_[64]); Clark et al. (2015_[65]).

⁹ However, this paper does not review climate-related opportunities. Its focus is on priorities to integrate climate change risks in institutional investment.

¹⁰ Examples include the impact of heat waves on production in the Middle East, as well as disruptions in the global coffee and palm oil supply (CICERO, 2018_[70]).

¹¹ The impacts on asset class return could also be material, depending on the climate change scenario (Mercer, 2015_[71]).

¹² Associated with, for example, new technologies, evolving regulations, indirect climate change impacts and shifting market sentiments.

¹³ The PRI initiative seeks to promote responsible investment and integrate ESG factors into investment decision-making and strategy. Developed by investors, the six United Nations-supported Principles were adopted in 2006. They now count more than 1,750 signatories from over 50 countries, representing USD 70 trillion of assets (PRI, 2018_[73]).

¹⁴ In the lead-up to COP21, PRI and UNEP FI launched the Montréal Carbon Pledge ("Montréal Pledge") to encourage asset owners and investment managers to measure and publicly disclose the carbon footprint of their investment portfolios (PRI Montreal Pledge, 2018_[74]). As of 1st January 2018, the Montreal Carbon Pledge had 148 signatories, representing just under USD 11.5 trillion of AUM (PRI, 2018_[75]).

¹⁵ The Portfolio Decarbonization Coalition (PDC) is a multi-stakeholder initiative that mobilises asset owners and managers to measure, disclose and reduce their portfolio carbon footprints.

¹⁶ Signed in 2014 by 409 global investors representing more than USD 24 trillion in assets (Global Investor Statement on Climate Change, 2014_[76]).

¹⁷ Other institutional investor and civil society-led initiatives include: at the global level, the Low Carbon Investment (LCI) Registry (Investor Platform for Climate Actions, 2018_[77]) and UN Global Compact; at the domestic level, the French Initiative Climate 2020 (IC20) (IC20, 2017_[78]). Initiatives led by NGOs and not-for-profit organisations include: Ceres Investor Network on Climate Risk and Sustainability; CDP Carbon Action initiative; and IGCC Initiative on EU Company Climate Lobbying; and the Climate Bonds Initiative (Investor Platform for Climate Actions, 2018_[77]).

¹⁸ This interpretation draws on the OECD's definition of integration of ESG factors (OECD, 2017_[2])

¹⁹ Additionally, in Spring 2018 the Task Force will launch a web-based "Knowledge Hub" to support companies implement its recommendations (TCFD, 2018_[138]).

²⁰ GRI is an independent international organisation that supports sustainability reporting (GRI, 2018_[81]).

²¹ SASB is an independent organisation that develops and maintains sustainability accounting standards (SASB, 2018_[79]). It currently maintains provisional standards for 79 industries across 11 sectors (SASB, 2017_[27]).

²² A global coalition of regulators, investors, companies, standard setters, the accounting profession and NGOs which supports integrated corporate reporting.

²³ CDSB is an international consortium of business and environmental NGOs committed to advancing and aligning the global mainstream corporate reporting model to equate natural capital with financial capital (CDSB, 2018_[83]).

²⁴ Formerly called the Climate Disclosure Project, CDP is a not-for-profit charity that runs the global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts (CDP, 2018_[84]).

²⁵ Drawing on the experience of the implementation of France's Article 173; (HLEG, 2018_[45]).

²⁶ More than 100 investors with over USD 2 trillion of AUM sent a letter in September 2017 to 62 of the world's largest banks (Financial Times, 2017_[85]).

²⁷ See *Integrated Governance: a new model of governance for sustainability* (UNEP FI, 2014_[82]).

²⁸ These criteria are as defined by 2° Investing Initiative (2017_[86]). Please refer to TCFD (2017_[16]) for a full definition of scenario analysis.

²⁹ For examples of plans and guides for integrating climate-related risks in portfolio strategies, see reports by Allianz Global Investors (2017_[87]) and IIGCC (2015_[139]).

³⁰ It can be understood as “a negative version of thematic investment” whereby investors sell all of their holdings in a particular sector or industry (OECD, 2017_[2]).

³¹ Including from 688 institutions and almost 60 000 individuals across 76 countries (Arabella Advisors, 2016_[88]).

³² This proposal was led by Norges Bank, the Norwegian central bank, which also manages the Fund. Additionally, the Fund divested from 187 companies between 2012 and 2016, because their social or environmental policies could “hurt the Fund's financial profitability” (The Guardian, 2016_[92]).

³³ The OECD report *Mapping Channels for Institutional Investment in Sustainable Energy* reviews such channels and develops a framework that classifies investments according to different types of financing instruments and funds. It also highlights the risk mitigants and transaction enablers to mobilise and leverage institutionally held capital (OECD, 2015_[68]).

³⁴ Including: the small scale of projects and the need to bundle projects, lack of standardisation of projects' contracts, lack of expertise or due diligence capacity to identify a pipeline of bankable projects. An upcoming OECD Environment working paper *Institutional Investment in Renewable Energy: Current Trends* will review this (OECD, 2018_[141]).

³⁵ As discussed by a number of existing and upcoming OECD projects. See: *Policy Guidance for Investment in Clean Energy Infrastructure* (OECD, 2015_[67]) and *Green Investment Banks* (OECD, 2016_[142]).

³⁶ Instead of divesting, investors keep their shares and use their ownership to influence investee's management. This strategy is not available to investors in fixed-income assets (bonds) (OECD, 2017_[2]).

³⁷ Since 2015, SWEN Capital Partners has incorporated climate change factors in its ESG reporting, analyses and selection criteria to the honours (SWEN Capital Partners, 2016_[96]).

³⁸ Amongst the 4,900 N100 companies (KPMG, 2017_[97]).

³⁹ Amongst the G250 list of companies (KPMG, 2017_[97]).

⁴⁰ See for instance work and actions by ShareAction, Carbon Tracker Initiative and CDP.

⁴¹ This shareholder proposal was led by the Church Commissioners for England and the New York State pension fund, and co-filed by other institutional investors accounting for more than USD 5 trillion in AUM. It passed thanks to BlackRock and Vanguard who switched their vote compared to 2016. *Sources*: Institutional Investor (2017_[29]); The Church of England (2017_[30]); Ceres (2017_[31]).

⁴² Namely, by enhancing its reporting, including with analysis of the impact of climate policies aimed at limiting the increase of global temperature to 2°C (Business Green, 2017_[32]).

⁴³ The report found that nine large utilities faced shareholder resolutions calling for enhanced climate disclosures and implementation of TCFD recommendations in 2017. Only one received support from the majority of investors – at ExxonMobil's general assembly. For most other votes, the world's largest asset managers, including BlackRock, Vanguard, BNYMellon and Invesco, mostly voted against disclosure resolutions.

⁴⁴ In letters sent to around 120 companies (Bloomberg, 2017_[98]).

⁴⁵ In a letter written by Laurence Fink and published by *The New York Times* (The New York Times, 2018_[99]).

⁴⁶ Scope 1 emissions correspond to all direct GHG emissions. Scope 2 emissions refer to indirect GHG emissions from consumption of purchased electricity, heat, or steam. Scope 3 emissions include other indirect emissions not covered in Scope 2 that occur in the value chain of reporting companies, including upstream and downstream emissions (TCFD, 2017_[16]).

⁴⁷ Most recently, at the One Planet Summit, 12 Dutch banks, insurance companies, asset managers and pension providers launched a report presenting a new methodology for measuring the carbon footprint of their investments and loans (ABN AMRO, 2017_[102]).

⁴⁸ Defined by the TCFD as a portfolio's exposure to carbon-intensive companies, expressed in tons CO₂-equivalent divided by revenue In USD million (TCFD, 2017_[16]).

⁴⁹ Note that according to a MSCI survey, most investors (85%) tend to prefer integrating climate-related factors through a "risk-exposure based approach", using the weighted average carbon intensity metric (MSCI, 2017_[23]).

⁵⁰ Especially: energy, including electric utilities, oil and gas and coal (e.g. metrics related with key GHG emissions, energy, water, land use and low-carbon alternatives); transport (e.g. metrics related to implications of GHG emissions, energy and fuel); materials and buildings (e.g. metrics related to the implications of GHG emissions, energy, and water); and agriculture, food, and forest products (TCFD, 2017_[16]).

⁵¹ Carbon footprint is: often limited to Scope 1 and Scope 2 emissions, while the most relevant Scope 3 emissions are often challenging to consider; not forward-looking; and difficult to implement for asset classes other than equities.

⁵² Examples of metrics with data comparability issues include the weighted average carbon intensity metric across funds and strategies. Transparent methodologies and data are needed. Currently, institutional investors are using different metrics and approaches to assess climate-related risks or the impact on their portfolios. (MSCI, 2017_[23]).

⁵³ E.g. on the interpretation of what the integration of climate and other ESG factors entails (OECD, 2017_[2]).

⁵⁴ Challenges with scenario analysis include: allocating macro-level impacts to micro-level actors; creating sector-specific scenarios; creating country-specific scenarios; covering a large scope of carbon-intensive or climate-intensive sectors, where data and modelling may not always be available; and addressing adaptive capacity and scenario gaps, especially since there is no one-size-fits-all within each country or sector (Carbon Tracker Initiative, 2017_[103]; CICERO, 2018 forthcoming_[104]; 2° Investing Initiative, 2017_[86]).

⁵⁵ Such as Carbon Tracker Initiative, 2° Investing Initiative or CICERO.

⁵⁶ The average equity fund manager portfolio holding period is only 1.7 years (2° Investing Initiative and The Generation Foundation, 2017_[39]).

⁵⁷ Private equity for instance typically has an investment horizon of 4-5 years, and infrastructure investment, of 10 to 15 years (2° Investing Initiative and The Generation Foundation, 2017_[39]).

⁵⁸ The TCFD for instance has stressed that its recommended disclosures interact with existing policy and regulatory frameworks, such as the *G20/OECD Principles of Corporate Governance* (see Section 3). It also recognises the need to undertake further work on the interconnectivity of its recommendations with existing requirements, such as accounting standards (TCFD, 2017_[21]).

⁵⁹ These themes are covered by existing OECD work. See, for example *The empirics of enabling investment and innovation in renewable energy* (OECD, 2017_[69]) and *Investing in Climate, Investing in Growth* (OECD, 2017_[41]).

⁶⁰ Which the report defines in three possible ways: narrowly, as "integrating environmental, social and governance (ESG) factors in financial decisions"; more broadly, as "finance fostering sustainable economic, social and environmental development"; and broader still, as "a financial system that is stable and tackles long-term education, economic, social, environment issues, including sustainable employment, retirement financing, technological innovation, infrastructure construction and climate change mitigation".

⁶¹ As part of the International Network on Financial Education reviews (HLEG, 2018_[45]).

⁶² E.g. in: France, in line with Article 173 (see subsequent section); the Netherlands, which require pension funds and insurers to demonstrate "controlled and ethical operational management"; and Chile, where pension funds are asked whether they consider ESG risks; (OECD, 2017_[2]).

⁶³ A defined benefit (DB) scheme refers to a scheme expressed as benefit (annuity) amount, and it is a "promise" with a "sponsor" bearing responsibility to finance the promise; (TPR, 2017_[108]). A defined contribution (DC)

scheme refers to a scheme expressed as individual account (lump sum), and it is a financing commitment only to make regular deposits to an account with no liability to assure a promise; (TPR, 2016_[109]).

⁶⁴ The new 2015 guidance covers economically targeted investments (ETIs) made by retirement plans covered by the Employee Retirement Income Security Act. (DoL, 2015_[110]).

⁶⁵ The IORP directive was adopted in December 2016 and will be transposed by January 2019. (European Parliament, 2017_[111]).

⁶⁶ As highlighted by the HLEG interim report (HLEG, 2017_[43]).

⁶⁷ As highlighted by the HLEG Interim Report, promoting sustainability should not be done at the expense of undermining the stability of the financial system. The report advises policymakers to investigate the implications of this 'market-consistent' valuation on long-term investments and consider attenuating some constraints to promote investment in equities and long-term assets (HLEG, 2017_[43]).

⁶⁸ E.g. governments, stock exchanges or NGOs (OECD-CDSB, 2017_[80]).

⁶⁹ In addition to listed companies, banks and credit providers (OECD-CDSB, 2017_[80]).

⁷⁰ Around 100 top institutional investors were reviewed in these initial assessments. *Sources*: INDEFI (2017_[114]); Novethic (2017_[115]); The Shift Project (2017_[116]); EY (2017_[117]); WWF (2017_[118]).

⁷¹ In addition: 75% of published reports mentioned *ex-post* carbon footprint of portfolios, but mostly for Scope 1 and Scope 2, not Scope 3; around 40% mentioned some form of statement concerning a 2-degree scenario; 80% of reporting entities are signatories to the PRI. The top 10 initiatives quoted in reports include, by decreasing order: PRI, Montréal Carbon Pledge, AFG, FIR, UN Global Compact, SIFs, IIGCC, TCFD and CFDP (see Section 2.1.1)

⁷² Only 45% have set quantitative objectives (including divestment targets for coal). Qualitative objectives relate to goals to align portfolios with the 2°C target or commitment to green bonds.

⁷³ I.e. with the 2°C maximum global warming target under the international climate change agreement reached in Paris in December 2015. (FOEN and 2° Investing Initiative, 2017_[119]).

⁷⁴ A.k.a 'Guidance for Collaborative Value Creation'. It is part of the Ito Review 2.0 released in November 2017 (Responsible Investor, 2017_[120]).

⁷⁵ "Institutional investors are of particular importance to companies. They are expected to exercise their ownership rights actively and responsibly, in accordance with transparent principles that also respect the concept of sustainability" (Regierungskommission, 2017_[123]).

⁷⁶ Amongst others issues, and when developing the strategy (Dutch Corporate Governance Code Monitoring Committee, 2016_[124]).

⁷⁷ Such as work by the Global Corporate Governance Forum (GCGF), part of the International Finance Corporation (IFC) Corporate Governance group. For more on industry-led corporate governance frameworks, see a brief review in Section 2.

⁷⁸ Organisations such as Eurosif (European Sustainable Investment Forum) are also influential in encouraging good stewardship practices.

⁷⁹ The 2014 update made a reference to "risks arising from social and environmental matters" (ECGI, 2017_[54]).

⁸⁰ In addition to risks (FSA, 2017_[125]).

⁸¹ Although over 150 asset managers have signed on to the code (ECGI, 2017_[54]).

⁸² The *OECD Guidelines on Multinational Enterprises* are one of four parts of the 1976 *OECD Declaration on International Investment and Multinational Enterprises*; OECD (2011_[55]).

⁸³ Such as: information disclosure, human rights, employment and industrial relations, environment, combatting bribery and corruption, consumer interests, science and technology, competition, and taxation.

⁸⁴ While ING reports on its own, direct, greenhouse gas emissions, it does not report publicly about its indirect, product emissions through companies and projects it finances. Consideration of this case is ongoing.

⁸⁵ The report *Responsible Business Conduct for Institutional Investors* represents a unique resource to investors seeking to comply with the *OECD Guidelines*. RBC due diligence broadly involves: developing an RBC policy and ensuring RBC risk management functions are streamlined throughout an investment institution; identifying real and potential RBC adverse impacts prior to investment and through ongoing screening of investment portfolios; responding to real and potential RBC impacts through a wide variety of actions, including, engagement with

investee companies, divestment or participation in initiatives with RBC objectives; and monitoring how identified impacts are responded and communicating on RBC policy and results, publically and to stakeholders as appropriate. This work was developed with the support of multi-stakeholder advisory body and articulates a common position amongst practitioners, governments and stakeholders, on several complex issues which were previously not recognised nor well understood. OECD (2017_[3]).

⁸⁶ I.e. ISO 14097, by the International Organization for Standardization, ISO (ISO, 2018_[127]). Existing research institutes and NGOs calling for such initiative include 2° Investing Initiative (2° Investing Initiative, 2017_[52]).

⁸⁷ Including Casablanca, Frankfurt, Hong Kong, London, Luxembourg and Paris (UN Environment, Inquiry and Corporate Knight, 2017, p. 7_[128]).

⁸⁸ Such as Dow Jones Sustainability Index, FTSE4Good, the Stoxx Europe Sustainability Index, the NYSE Euronext Low Carbon 100 Europe Index, the Bombay BSE Greenex and the Johannesburg Stock exchange SRI Index.

⁸⁹ As highlighted by the interim report of the EU HLEG on Sustainable Finance (HLEG, 2017_[43]).

⁹⁰ See *The Bank of England's response to climate change* (Bank of England, 2017_[129]).

⁹¹ DNB has explored the impact of climate-related risks on the Dutch financial sector, including through stress tests (DeNederlandscheBank, 2017_[130]) and has called for more adequate carbon pricing (DeNederlandscheBank, 2017_[131]).

⁹² This new network unites the central banks of Mexico (Banco de Mexico), the Netherlands (DNB), Germany (Deutsche Bundesbank), Sweden (Finansinspektionen), Singapore (Monetary Authority of Singapore) and China (People's Bank of China or PBOC) around the Banque de France, the French Prudential Supervision and Resolution Authority (ACPR) and the Bank of England (One Planet Summit, 2017_[132]).