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**WWF CLIMATE GUIDE TO ASSET OWNERS:
ALIGNING INVESTMENT PORTFOLIOS
WITH THE PARIS AGREEMENT**

Authors

Sebastien Godinot, Jan Vandermosten,
WWF European Policy Office
sgodinot@wwf.eu, jvandermosten@wwf.eu

WWF Contributors

WWF Australia: Monica Richter
WWF Belgium: Olivier Beys, Julie Vandenberghe
WWF China: Yiting Sun
WWF Denmark: Hanne Jersild
WWF European Policy Office: Florence Danthine, Audrey Gueudet, Rebecca Humphries, Julia Linares, Karmen Spiljak, Adam White
WWF Finland: Kaarina Kolle
WWF France: Jochen Krimphoff, Pascal Canfin
WWF Germany: Matthias Kopp
WWF Global Climate & Energy Lead Scientist: Chris Weber
WWF Italy: Matteo Leonardi, Mariagrazia Midulla

WWF Mexico / Global Climate & Energy Practice: Santiago Lorenzo Alonso
WWF Netherlands: Claar van den Bergh
WWF Netherlands / Freshwater Practice: Aaron Vermeulen
WWF Norway: Stefano Esposito, Else Hendel
WWF Singapore: Jeanne Stampe
WWF Spain: Mar Asuncion Higuera, Carlos Garcia, Raquel Garcia Monzón
WWF Sweden: Magnus Emfel
WWF Switzerland: Claude Amstutz, Amandine Favier, Ivo Mugglin, Britta Rendlen
WWF UK: Andrea Marandino, Sara Minchin, Jack Pollock

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Flavia Micilotta, Eurosif
Dylan Tanner, InfluenceMap
Tiina Landau, Ilmarinen Mutual Pension Insurance Company
Cary Krosinsky, InvestorWatch
Sophia Tickell, Becky Buell, Meteos

Willemijn Verdegaal, MN
Andreas Stang, PFA
Pelle Pedersen, PKA
Raj Thamotheram, Preventable Surprises
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Editor

Mike Clark, Founder Director Ario Advisory; former Director, Responsible Investment at Russell Investments. mikeclark@arioadvisory.com

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Heliostats, large reflective mirrors directing sunlight to the PS20 solar thermal tower, owned by Abengoa energy, in Sanlúcar La Mayor, Andalusia, Spain. The site generates 183 MW in total, enough to power 94,000 households and eliminating 114,000 tons of Co2 emissions annually.

INTRODUCTION: HOW TO USE THIS GUIDE

Climate change is a risk. A financial risk. It has been described as ‘the tragedy of the horizon’ by Mark Carney, Governor of the Bank of England and Chairman of the G20 Financial Stability Board (Carney Mark 2015) because it imposes a cost on future generations that the current one has no clear incentive to fix. However, the transition to a low carbon economy also offers significant investment opportunities.

WWF works with many stakeholders to tackle the challenge that climate change presents. With this Climate Guide to Asset Owners, we wish to support asset owners and show how they can align their investments with the objectives set in the Paris Climate Change Agreement (‘Paris Agreement’).

WWF recognises that addressing climate change is a multi-year effort, and that asset owners are at different stages on this path. Yet the pace and scale of action required to comply with the Paris Agreement does not leave room for procrastination: the cost of the transition increases with every year of inaction.

This document is structured to assist asset owners in their efforts to address climate change. It demonstrates that the financial evidence and regulatory environment have created a favourable context for taking action on climate change; and that asset owners can count and build on extensive strategic advice and existing good practice from peers. On that basis, WWF presents operational recommendations on how asset owners can accelerate their progress and seek to achieve carbon mitigation in line with the Paris Agreement. The document ends with the next steps planned by WWF.

FIGURE 1. STRUCTURE OF WWF CLIMATE GUIDE TO ASSET OWNERS

NAME	TITLE	CONTENT	PAGE
CHAPTER 1	Evaluation of climate financial evidence	Climate-related financial risks and opportunities at global and portfolio levels. WWF Recommendations	Page 9
CHAPTER 2	Regulation and policy	Regulatory environment: TCFD, EU, national initiatives. WWF Recommendations	Page 23
CHAPTER 3	Strategic advice from financial sector actors	Recommendations from investment consultants, other service providers, investor-led analysis. WWF Recommendations	Page 33
CHAPTER 4	Asset owner good practice	Examples of asset owners that are learning and seeking advice; deciding; monitoring service providers and engaging with key stakeholders. WWF Recommendations	Page 39
CHAPTER 5	WWF recommendations to drive portfolio alignment with the Paris Agreement	WWF operational recommendations through learning and seeking advice; deciding; and engaging with key stakeholders	Page 53

The recommendations are aimed at traditional long-term horizon and well-diversified asset owners, whether or not they have any commitments to being responsible. Asset owners have different strategies, and operate under different jurisdictions. The recommendations set out here are general in nature, therefore WWF aims at establishing constructive bilateral dialogues with asset owners and supporting them in better capturing the specifics of their own situation, and adequately tailor the recommendations.

WWF has formulated its recommendations to reflect three key roles of asset owners: learning and seeking advice; deciding (their climate-related investment beliefs, targets, policy, processes and portfolio implementation); and monitoring service providers (investment managers, investment consultants, etc) and engaging with key stakeholders.

WWF believes that, within the frame of these key roles, asset owners should have four priorities:

- Develop climate policy and disclosure in accordance with the recommendations from the Financial Stability Board’s (FSB) Task Force on Climate-related Financial Disclosures (TCFD) – including by using relevant tools to set climate science based targets;
- Engage with investment managers;
- Engage with portfolio companies;
- Engage with policy makers.

WWF’s view is that aiming to align investments with the Paris Agreement – by taking action in line with the recommendations in this Guide – will contribute to invest in the best interests of members and beneficiaries and therefore fulfil asset owners’ fiduciary duties.

Given the prominence of the TCFD, and its potential to rapidly become the new normal of climate-related financial disclosure, the Figure 2 below summarises where asset owners can find TCFD-related recommendations in the present Guide.

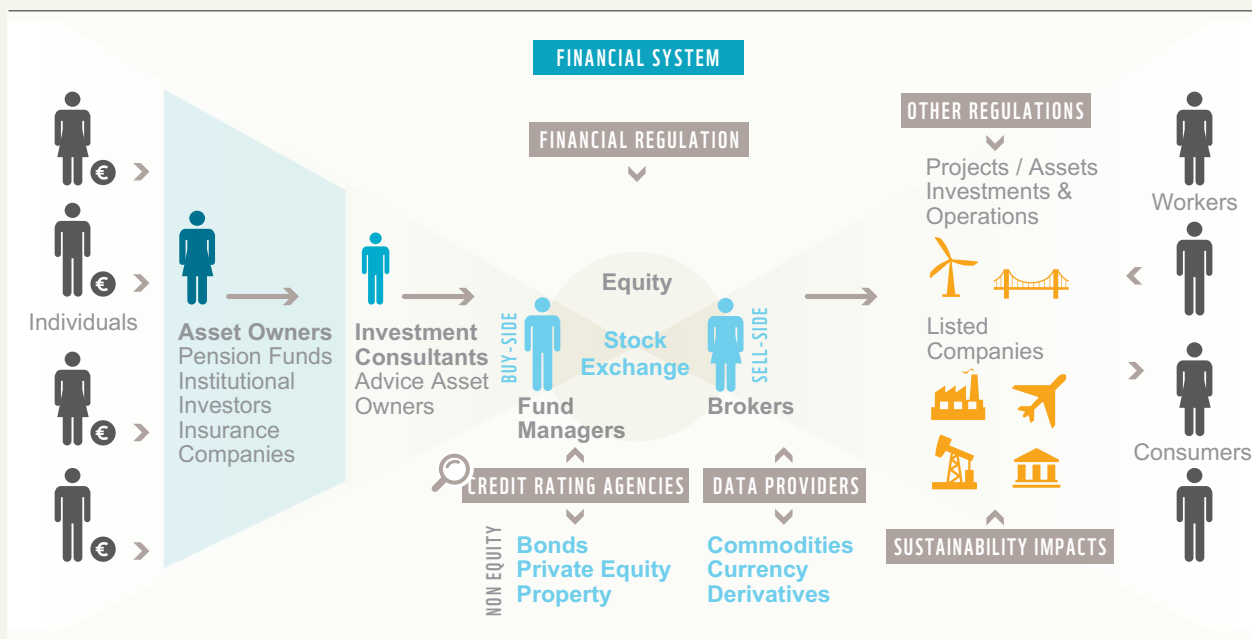
FIGURE 2. LEVERS FOR ASSET OWNERS TO IMPLEMENT THE TCFD RECOMMENDATIONS

TCFD RECOMMENDATION	GOVERNANCE	STRATEGY	RISK MANAGEMENT	METRICS AND TARGETS
WWF CLIMATE GUIDE TO ASSET OWNERS	Set up climate-related governance: chapter 3	Learn about climate-related risks and opportunities: chapter 1	Integrate climate change in investment policy: chapter 3	Learn about tools and metrics: chapter 1.5
	Detailed climate-related governance recommendations: chapter 5.2	Formulate climate-related investment beliefs and policy: chapter 3	Engage with key stakeholders: chapters 5.3, 5.4, 5.5, 5.6	Formulate climate-related investment targets: chapter 5.2
	Asset owner good practice: chapter 4			

Why does WWF focus on asset owners?

Asset owners play a unique role in the investment system, sitting at the top of the investment chain (FSB TCFD 2017b). As the powerhouse of long term global investment, they can and do influence the companies in which they invest and their service providers – such as their investment managers (see Figure 3). WWF believes they can do more and these recommendations are in line with that view.

FIGURE 3. ASSET OWNERS' UNIQUE POSITION IN THE FINANCIAL SYSTEM
(SOURCE: ADAPTED FROM AVIVA AND EUROPEAN POLITICAL STRATEGY CENTRE 2017)



The present Guide is accompanied by a Summary, that provides 15 topline recommendations.



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Water-spout above the Adriatic Sea.

1.



EVALUATION OF CLIMATE FINANCIAL EVIDENCE

“ANY ATTEMPT TO FOLLOW HIGH-CARBON GROWTH WILL EVENTUALLY BE SELF-DESTRUCTIVE DUE TO THE VERY HOSTILE ENVIRONMENT IT CREATES”

Nicholas Stern 2016

1.1 CLIMATE CHANGE AS A POTENTIAL SYSTEMIC RISK

It is widely recognized that continued emission of greenhouse gases will cause further warming of the Earth. Under current policies, CO₂ emissions will lead to global warming of up to 4.9°C (Ecofys et al 2017). This will have catastrophic consequences for human societies and natural systems (World Bank 2014, IPCC 2015).

The resulting climate change poses a significant risk across multiple dimensions. The Global Risks Report 2017 of the World Economic Forum, which has Mercer as a strategic partner, ranks **extreme weather events as a top ten risk in term of likelihood and the second largest in term of impact**; and identifies the “failure of climate change mitigation and adaptation” as the fifth largest risk in terms of impact (World Economic Forum 2017).

In the Paris Agreement, 195 governments agreed to hold the “increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels”. The Agreement moreover contains a provision to “make finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development” (UNFCCC 2015, article 2.1 c). This Agreement reflects a growing global recognition at the highest level of the risks posed by climate change.

The cost of delayed climate action

“CALL THIS NOAH’S LAW: IF AN ARK MAY BE ESSENTIAL FOR SURVIVAL, BEGIN BUILDING IT TODAY, NO MATTER HOW CLOUDLESS THE SKIES APPEAR”

Warren Buffet 2016

Climate scientists have warned about the risk of ‘tipping points’ - the points at which a series of small incidents becomes significant enough to cause larger damage, and after which climate change can become a self-amplifying cycle.

A meta-analysis of sixteen studies concluded that the cost for hitting a specified climate target increases, on average, by approximately 40% for each decade of delay. Because a delay results in additional near-term accumulation of greenhouse gases in the atmosphere, policies to achieve the given long-term climate target – if implemented later – must be more stringent. This additional stringency increases mitigation costs, relative to those that would be incurred under the least-cost path starting today. The analysis also concluded that the more ambitious the climate target, the greater are the costs of delay (Council of Economic Advisers 2014).

Similarly, an IEA report has found that delaying climate action between 2012 and 2014 has cost the world nearly \$4 trillion in just two years (IEA 2014). The calculations show that the 2014 cost of decarbonising the energy system—in real terms—was about 10% higher than it was two years before.

1.2 CLIMATE-RELATED FINANCIAL RISK AT THE GLOBAL LEVEL

From economic to financial risk

The current level of global greenhouse gas emissions from human activities is an economic imbalance that may well lead to financial stress and even a financial crisis.

The large-scale and long-term nature of climate change makes assessing the financial risks for companies, investors and the financial system as a whole challenging. Inadequate risk information can lead to a mispricing of assets and a misallocation of capital. In turn this gives rise to further risks, since markets are vulnerable to abrupt corrections (Carney Mark 2016).

The emission pathways that will contain dangerous climate change differ depending on various parameters and assumptions, but in all cases they require urgent action. So while climate-related risks are expected to have their greatest impact in the mid to long term, even short-term investors can be affected (BlackRock 2016).

Analysis has found – with a significant level of uncertainty due to limited data availability – that all asset owners are exposed to climate-related financial risk. The share of high carbon sectors in the portfolios of pension funds and insurance companies is around 20% to 25%, and fossil fuels amount to 4,5% to 5% of such portfolios (Weyzig et al 2014), while the share of climate-friendly sectors amounts to only about 1% to 2% (European Commission 2015).

Climate-related value at risk

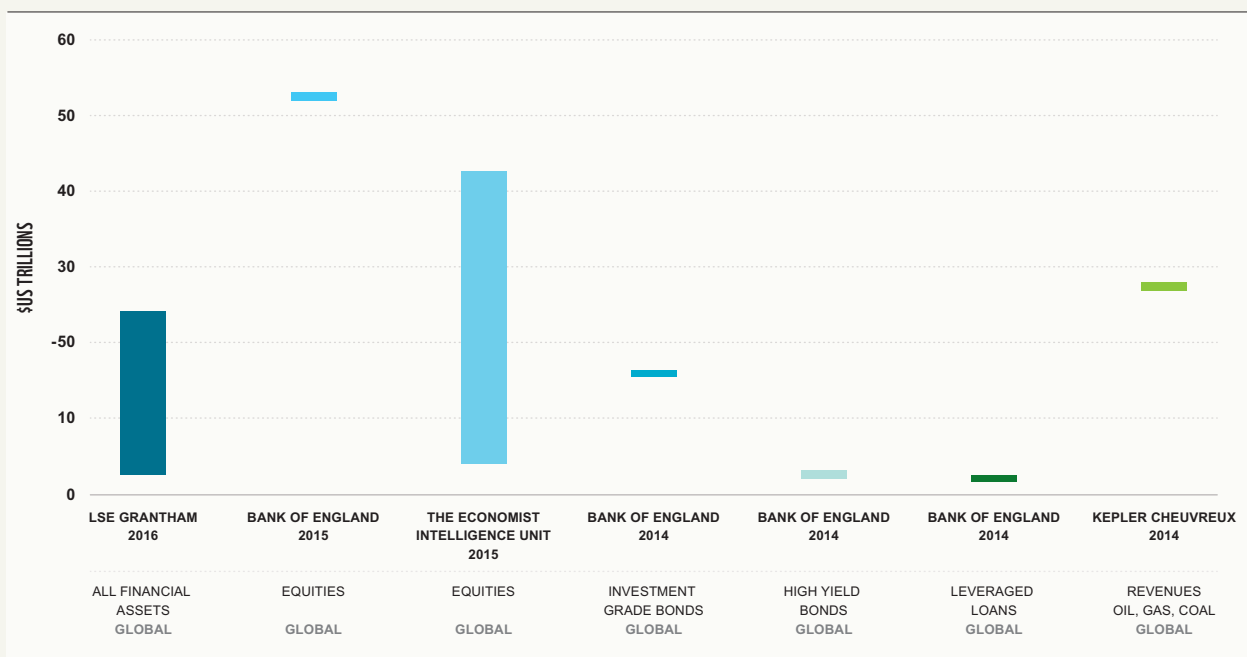
“CLIMATE CHANGE PRESENTS REAL RISKS AND OPPORTUNITIES FOR INVESTORS AND FINANCIAL INSTITUTIONS ACROSS ALL ASSET CLASSES AND ACROSS ALL TIME FRAMES INCLUDING THE VERY SHORT-TERM”

UNEP-FI, University of Cambridge, IIGCC 2014

A core responsibility of asset owners is to manage risk, and the most commonly employed assessment measure is value at risk (VaR). This indicates the size of the loss a portfolio may incur, within a given time horizon, at a particular probability (Economist Intelligence Unit 2015). More precisely, the climate-related value at risk is the probability distribution of the present market value of losses on global financial assets due to climate change (London School of Economics 2016) – although there are some debates on the VaR concept.

Several studies have aimed to quantify the climate-related value at risk. Figure 4 includes point estimates and range estimates from several studies focusing on different types of financial assets. For example, the Economist Intelligence Unit finds **climate-related risks, in discounted, present value terms, ranging from US\$4.2trillion—roughly on a par with Japan’s entire GDP - to US\$43trillion**, depending on the climate scenario (Economist Intelligence Unit 2015). While orders of magnitude vary significantly, it should be noted that even the lowest-cost estimates are in trillions of USD. According to BlackRock, investors can therefore no longer consider that the risk is negligible nor ignore it, and as a result “believes all investors should incorporate climate change awareness into their investment process” (BlackRock 2016).

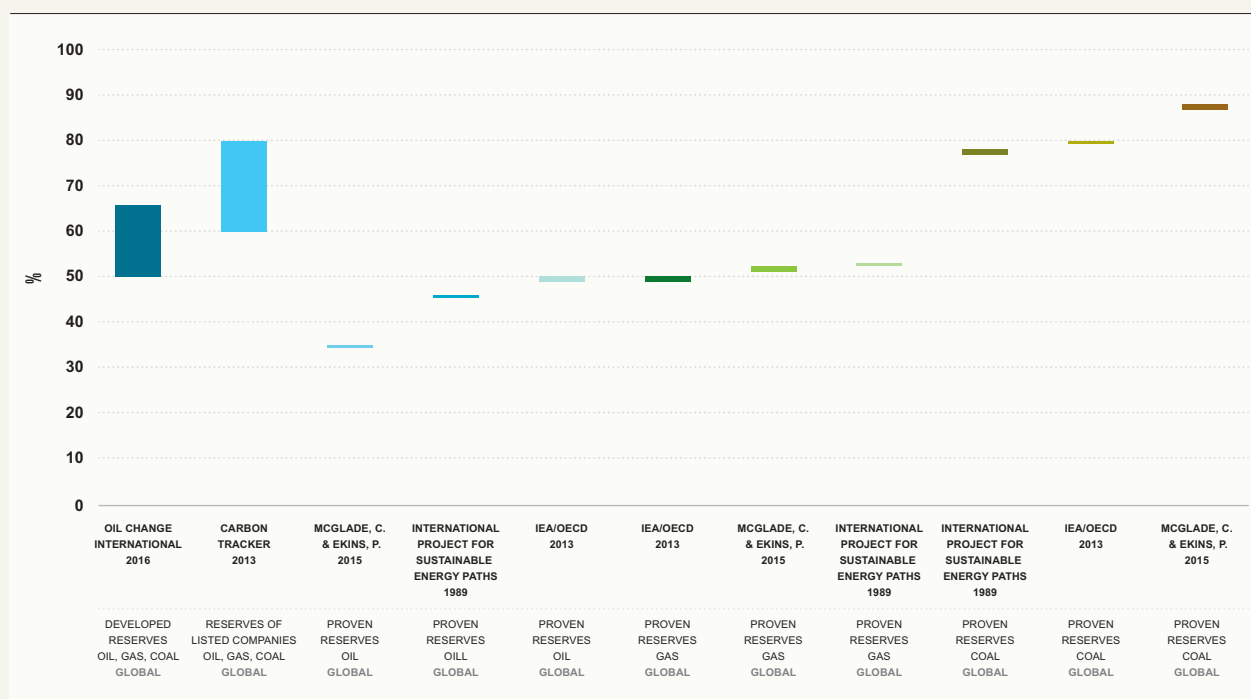
FIGURE 4. CLIMATE-RELATED VALUE AT RISK (CALDECOTT BEN 2016)



Stranded assets

Research by various parties suggests that a large share of the world’s proven fossil fuel resources will need to remain in the ground under climate mitigation scenarios (see Figure 5). Coal notably has the highest share of proven reserves that should remain unexploited globally.

FIGURE 5 SHARE OF FOSSIL FUEL RESERVES THAT CANNOT BE EXPLOITED UNDER A 2°C SCENARIO (CALDECOTT BEN 2016)



Companies whose business is largely focused on such activities could be affected negatively, both operationally and financially. Climate-related risk is real, and the crystallisation of that risk will give rise to what are often referred to as stranded assets (WRI, UNEP-FI 2015a). The OECD defines stranded assets as those “unable to recover their investment cost as intended, with a loss of value for investors” (OECD 2015). In the context of fossil fuels, this means those that will not be burned – they remain stranded in the ground (HSBC 2015).

Stranded assets represent financial risk to investors that have investments in the companies at risk. Asset stranding is a common issue in competitive markets (E3G 2016). Investors are expected (and paid) to understand what creates and destroys value, and to allocate capital in their portfolios accordingly in order to deliver an appropriate return on investment for those whose money they manage. The risks which will result in climate-related stranded assets are harder to assess and manage compared to many financial risks. This is because of their magnitude, unprecedented breadth, the uncertain time horizon over which they may be expected to crystallize, and the uncertainty about how markets will trade out of the risk.



“SOME IMPACTS ARE ALREADY HAPPENING EARLIER THAN ANTICIPATED AND NEW ONES ARE EXPECTED IN THE TIME HORIZON USED BY INVESTORS”

Cicero 2017

It is important, however, to understand that this is not just a “long term” risk, which can be dismissed because of these difficulties.

Stranded assets are already a market reality in the US coal mining sector, with the market value of the four largest companies falling by over 99% since 2010 (Carney Mark 2016, Carbon Tracker Initiative 2015a). In Europe, the top 20 energy utilities saw over half of their €1 trillion market value wiped out (E3G 2016). Other analyses indicate that another \$2 trillion fossil fuel capex is at risk of stranding, with \$500 billion in the Chinese power sector alone, and that carbon capture and storage does not provide a solution (Carbon Tracker Initiative 2015c and 2016).¹

So far, most analysis has focused on stranded upstream fossil fuel assets listed on the New York and London stock exchanges. However stranded assets in downstream sectors and other stock markets may be even more important, but are less well understood. Asset stranding may also happen in sectors other than fossil fuels such as utilities, agriculture, buildings, automotive, etc. Importantly, climate-related asset stranding may materialise because of different drivers: regulatory, technological, consumers’ behaviour shift/demand destruction, public perceptions (i.e. stigmatisation of a particular industry).

Finally, the risk of stranded assets may further be exacerbated by the well-documented behavioural tendency of companies and investors to continue with activities that are not economically rational, as they become wedded to existing strategies (‘sunk costs’, Kahneman & Tversky 1979). Such irrational behaviour, due to risk aversion, can be a significant barrier in companies’ and investors’ reactions to policy objectives on decarbonisation.

Second order risks

“EVEN RELATIVELY SMALL INITIAL SHOCKS CAN GENERATE SYSTEMIC FEEDBACK LOOPS VIA THE INTERACTION OF FINANCIAL FRICTIONS”

European Systemic Risk Board 2016

While the first-order impact of financial sector losses on carbon-intensive assets may appear manageable to some, the initial shock could trigger negative feedback loops (European Systemic Risk Board 2016b). Such second-round effects would be created by contagion across the corporate bond and leveraged loan markets, partly reflecting the uncertainty as to the extent to which companies from various sectors may be affected directly or indirectly by the initial shock. Indeed, uncertainty, which can be viewed as uncalibrated risk, may be more challenging than risk itself. If some highly leveraged financial institutions were severely hit by initial losses, and exposures throughout the system were opaque and unquantified, market and funding liquidity spirals might significantly amplify the financial damage (European Systemic Risk Board 2016a).

European investment funds in particular have a relatively high equity exposure to climate-sensitive sectors, such that first-order losses could lead to significant second order effects (Social Science Research Network 2016). Asset owner investment strategies, and specifically strategic asset allocation, need to address this issue. There needs to be a greater awareness that strategic asset allocation is actually strategic risk allocation.

¹ For more details on the WWF analysis and position on carbon capture and storage, see the WWF sector-specific recommendations to asset owners on coal and renewable power (forthcoming).

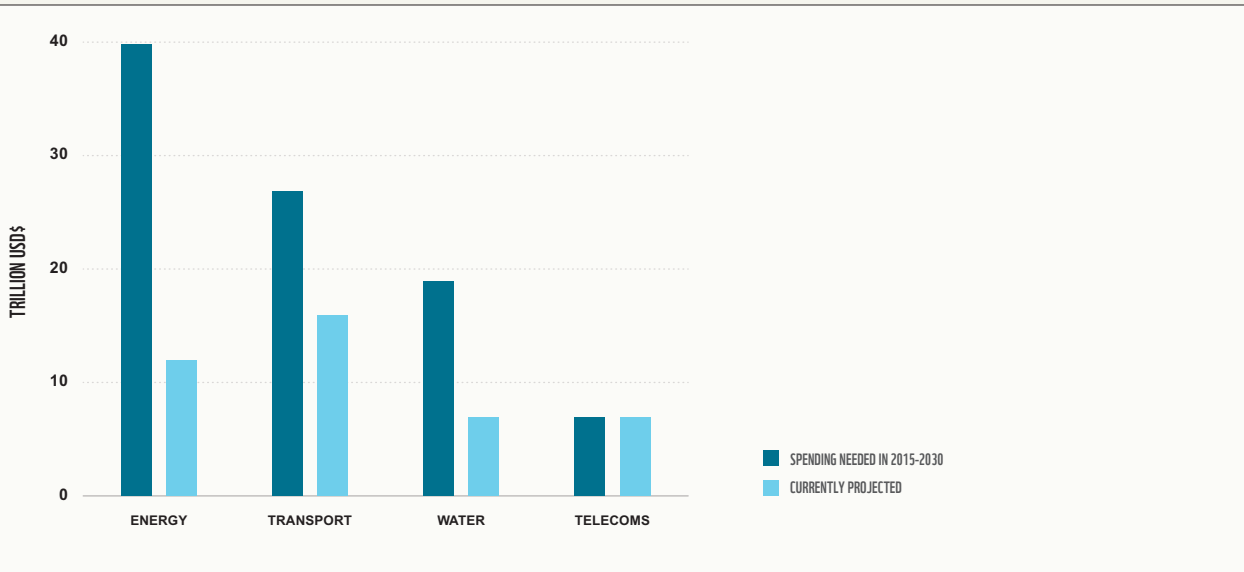
1.3 CLIMATE-RELATED FINANCIAL OPPORTUNITIES AT THE GLOBAL LEVEL

Meeting CO₂ emission-reduction targets requires steps such as retrofitting energy-inefficient infrastructure and reducing fossil fuel dependency. This creates opportunities in areas such as renewable energy, efficient power grids and energy-efficient buildings.

Several analyses indicate that asset owners can harness these opportunities, and contribute to changes in the real economy –notably by expanding investments in alternative asset classes.

The demand for new **infrastructure** could top \$90 trillion over 2015-2030, or \$6 trillion annually (New Climate Economy 2014 and 2016). Figure 5 indicates that projected investment levels only meet about half of the required investments, and that energy and transport sectors make up two-thirds of the investment needs (McKinsey 2016).

FIGURE 6 GLOBAL INFRASTRUCTURE SPENDING NEEDED VS PLANNED 2015-2030 (BLACKROCK 2016)





“IN THE CURRENT
LOW INTEREST RATE
ENVIRONMENT,
INVESTMENT IN
RENEWABLE ENERGY
INFRASTRUCTURE ARE AN
ATTRACTIVE INVESTMENT
PROPOSITION WITH
STABLE DISTRIBUTION FOR
INSTITUTIONAL
INVESTORS”

SUSI Partners 2015

According to BlackRock, financing is cheap on any historical perspective, with around one-third of government bonds in the developed world yielding below zero. Consequently, there has arguably never been a better time to fill the funding gap for sustainable infrastructure:

- More public spending on infrastructure is expected as countries pivot from monetary to fiscal stimulus, creating – with the right incentives – an environment that will allow private investors to contribute to filling much of the current investment gap (BlackRock 2016).
- Bloomberg New Energy Finance finds that renewable energy projects are becoming more relevant infrastructure investments: the project development risks are reducing as technologies demonstrate maturity and establish a track record. They also note a growing emerging interest in pooled operating renewable energy assets as part of an overall strategy (Bloomberg New Energy Finance et al 2016).

Real estate often makes up the largest part of institutional investors’ alternative portfolios. Asset owners can drive energy efficiency in their real estate portfolio by only investing in properties that have achieved a high energy-efficiency certification, or by implementing retrofits on properties in existing portfolios. This will increase the value of the properties, and prepare for more stringent regulation (WRI, UNEP-FI, 2° Investing Initiative 2015b).

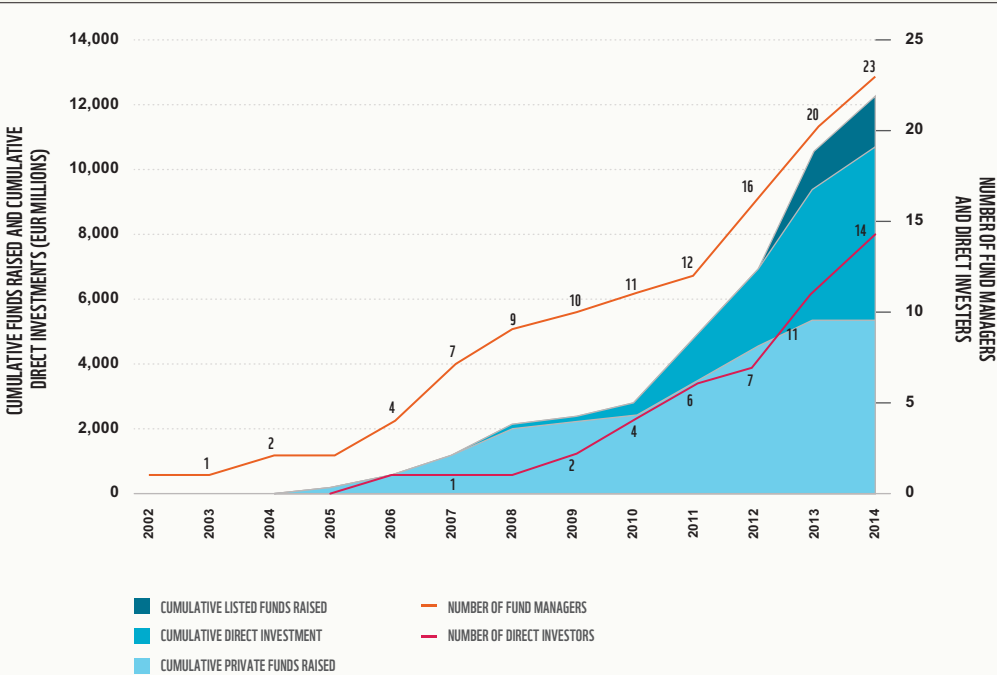
Other alternative investments can provide additional opportunities in the current low yield environment, despite a higher risk-return profile (Bloomberg New Energy Finance et al 2016):

- **Private equity:** carefully selecting investments in companies with more mature technologies, including those that seek to raise capital on public stock exchanges, will allow these companies to grow their product while maintaining a secure return for asset owners. It should be added that a small part of an infrastructure project can be a large private equity asset.
- **Venture capital:** investing smaller amounts into a large number of early-stage companies will allow asset owners to harness investment opportunities while contributing to the development of new and innovative technologies.

Importantly, the direct positive impact on the real economy of such investments in alternative asset classes is usually higher than the same amount invested in traditional asset classes. Illiquidity naturally supports longer term horizon for value creation and ownership for asset owners and therefore greater control. On the opposite in extremely liquid asset classes – public equity and bonds – the rapid exchange of assets can quickly cancel out potential impact, except through signalling or if a critical mass is reached (WRI, UNEP-FI, 2° Investing Initiative 2015b).

Figure 7 indicates that institutional investors in Europe have already started to harness the opportunities provided by renewable energy— both in terms of funds raised and number of investors involved. This, in turn, provides opportunities for investment managers to develop funds and products that focus on or support renewable energy development.

FIGURE 7 CHANNELS TO MOBILISE INSTITUTIONAL INVESTMENTS IN SUSTAINABLE ENERGY (EUROPEAN COMMISSION 2015)



1.4 CLIMATE-RELATED FINANCIAL RISKS & OPPORTUNITIES AT THE PORTFOLIO LEVEL

Impacts are spread unevenly across asset class, industry sector and time horizon

Mercer has undertaken granular analysis of the how climate-related financial risk can impact investment portfolios on the basis of four risk factors (technology, resource availability, impacts and policy) and four climate scenarios that model warming from 2°C to 4°C (Mercer 2015).

The analysis feeds into Mercer’s investment model for strategic asset allocation – providing insights on the potential impact of climate change on asset classes, industry sectors and total portfolio returns between 2015 and 2050. It concludes that uncertainty about the future should not be a barrier to action, as action will lead to better investment outcomes than no action would.

“CLIMATE CHANGE (...) WILL INEVITABLY HAVE AN IMPACT ON INVESTMENT RETURNS, SO INVESTORS NEED TO VIEW IT AS A NEW RETURN VARIABLE”

Mercer 2015

On asset classes, key findings are that:

- Growth assets (listed equity, private equity, real assets, growth fixed income, hedge funds, multi-assets) are more sensitive to climate risks than defensive assets (cash, bonds, investment grade credits).
- Only developed market global equity is expected to experience a reduction in returns across all climate scenarios, given its negative sensitivity to the policy risk.
- Infrastructure, emerging market equity and real estate are expected to benefit from the low carbon transition.
- Agriculture and timber have the widest-ranging impacts, dependent on the climate scenario (negative sensitivity to physical risks but positive sensitivity to policy risks).

On industry sectors, key findings are that:

- Impacts are most meaningful for sectors (energy, utilities, materials) that are sensitive to the policy risk factor.
- The sub-sectors with the highest negative sensitivity are coal, oil and electric utilities. Not all incumbents will be losers, however: in particular electric utilities that have started to make the shift to renewables are thriving – illustrating the need for investors to be selective (BlackRock 2016).
- Renewable energies have the highest positive sensitivity, followed by nuclear. For renewables, average expected returns may increase from 6.6% per year to 10.1%.

The Economist Intelligence Unit finds that economic sectors that are concerned with physical assets or natural resources are the most vulnerable to direct impacts of climate change, such as real estate, infrastructure, timber, agriculture and tourism (Economist Intelligence Unit 2015).

Mercer also finds that impacts are spread across long-, mid- and even short-term horizons. Impacts are particularly apparent in annual returns, which are more significant in the shorter term. The average annual returns from the coal sub-sector could be reduced by a quarter, or even turn out to be negative in absolute terms, while renewable energy could see average annual returns increase modestly, or nearly double, depending on the climate scenario. This finding is supported by other analyses (Cambridge University 2015, BlackRock 2016).

2°C pathways are the lowest risk option and do not sacrifice financial returns

“A 2°C SCENARIO DOESN'T JEOPARDISE FINANCIAL RETURNS”

Mercer 2015

“ASSET MANAGERS CANNOT SIMPLY AVOID CLIMATE RISKS BY MOVING OUT OF VULNERABLE ASSET CLASSES IF CLIMATE CHANGE HAS PRIMARILY MACROECONOMIC IMPACT, AFFECTING THEIR ENTIRE PORTFOLIO OF ASSETS”

Economist Intelligence Unit
2015

The body of evidence on the relation between 2°C alignment of investment portfolios and risk/return impacts on portfolios is increasing. Five studies based on scenario analysis or economic modelling, summarised below, provide fundamental evidence of that, which is being increasingly confirmed by other studies:

- **Mercer's** ground-breaking research (referenced above) concludes that the economic transition implied by its 2°C scenario is not punitive from an investment perspective: ‘A 2°C scenario does not have negative return implications for long-term diversified investors at a total portfolio level over the period modelled (to 2050), and is expected to better protect long-term returns beyond this timeframe’. “This finding is counter to a relatively common view that a rapid transition towards a low-carbon economy would come at a significant financial cost to investors” (Mercer 2015).
- Research by the **University of Cambridge Institute on Sustainable Leadership (CISL)** employs unprecedented analysis of the short-term implications of climate change in terms of portfolio risk (CISL 2015). The research stress-tests representative pension fund and insurance portfolios by applying shocks based on different levels of carbon taxation, energy investment, green investment, energy and food prices, energy demand, market confidence, bond market stress and housing prices. The macroeconomic analysis enables the quantification of the potential financial impacts for each scenario within the five-year short term modelling period (2016 – 2020), and concludes that “Even in the short run, the perception of climate change represents an aggregate risk driver that must be taken into consideration when assessing the performance of asset portfolios... The benefits of early action lead to significantly higher economic growth rates and returns over the long run, especially when compared to a worst-case scenario of inaction”.
- The **Economist Intelligence Unit**, together with Vivid Economics, estimates the value at risk as a result of climate change from the present to 2100 using a leading, peer-reviewed forecasting model of the impact of climate change on the economy (Economist Intelligence Unit 2015). It finds that “provided that warming from climate change can be kept under 2°C, the average projected losses can be cut in half, while the extreme losses, identified at tail risks, can be reduced by more than three-quarters”. The Economist Intelligence Unit also finds that the total global output will be lower in a future with more climate change, rather than one with mitigation, and accordingly the size of the future stock of manageable assets will be lower.
- The **London School of Economics** draws from existing aggregated integrated assessment models (IAMs) to obtain, in three steps, a first estimate of the climate value at risk (London School of Economics 2016). It is important to note that the discount rate applied in valuing a portfolio of privately held financial assets is that of a private investor, and is given by the opportunity cost of capital appropriate for the riskiness of the portfolio. The research also includes mitigation costs to assess the difference in the present value of global financial assets between 2°C mitigation and business as usual. The study finds that ‘limiting warming to no more than 2°C makes financial sense to risk-neutral investors—and even more so to the risk averse... mitigation is still preferred from the narrower perspective of financial assets, and more so the higher is risk aversion’.



- **South Pole and the Center for Social and Sustainable Productions (CSSP)**, in a study commissioned by the **Swiss Federal Office for the Environment**, employ a different approach than the studies above – analysing the levels of risks and returns of eleven climate-friendly indices (South Pole-CSSP 2016). It concludes that “if the return is juxtaposed against the risk involved, then in eight out of the eleven cases, the investor has a better risk-return ratio in climate-friendly indices compared to the respective conventional benchmark index”. The same conclusion applies to two 2°C compliant funds provided by the 2° Investing Initiative and CLIMPAX.

All these studies have, as a corollary, an important conclusion: inaction, leading to warming of 4 to 6°C, is the highest risk option for investors and jeopardises financial returns, especially in the mid-long term. Indirect damage (i.e. weaker economic growth and lower asset returns across the board) is a particularly important portion of the overall risk in such scenarios. Asset owners may struggle to avoid such macro-economic impacts as they will affect the entire portfolio of assets (Economist Intelligence Unit 2015).

1.5 TOOLS TO ASSESS CLIMATE-RELATED FINANCIAL RISK AND CLIMATE ALIGNMENT

Over recent years, accelerating more recently, a variety of climate assessment metrics have been developed (e.g. carbon footprint and carbon intensity, green/brown exposure metrics, climate scores, portfolio avoided emissions, % of alignment with a given climate scenario, technology exposure, production forecasts, etc.). These approaches were traditionally based on historic point-in-time data, and are therefore backward-looking (Kepler Cheuvreux et al 2015).

The growing body of evidence on climate-related financial risk has sparked a wide-ranging discussion amongst investors, policymakers and regulators: this has, in turn, generated a consensus on the urgent need for forward-looking and scenario-based portfolio assessments (see chapter 2.1). Indeed, the oldest and most commonly used metrics currently, that is carbon footprint and carbon intensity metrics, suffer two severe limitations:²

- They are usually backward looking: they are based on greenhouse gas emissions of companies dating back two years, which is of limited relevance in forecasting future emissions as in dynamic markets companies may gradually change their business model, on the basis of their capex plan.³ The TCFD acknowledged the challenges and limitations of footprinting metrics, including that such metrics should not necessarily be interpreted as risk metrics (FSB TCFD 2017b).
- They usually do not answer the question of ‘how much is enough’ – that is whether the carbon footprint/intensity improvement can lead to alignment with the Paris Agreement or not.

“STATIC DISCLOSURE OF CURRENT CARBON FOOTPRINTS IS NOT SUFFICIENT TO REVEAL A COMPANY’S CLIMATE-RELATED FINANCIAL RISKS”

Mark Carney 2016

² For more information see TCFD Annex Implementing the Recommendations of the TCFD, Table 2 Common Carbon Footprinting and Exposure Metrics (FSB TCFD 2017b, p43-44): it provides details on Weighted Average Carbon Intensity, Total Carbon Emissions, Carbon Footprint, Carbon intensity and Exposure to Carbon-related Assets from a financial institution’s perspective (ie the metrics are tailored to the financial sector). Carbon footprinting is in tons of greenhouse gas emissions per year; carbon

intensity is a function of carbon emissions adapted by sector: emissions per ton of product (e.g. steel, cement), per kWh produced (utilities), per km (transport), per million invested (investment), etc.

³ It is becoming possible with most recent methodologies to use forward looking carbon footprinting metrics.

This has led to the development of two additional and complementary sets of methodologies:

- **Climate risk exposure:** this is an investment approach focusing on risks - and opportunities -. Assessing the climate-related value at risk in the investment portfolio is increasingly important for asset owners given its order of magnitude (see chapters 1.2 and 1.4).
- **Climate alignment:** this approach assesses how investment portfolios are consistent with and contribute to the public policy objective of climate mitigation in the Paris Agreement – that is to ensure that global warming stays well below 2°C, aiming for 1.5°C.

Each methodology can use different approaches (e.g. top-down portfolio analysis versus bottom-up security/sector analysis) and rarely covers all asset classes. There is currently not one methodology that is able to capture all relevant issues for asset owners but the market is now evolving very rapidly.

Figure 8 aims to capture the very dynamic climate assessment metrics space: it divides methodologies into three categories (risk assessment, alignment assessment and other assessments) and sets out the key features (organisations, asset classes covered, strength/weaknesses) for each methodology or group of methodologies.



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Photovoltaic solar power station near Guadix, Andalucia, Spain.

FIGURE 8 OVERVIEW OF CLIMATE ASSESSMENT METHODOLOGIES (WWF ANALYSIS ADAPTED FROM 2° INVESTING INITIATIVE 2016B)

	NAME OR TYPE	DESCRIPTION	STRENGTHS	WEAKNESSES
CLIMATE RISK	Climate TRIP	This tool was developed by Mercer. It is commercially available and enables assessment of climate-related risks across asset classes at portfolio level	Forward-looking nature, integrates a comprehensive set of risk factors (both physical and transition risks)	Sector-specific exposure is only estimated for public equity, with limited granularity
	Cicero	This tool categorises climate risks for investors; the tool for assessing physical climate risk (ClimINVEST) is not yet available	Builds on climate scenario analysis, forward-looking nature	Limited granularity of climate risk categories for investors
	Carbon delta	This tool calculates the climate Value at Risk of companies and is commercially available since end 2016	Forward-looking nature, across all sectors	Limited granularity
	Energy transition risk	This tool is being developed by 2° Investing Initiative, as part of a research consortium with seven organisations (several deliverables are not yet available), and focuses on the energy transition risk of seven sectors	Forward-looking nature, sophisticated and granular metrics	Limited to equities and bonds
CLIMATE ALIGNMENT	Sustainable Energy Investment Metrics (SEIM)	This tool was developed by 2° Investing Initiative, as part of a research consortium with seven organisations. It is commercially available and free. The tool currently covers four sectors (power sector, oil & gas, coal mining, automotive) in public equity portfolios, and further coverage (aviation, shipping, cement, steel) and asset class (corporate bonds) is under development	Forward-looking nature, free, bottom-up asset-level data approach and flexibility that allows the use of different emission reduction scenarios	Only available for a limited number of sectors and for the public equity asset class
	Exane	This tool has been developed by BNP Paribas. Analysis is bespoke, and covers five public equity sectors (utilities, automotive, materials, retail, real estate)	Forward-looking nature	Relies on past trends or declared company targets instead of asset level data
OTHER	Carbon footprint	This tool has been developed and fine-tuned by multiple organisations, and currently commercially available through many channels (e.g. CDP, Ecofys, MSCI, South Pole Group, Trucost, etc.)	Road-tested and widely available, can be used for all sectors and several asset classes.	Backward-looking, and therefore not providing very relevant information to asset owners on how they can adapt their portfolios to climate-related financial risks; cannot be used for measuring green exposure; coverage of several asset classes remains bespoke
	Green/brown exposure	This covers a group of tools that assess technology exposure by sector on the basis of metrics like company revenue, R&D, capital expenditure plans. It is currently offered by multiple organisations (e.g. MSCI, Carbone 4, Bloomberg, Trucost, Oekom, Inrate, South Pole Group, FTSE LCE, Profundo, etc.)	Easy to implement, can be applied across asset classes. Can be used to track current (e.g. revenues) or forward-looking (e.g. R&D, capital expenditure plans), and data are generally of high quality as it stems from company reporting.	Binary distinction masks the actual impact or relative 'greenness' of different activities. Technology exposure does not necessarily correlate to carbon risk exposure, nor identifies opportunities
	Climate scores	This covers a group of tools that provides qualitative scores to companies on climate issues – often combining above-mentioned carbon footprinting, green/brown exposure with other ESG analysis. Different tools are currently on the market (e.g. MSCI, Oekom, Solaron, Trucost, South Pole Group, Inrate, Carbone 4, Vegeo, Eiris, FTSE, Sustainalytics, etc.)	Combine different approaches into one	Backward-looking, poor correlation to climate-related risks and opportunities
	Portfolio avoided emissions	These tools aim to respond to inability of carbon footprinting to track green investments, by tracking greenhouse gas emission reductions from an assumed baseline	Ability to measure green investments	No standard method to identify baseline or common understanding of definition for avoided emissions. Analysis is therefore bespoke and generally not comparable

**“INCREASING
TRANSPARENCY MAKES
MARKETS MORE
EFFICIENT, AND
ECONOMIES MORE STABLE
AND RESILIENT”**

Michael Bloomberg, Chair
of the FSB TCFD, 2016

1.6 THE WWF VIEW

WWF believes that leading asset owners can better understand the climate-related financial risks and opportunities in their investment portfolios using the tools already available; the use of such tools should be mainstreamed. However, the toolbox is still incomplete and more methodological work is required.

Disclosure of the results will send a critical signal to peers and the full investment chain, to portfolio companies and policy makers, and help to inform and educate asset owners’ members and beneficiaries; at the macroeconomic level it contributes to better-informed economic decisions and increased stability.

WWF RECOMMENDS ASSET OWNERS TO:

- Assess the evidence of climate-related financial risks and opportunities: extensive research shows these to be significant and multi-faceted, across all asset classes and all time frames.
- Measure and publish both the climate risk exposure and the climate alignment of their portfolio, using a few available complementary tools enabling forward-looking climate scenario analysis at portfolio level. This will strengthen asset owners understanding of the climate-related financial risks and opportunities contained in – and available to – investment portfolios, thereby enabling enhanced strategy development and portfolio performance monitoring. The analysis will likely indicate that action is required on several levels (investment policy, strategic asset allocation, portfolio construction, sector-specific analysis and security selection). WWF believes that such action will contribute to fulfilling fiduciary duties (see chapter 2 Box 1).

REGULATION AND POLICY

2.1 THE FINANCIAL STABILITY BOARD'S (FSB) TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES (TCFD)

The strong global consensus around climate goals embodied in the Paris Agreement and the mounting evidence of climate-related financial risks have generated increased attention from regulators and policy makers. The TCFD has been particularly instrumental in forging convergence across industry and G20 governments on climate-related financial risk. The TCFD's final recommendations cover – amongst other issues – definitions of climate-related risks/opportunities, guidance on key features of climate-related risk disclosure, and recommendations on the use of forward-looking scenario analysis.

Climate-related risks	<p>The TCFD (FSB TCFD 2017a) has established a consensus on the taxonomy of climate-related financial risks and opportunities, forged on the basis of the long-standing research-based discussion on the climate risk typology (e.g. Mercer 2015, UNEP-FI et al 2015, UNEP-Inquiry 2015). The TCFD final recommendations divide risk into two categories:</p> <ul style="list-style-type: none"> • Physical risks covers first-order risks which arise from weather-related events. These can be acute (extreme weather events) or chronic (change in precipitation patterns, rising mean temperatures or rising sea levels, etc.). Impacts can be direct (e.g. damage to property) or may arise indirectly through subsequent events (e.g. disruption of global supply chains or resource scarcity, Bank of England 2015). Physical risks are the most studied, although the impacts and order of magnitude remain unclear. • Transition risk covers the risks that arise from the transition to a low carbon economy. In financial terms, this risk factor is mainly about the potential re-pricing of carbon-intensive financial assets, and the speed at which any such re-pricing might occur (Bank of England 2015). The TCFD divides this risk into policy and legal, technology, market and reputation risk. Transition risk is seen as the major risk in terms of magnitude, but also the most complex to define (Carney Mark 2016, Portfolios Carbon Initiative 2015): studies are usually limited to specific sectors, and risks appear to be lower if companies are actively considering potential implications of the global transition to a lower carbon economy (Bank of England 2015). <p>Some studies attach more importance to the legal transition risk, by identifying it as a separate liability risk. Parties who have suffered loss from climate change may then seek compensation from those they hold responsible (Bank of England 2015). Analysis indicates that:</p> <ul style="list-style-type: none"> • Listed US based companies that were fined for corporate environmental violations see a long-term impact on their stock performance. Corporate liability risk can thus have an impact on asset owners' return on investment (Deep Rupina and Hoepner G.F 2017).
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- UK pension funds are legally required to consider whether financial risk from climate change is financially material, and must take it in account in their decision-making if they conclude it is – even if the risk does not have an immediate impact on investment return. Pension funds that fail to respond to this legal requirement are therefore themselves subject to liability risk (Bryant Keith QC and Rickards James 2016, ClientEarth 2016, Center for International Environmental Law 2016).
- In Australia, the regulator (APRA) has highlighted that funds should be cognisant of climate change risk. Legal procedures have been initiated by shareholders of the Commonwealth Bank for failing to give a true and fair view of its financial position, as required by the Corporations Act, by not adequately disclosing the risk that climate change poses to its business (Lexology 2017).

The liability risk is assumed to become more significant as science and evidence of climate change harden (Carney Mark 2016).

Importantly, these three types of risks are fundamentally different, only linked by their relationship to climate change. Significant differences relevant to their assessment include the overall state of knowledge, geographical and temporal dimensions, affected industries, and the expertise needed to quantitatively assess them (WRI, UNEP FI 2015a; 2° Investing Initiative 2016a).

Climate-related opportunities

The TCFD has also identified climate-related opportunities, which it states will vary depending on the region, market and industry in which an organisation operates. These opportunities arise in resource efficiency, renewable energy sources, low-emission products and services, diversification of activities and pro-active seeking and developing of new markets and types of assets, and designing new products and production processes to increase resilience and adaptive capacity to climate change (FSB TCFD 2017a).

Climate-related risk disclosure

The TCFD provides important guidance (see Figure 9) on how companies and investors can assess and disclose climate-related financial risks, and encourages reporting to be provided in mainstream (i.e. public) annual financial filings.



FIGURE 9. TCFD RECOMMENDATIONS ON CLIMATE-RELATED RISK DISCLOSURE FOR ALL SECTORS (FSB TCFD 2017A)

GOVERNANCE	STRATEGY	RISK MANAGEMENT	METRICS AND TARGETS
DISCLOSE THE ORGANISATION'S GOVERNANCE AROUND CLIMATE-RELATED RISKS AND OPPORTUNITIES.	DISCLOSE THE ACTUAL AND POTENTIAL IMPACTS OF CLIMATE-RELATED RISKS AND OPPORTUNITIES ON THE ORGANISATION'S BUSINESSES, STRATEGY, AND FINANCIAL PLANNING WHERE SUCH INFORMATION IS MATERIAL.	DISCLOSE HOW THE ORGANIZATION IDENTIFIES, ASSESSES, AND MANAGES CLIMATE-RELATED RISKS.	DISCLOSE THE METRICS AND TARGETS USED TO ASSESS AND MANAGE RELEVANT CLIMATE-RELATED RISKS AND OPPORTUNITIES WHERE SUCH INFORMATION IS MATERIAL.
Recommended Disclosures	Recommended Disclosures	Recommended Disclosures	Recommended Disclosures
a) Describe the board's oversight of climate-related risks and opportunities.	a) Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.	a) Describe the organisation's processes for identifying and assessing climate-related risks.	a) Describe the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.
b) Describe management's role in assessing and managing climate-related risks and opportunities.	b) Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.	b) Describe the organisation's processes for managing climate-related risks.	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse (GHG) emissions, and the related risks.
	c) Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.	c) Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets.

The TCFD also provides specific guidance to asset owners (see Figure 10), stating that: “by encouraging climate-related financial disclosures by asset owners, beneficiaries and other stakeholders will be in a position to better understand exposures to climate-related risks and opportunities. Further, climate-related financial disclosures by asset owners may encourage better disclosures across the investment chain—from asset owners to investment managers to underlying companies—thus enabling all organisations and individuals to make better-informed investment decisions.”

This specific guidance for asset owners focuses on six areas out of eleven set out in the recommendations for all sectors.

FIGURE 10. TCFD SUPPLEMENTAL GUIDANCE FOR ASSET OWNERS (FSB TCFD 2017B)

STRATEGY		RISK MANAGEMENT		METRICS AND TARGETS	
DISCLOSE THE ACTUAL AND POTENTIAL IMPACTS OF CLIMATE-RELATED RISKS AND OPPORTUNITIES ON THE ORGANIZATION'S BUSINESSES, STRATEGY, AND FINANCIAL PLANNING WHERE SUCH INFORMATION IS MATERIAL.		DISCLOSE HOW THE ORGANIZATION IDENTIFIES, ASSESSES, AND MANAGES CLIMATE-RELATED RISKS.		DISCLOSE THE METRICS AND TARGETS USED TO ASSESS AND MANAGE RELEVANT CLIMATE-RELATED RISKS AND OPPORTUNITIES WHERE SUCH INFORMATION IS MATERIAL.	
Recommended Disclosures		Recommended Disclosures		Recommended Disclosures	
a) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	b) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	a) Describe the organization's processes for identifying and assessing climate-related risks.	b) Describe the organization's processes for managing climate-related risks.	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.
<ul style="list-style-type: none"> Asset owners should describe how climate-related risks and opportunities are factored into relevant investment strategies. This could be described from the perspective of the total fund or investment strategy or individual investment strategies for various asset classes. 	<ul style="list-style-type: none"> Asset owners that perform scenario analysis should consider providing a discussion of how climate-related scenarios are used, such as to inform investments in specific assets. 	<ul style="list-style-type: none"> Asset owners should describe, where appropriate, engagement activity with investee companies to encourage better disclosure and practices related to climate-related risks to improve data availability and asset owners' ability to assess climate-related risks. 	<ul style="list-style-type: none"> Asset owners should describe how they consider the positioning of their total portfolio with respect to the transition to a lower-carbon energy supply, production, and use. This could include explaining how asset owners actively manage their portfolios' positioning in relation to this transition. 	<ul style="list-style-type: none"> Asset owners should describe metrics used to assess climate-related risks and opportunities in each fund or investment strategy. Where relevant, asset owners should also describe how these metrics have changed over time. Where appropriate, asset owners should provide metrics considered in investment decisions and monitoring. 	<ul style="list-style-type: none"> Asset owners should provide the weighted average carbon intensity, where data are available or can be reasonably estimated, for each fund or investment strategy. In addition, asset owners should provide other metrics they believe are useful for decision making along with a description of the methodology used. <i>See note</i>

Note: The Task Force acknowledges the challenges and limitations of current carbon footprinting metrics, including that such metrics should not necessarily be interpreted as risk metrics. The Task Force views the reporting of weighted average carbon intensity as a first step and expects disclosure of this information to prompt important advancements in the development of decision-useful, climate-related risk metrics. The Task Force recognizes that some asset owners may be able to report weighted average carbon intensity for only a portion of their investments given data availability and methodological issues.

Forward-looking scenario analysis

The TCFD encourages the production of forward-looking information through climate scenario analyses, which it considers a useful tool for enhancing resilience and flexibility of strategic plans. It also believes such information is important for investors and other stakeholders in understanding how vulnerable individual organisations are to climate-related risks, and how such vulnerabilities are or would be addressed (see Figure 11). The TCFD highlights the importance of climate scenario analysis by publishing a full Technical Supplement on the use of scenario analysis (FSB TCFD 2017c).

FIGURE 11. REASONS TO CONSIDER USING SCENARIO ANALYSIS FOR CLIMATE CHANGE (FSB TCFD 2017A)

1	<p>Scenario analysis can help organizations consider issues, like climate change, that have the following characteristics:</p> <ul style="list-style-type: none"> • Possible outcomes that are highly uncertain (e.g. the physical response of the climate and ecosystems to higher levels of GHG emissions in the atmosphere) • Outcomes that will play out over the medium to longer term (e.g. timing, distribution, and mechanisms of the transition to a lower-carbon economy) • Potential disruptive effects that, due to uncertainty and complexity, are substantial
2	<p>Scenario analysis can enhance organizations’ strategic conversations about the future by considering, in a more structured manner, what may unfold that is different from business-as-usual. Importantly, it broadens decision makers’ thinking across a range of plausible scenarios, including scenarios where climate-related impacts can be significant.</p>
3	<p>Scenario analysis can help organizations frame and assess the potential range of plausible business, strategic, and financial impacts from climate change and the associated management actions that may need to be considered in strategic and financial plans. This may lead to more robust strategies under a wider range of uncertain future conditions.</p>
4	<p>Scenario analysis can help organizations identify indicators to monitor the external environment and better recognize when the environment is moving toward a different scenario state (or to a different stage along a scenario path). This allows organizations the opportunity to reassess and adjust their strategies and financial plans accordingly.</p>
5	<p>Scenario analysis can assist investors in understanding the robustness of organizations’ strategies and financial plans and in comparing risks and opportunities across organizations.</p>

The TCFD recognises that there are challenges to incorporating scenario analysis into strategic planning processes, and that this will be a ‘learning by doing’ process. It highlights areas for further work in this regard: further developing 2°C or lower transition scenarios, developing broadly accepted methodologies/data sets/tools for scenario-based evaluation, making these datasets and tools publicly available, and creating more industry specific guidance for preparers and users of climate-related scenarios.

Reception of TCFD recommendations

“THE TCFD (...) IS WIDELY REGARDED BY OUR INTERVIEWEES AS HAVING THE clearest MANDATE TO PROVIDE POSSIBLE SOLUTIONS”

The G20 July 2017 meeting in Hamburg extended the mandate of the TCFD to September 2018 in order for it to monitor the implementation of its recommendations.

Over 100 firms worth \$2tr in annual revenues, together with 390 investors responsible for assets of about \$25 trillion have publicly committed to support the recommendations of the TCFD (FSB TCFD 2017d).

In addition, fourteen banks representing over \$7 trillion will work together with UNEP FI to develop analytical tools and indicators to strengthen their assessment and disclosure of climate-related risks and opportunities (UNEP-FI 2017).

The Economist Intelligence Unit 2017

2.2 EUROPEAN UNION

EU High-Level Expert Group on sustainable finance

At the European level, a High-Level Expert Group (HLEG) on sustainable finance has been set up by the European Commission and is mandated to propose an EU sustainable finance strategy. Climate change is one of the most prominent issues on the HLEG's agenda.

The HLEG group published an interim report in July 2017 and will provide final recommendations by December 2017. Importantly, the interim report already provides eight early recommendations “in the spirit of highlighting early policy orientations” (EU HLEG 2017). They notably include the following ones, that are partly or fully relevant for asset owners:

- **Recommendation 3. Fiduciary duty that encompasses sustainability:** It “recommends regulatory authorities make clear to all involved in the investment and lending chain that the consideration and management of environmental, social and governance (ESG) risks is integral to fulfilling fiduciary duty, acting loyally to beneficiaries and operating in a prudent manner”.
- **Recommendation 4. Disclosure for sustainability:** It focuses on climate-related financial disclosure as part of broader sustainability disclosure: “The recent TCFD recommendations should be integrated in a way that advances EU leadership on these areas, while providing legal certainty and maintaining a level playing field globally. The 2018 review of the Non-Financial Reporting Directive represents an opportunity. (...) Forward-looking information such as relevant climate scenario analysis should be encouraged”.
- **Recommendation 5. A sustainability test in financial legislation:** “It would be useful to develop a ‘sustainability test’ to ensure that sustainability is embedded across all future EU financial regulations and policies”.
- **Recommendation 7. Position the European supervisory agencies on sustainability:** “The current review of the ESA operations provides an excellent opportunity to clarify and enhance their role in assessing ESG-related risks”.

The European Commission stated that it ‘will decide by Q1 2018 at the latest on the concrete follow-up that it will give to the recommendations of the High-Level Expert Group on Sustainable Finance’ (European Commission 2017a). It is expected to set up an EU sustainable finance strategy on the basis of the HLEG recommendations.

EU regulations

Several EU regulations already require, or will once transposed, investors to disclose material ESG information, covering their impacts and their engagement policy.

- **The Institutions for Occupational Retirement Provisions Directive (IORPs II) (2016/2341/EU)**, overseeing €3.2 trillion of assets on behalf of 75 million Europeans⁴, requires pension funds to consider risks related to climate change, such as stranded assets, together with other ESG factors when making investment decisions in order to protect savers. It is the first European law that regulates this kind of risk. After a two-year transposition process the law will enter into force at national level on 13 January 2019.

⁴ Source : European Commission.

“THE COMMISSION
 SUPPORTS ALIGNMENT OF
 PRIVATE INVESTMENTS
 WITH CLIMATE (...)
 OBJECTIVES, BOTH
 THROUGH POLICY
 MEASURES AND PUBLIC
 INVESTMENT”

The European Commission
 2016

- **The Shareholder Rights Directive** (2017/828/EU) requires institutional investors to not only publicly disclose their engagement policy, but also publicly disclose annually how it has been implemented. The engagement policy needs to describe how investors monitor portfolio companies on financial and extra-financial performance, including social and environmental impact and corporate governance. Institutional investors will also have to disclose how their equity strategies align with the profile and duration of their liabilities, particularly long-term liabilities, and how they incentivise and monitor asset managers to do the same (PRI 2016). The newly adopted Directive will complement and reinforce the Non-Financial Reporting Directive, so that shareholders will have better access to information disclosed by companies: this is key to their engagement and stewardship. After a two-year transposition process the law will enter into force at national level on 9 June 2019.
- **The Non-Financial Reporting Directive** (2014/95/EU) amends the Accounting Directive (2013/34/EU). It requires relevant companies (i.e. undertakings which are public-interest entities and whose average number of employees exceeded 500) to disclose in their management report information on policies, risks and outcomes with regards to: environmental matters, social and employee aspects, respect for human rights, anticorruption and bribery issues, and diversity in their board of directors. The directive will help investors by making more relevant information available from a larger number of European companies. Implementation of the Directive therefore represents a significant step forward for European and international investors who seek timely, material, comparable and forward-looking information on non-financial risks and opportunities in order to make better informed investment decisions. The scope of the Directive covers insurance companies, banking companies and more. The law entered into force at national level on 6 December 2016.

Guidelines on non-financial reporting have been published by the Commission in July 2017 as a methodology to guide companies’ non-financial reporting (European Commission 2017b). They explicitly refer to the TCFD recommendations.

2.3 NATIONAL

There are many initiatives ongoing at national level regarding climate risk disclosure:

- **France** introduced the first mandatory climate disclosure requirements for institutional investors (defined as asset owners and investment managers) as part of Article 173-VI of the French Energy Transition Law. This law requires institutional investors to report on the risks generated by climate change, their contribution to the international goal of limiting climate change, more broadly on the integration of environmental and social parameters in their investment policies, and their contribution to the realisation of the ecological and energy transition. This Article will require investors to develop more extensive reporting on investment policies, exposure to climate-related financial risks, greenhouse gas emissions of financial assets and alignment of investments with the climate goal (2° Investing Initiative 2015).

- In the **UK**, the Law Commission has recommended the UK Pensions Regulator (UK tPR) to take into account ESG risk to investors. The tPR has brought its code of conduct (DC code) in line with the EU Directive on pension funds (IORPs II), and included guidance on considering ESG factors when making investment decisions (The Pensions Regulator 2016b). It has also warned trustees against complacency when assessing ESG issues within portfolios over the long-term. It should be noted that the Pensions Regulator governs trust-based schemes (not contract-based ones) and that it has issued guidance on both Defined Benefit and Defined Contribution funds in this area.
- The **Dutch central bank** (DNB), in 2016, conducted a study on Dutch pension funds and sustainable investing (De Nederlandsche Bank 2016). The impetus for this study was an amendment to the Pensions Act requiring a pension fund to disclose, in its annual report, its investment policy towards the environment, climate change, human rights and social relations (Pensions Act § 135-4). The study mentions that further international standardisation of ESG factors will help to improve a pension fund's understanding of the potential impact of such factors on its investments.
- **In the USA**, the Department of Labor issued a 2015 interpretive bulletin interpreting the Employment Retirement Income Security Act (ERISA), which establishes standards for pension plans in private industry: it clarified that environmental, social and governance (ESG) investing, impact investing, and economically targeted investing (ETI) are not prevented by the law nor are pension funds prohibited from considering ESG factors in investment decisions (Department of Labor 2015). It was specified that ERISA encourages fiduciaries to consider factors that potentially influence risk and return and that ESG issues, including climate change, may have a direct relationship to the economic value of the plans' investments.

“ALIGNING INVESTMENT PORTFOLIOS WITH INTERNATIONAL GLOBAL WARMING CONTAINMENT OBJECTIVES IS CENTRAL TO HOW INVESTORS DELIVER ON THEIR FIDUCIARY DUTIES”

Philippe Desfossés, CEO
 ERAFP (PDC 2016)

BOX 1. FIDUCIARY DUTIES AND CLIMATE CHANGE: LIKELY CLARIFICATIONS AND REQUIREMENTS SOON

The most important fiduciary duties to protect beneficiaries from abuse by institutional investors are the duty of loyalty (act in good faith in the interests of beneficiaries) and the duty to act prudently (act with due care, skill and diligence, and avoid speculative and unduly risky investments).

For the **Economist Intelligence Unit**, “climate change is likely to represent an obstacle for many asset owners to fulfil their fiduciary duties. (...) If fiduciaries are aware of the extent of climate risk to the long term value of their portfolio, then it could be argued that to ignore it is a breach of their fiduciary duties. Indeed, fiduciaries arguably have an obligation to reduce the climate-related risks embedded in their portfolios” (Economist Intelligence Unit 2015).

For **Mercer**, the fact that the 2°C scenario “does not result in a drag on investment returns compared with the other scenarios means that fiduciary duties can align short term and long term behaviour around investing and engaging for the 2°C outcome” (Mercer 2015).

The **Center for International Environmental Law** considers that climate change should be considered an independent risk variable when making investment decisions, and it will trigger the obligations of pension fund fiduciaries. It therefore developed nine questions pension fund fiduciaries should ask their lawyer on the issue (Center for International Environmental Law 2016).

A **European Commission** study shows that no legal framework in the EU or any of its Member States limits institutional investors from taking relevant ESG issues into account in their investment decisions.

The European Commission also notes, however, that “institutional investors have traditionally interpreted fiduciary duties narrowly as focusing solely on maximising the financial returns often through short- and medium-term investments – without regard to environmental or social issues”.

The current EU framework has therefore been considered insufficient – and several legislations have recently been passed that will require institutional investors to integrate, assess and disclose their ESG integration – in particular related to climate change. This involves most notably the IORPs II and the Shareholders Rights Directives.

In addition, the above-mentioned recommendations from the **EU High-Level Expert Group on sustainable finance** will likely, if followed by the European Commission in the first half of 2018, bring further clarification that fiduciary duties explicitly include climate-related financial risk management – and potentially impose related requirements for investors to assess and mitigate such risks. WWF believes that climate leaders among the asset owner community are already well prepared, but that others should better anticipate the likelihood of upcoming changes.

WWF believes that notwithstanding the lack of complete certainty, enough is known about the possible financial implications to portfolios. Asset owners that are acting in the best interests of members and beneficiaries and exercising due care and diligence should be incorporating such considerations into investment decision-making processes.

2.4 THE WWF VIEW

Given the high level of consensus reached on the industry-led TCFD recommendations, WWF believes that they may rapidly become the “new normal” of climate-related financial disclosure: WWF strongly supports such a way forward and stresses the TCFD emphasis on forward-looking climate scenario analysis.

The forthcoming obligations of the IORPs II and the Shareholders Rights Directives – combined with the rapidly evolving regulatory and policy context at the global, European and national level – increase the likelihood of mandatory climate and wider ESG-related disclosure requirements: this will include climate-related elements of the investment strategy, targets, engagement policy, etc. Prudent asset owners will want to be ahead of the curve.

WWF RECOMMENDS ASSET OWNERS TO:

- Anticipate regulatory obligations to assess climate-related financial risks and opportunities and climate alignment, given the rapidly evolving regulatory and policy context at global, European and national levels.
- To prepare for this, implement the TCFD recommendations as from the 2018 reporting cycle: start by assessing and disclosing climate-related financial risks and opportunities, and continue by integrating those risks and opportunities in the investment policies and processes. WWF provides more detailed guidance on these issues in chapter 5, building on existing strategic advice from financial sector actors (chapter 3) and good practices from asset owners (chapter 4).

3.



STRATEGIC ADVICE FROM FINANCIAL SECTOR ACTORS

This chapter focuses on the advice from investment consultants, other service providers and investor coalitions on the investment strategy (beliefs, policies, targets, processes and portfolio implementation) of asset owners and how the investment strategy can integrate the climate change issue.

3.1 INVESTMENT CONSULTANTS

Asset owners often turn to investment consultants for advice on questions of strategic importance. Climate change is a strategic risk (see chapter 1.1 to 1.4) that investment consultants have started to address, and some have done considerable work in this area. Hence, asset owners can benefit from their analysis, advice and services.

Mercer has done ground-breaking research on climate-related financial risks and opportunities at portfolio level (Mercer 2015, see chapter 1.4). It has developed a tool that allows assessment of individual portfolio exposures to asset classes and industry sectors most sensitive to climate change on the basis of four risk factors (technology, resource availability, impact and policy). Mercer encourages investors to position their portfolios according to climate-related financial risks by implementing a four step integrated approach:

- Developing **climate-related investment beliefs** at board/trustee level to establish a shared understanding and formal strategic approach to oversee climate risk across internally and externally managed investments.
- Adopting **investment policies** that reflect the approach to climate change – including references to risk management techniques, targets for financial returns, constraints and measures of compliance, engagement objectives/priorities, and related resources.
- Putting in place systemic and portfolio specific **processes** – including the incorporation of climate risk into investment procedures (e.g. risk management procedures, investment manager selection/monitoring) and the pooling of resources with other investors (e.g. by joining collaborative industry initiatives).
- Implementing the above at **portfolio** level – including portfolio risk assessment, risk reduction strategies, identification of opportunities, engagement with investment managers, and engagement with companies.

Cambridge Associates identifies four strategies to reduce climate-related financial risks: engagement through delegation to managers; engagement through advocating for more transparency and reporting on climate risk metrics; proactive hedging via low-carbon index products, derivatives, or use of active management; and policy-level exclusion of fossil fuel and other sectors. Their analysis also identifies five climate-related opportunities: renewable infrastructure, clean transportation, smart energy, energy efficiency in buildings, and water and agricultural efficiency (Cambridge Associates 2015).

“LONG-TERM INVESTORS
WOULD BENEFIT FROM
RECOGNIZING AND
INTEGRATING CLIMATE
CHANGE AS A REAL
ECONOMIC FACTOR
IN POSITIONING
PORTFOLIOS FOR THE
FUTURE”

Cambridge
Associates 2015

Investment consultants have also offered more focused advice on how investors can address fossil fuel exposure:

- **Cambridge Associates** has discussed the merits of fossil fuel divestment and its implications on portfolio construction. Their discussion paper addresses the need to: have a good governance structure in place; measure the exposure of portfolios to fossil fuels; and always consider a bespoke strategy that aligns with the organisation's objective – including alternative strategies like low-carbon investment and engagement (Cambridge Associates 2014).
- **Willis Towers Watson** has studied the risk of stranded assets from fossil fuels (both generally and at the asset class level) and identifies four investor responses: engage, adjust risk, hedge and divest. It continues by setting out key steps that investors can take: define investment beliefs, assess carbon exposure, define a strategy on the basis of a cost/benefit analysis, facilitate communication with stakeholders, monitor and review (Towers Watson 2015).
- **Russell Investments** has set out a menu of options for investors to address risk from fossil fuels, which it considers are not necessarily mutually exclusive: engagement, divestment, proactive investment, inaction. The approach chosen by the investor should follow an evaluation and documentation around fossil fuel and broader sustainable investing issues (Russell Investments 2015).

BOX 2. ALIGNING INVESTMENT BELIEFS WITH THE PARIS AGREEMENT: AN APPROACH BY CAMBRIDGE ASSOCIATES

Investment consultants consistently recommend asset owners to formulate climate-related investment beliefs, as the first step of a top-down approach to integrate climate risks and opportunities in their investment portfolios. Cambridge Associates has recently published concrete guidance on how asset owners can formulate such investment beliefs in line with the climate targets of the Paris Agreement (Cambridge Associates 2017):

- **Paris Agreement mitigation target (article 2.1a):** Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change.

Sample language proposed by Cambridge Associates: We acknowledge the risk of global warming and commit to understanding how our activities contribute to its causes, and determining what actions we can take to foster lower carbon emissions, enable the development of new industries and technologies that serve this priority and do so in a manner that is consistent with our investment objectives.

- **Paris Agreement adaptation target (article 2.1b):** Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production.

Sample language proposed by Cambridge Associates: We believe that risk management is critical to investment success and acknowledge that the mitigation of climate risks is beneficial to both society and financial assets. Accordingly, we will study and incorporate these risk parameters within our investment criteria.

- **Paris Agreement finance target (article 2.1c):** Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.

Sample language proposed by Cambridge Associates: We will actively seek and procure investments that are consistent with: the transition towards a global low-carbon economy, the cultivating of resilient enterprises and communities, and our high standards for investment rigor and diligence.

Specifically, investment consultants have provided strategic advice for passive investors. Mercer has adapted its four-factor framework for actively managed strategies and created a specific four-factor framework for passive managers in their active ownership activities to focus on the following: 1. Voting and engagement process; 2. Resources and implementation; 3. ESG integration and internal initiatives (focus on ESG initiatives within the business); 4. Industry-collaboration and firm-wide activities (Mercer 2014). This can obviously apply to climate-related issues.

3.2 OTHER FINANCIAL SERVICE PROVIDERS

MSCI has undertaken analysis on how investors can take account of carbon risk (MSCI 2015) and the impact of divestment strategies (MSCI 2016):

- They identify four key parameters that will influence an investor strategy: short-term risk (i.e. appetite for deviating from the benchmark), long-term thesis (i.e. amending risk/return investment analysis to integrate investment beliefs about long-term climate-related risks), stakeholder communication (i.e. importance to respond to external pressure) and public stance (i.e. how to balance being a universal owner who cannot diversify away long-term risks with public action – for example engagement with companies or selective divestment).
- They present two strategies (re-weighting and selection), and conclude that “approaches based on divesting certain sectors effectively can help asset owners communicate their concerns about the risks of climate change to stakeholders. However, they ignore short-term benchmark risk (...). With the use of more sophisticated techniques, investors can now explore index-based approaches that aim to reduce short-term risk as well as the long-term risk associated with carbon exposure” (MSCI 2015).
- More detailed research on the impact of divestment strategies shows, however, that investors can tailor divestment criteria to their needs (narrow/large scope) and that “performance, risk and return were not necessarily negatively affected” (MSCI 2016).

3.3 INVESTOR-LED ANALYSIS

Investor-led initiatives have published detailed guides on how asset owners can integrate climate-related financial risks and opportunities.

The **Global Investor Coalition on Climate Change (GICCC 2015a)**

– which groups regional investor coalitions from Europe (IIGCC), the USA (Ceres), Australia and New Zealand (IGCC) and Asia (AIGCC):

- Encourages asset owners to undertake a **strategic review**. Such review needs to start with an evaluation of evidence (physical impacts, policy trajectory, carbon price and technology development and deployment); and engagement with policy makers and members and beneficiaries. Asset owners are then advised to define investment beliefs (e.g. about most likely future climate change scenario and how to manage its impacts); consider investment constraints (e.g. regulation, fund size/resources, active/passive or internally/externally managed assets); develop policies; and set targets.

- Encourages integrating climate-related investment beliefs and policies into **Strategic Asset Allocation (SAA)**, which allows top-down integration instead of employing a case-by-case bottom-up approach to climate change. Asset owners are encouraged to review assumptions (e.g. risk of lower returns and higher volatility on high carbon assets); measure and reduce/increase exposure to risks/opportunities within existing SAA targets (e.g. shift passive investments to low carbon benchmarks, engage with fund managers and companies, replace existing fund managers and invest in new priority areas etc.); and prioritise to evolve SAA targets (e.g. set targets to increase exposure to infrastructure, real estate, private equity, etc. within a set timeframe).
- Outlines a number of actions that asset owners can take to **reduce the carbon intensity of existing portfolio and build exposure to low carbon opportunities**: engage with companies; engage with fund managers; reduce exposure to greenhouse gas emissions (in particular fossil fuels); and identify and match opportunities with SAA targets;
- Develops **sector-specific recommendations** for investors to address high carbon sectors and companies:
 - Oil and gas (GICCC 2014);
 - Mining (GICCC 2015b);
 - Power utilities (GICCC 2016a);
 - Automotive (GICCC 2016b);
 - Real estate (IIGCC et al 2016).

Several climate-related investor coalitions also provide **analysis and benchmarking of peer companies** in a given sector, which are useful tools for asset owners to fine-tune their engagement:

- Oil and gas (Ceres 2016b, GICCC 2017, PRI - Carbon Tracker Initiative 2017, Transition Pathway Initiative 2017);
- Coal mining (CDP 2017b, Transition Pathway Initiative 2017);
- Power utilities (CDP 2017a, Ceres 2016a, Transition Pathway Initiative 2017);
- Cement (Transition Pathway Initiative 2017);
- Steel (Transition Pathway Initiative 2017).

The **UN Principles for Responsible Investment (PRI)**'s climate change strategy project (PRI 2015a) advises asset owners to:

- Measure portfolio exposure to climate risk (e.g. high-carbon sectors, stranded assets, low carbon exposure).
- Gather commitments throughout the investment chain – both internally (e.g. Board, Trustees, Chief Investment Officers, beneficiaries, portfolio managers) and from external portfolio managers (reviewing existing mandates and including climate-related requirements in the selection of managers). The buy in and accountability from Boards and Trustees is particularly critical.
- Choose and execute an investment strategy – for instance engagement with policy makers and companies, investing in low-carbon solutions and/or avoiding high-carbon companies (PRI 2015a). PRI evaluates the pros and cons of each strategy, provides concrete recommendations and introduces good practice examples.

3.4 THE WWF VIEW

While expert financial sector actors may have differing views on investment strategies, they are unanimous on the need for asset owners to develop a top-down approach towards the integration of climate-related risks and opportunities. WWF therefore encourages asset owners to develop a comprehensive strategy, that should include the following elements:

WWF RECOMMENDS ASSET OWNERS TO:

- **Formulate climate-related investment beliefs** which, in the light of the latest climate-related financial analysis (see chapter 1.1 to 1.4), recognise that portfolio alignment with the Paris Agreement will contribute to investing in the best interests of members and beneficiaries and therefore fulfil asset owners' fiduciary duties. The investment chain operates on the basis of investment beliefs or assumptions and in line with this – and although WWF considers the language poorly suited to irrefutable scientific consensus – there is a clear need to expand these investment beliefs to explicitly include climate-related risks. For WWF the only meaningful way forward for asset owners to responds to the risks related to climate change is therefore to commit portfolio alignment with the Paris Agreement.
- **Make portfolio alignment with the Paris Agreement a Board priority** – including explicit attribution of this responsibility within the Board –, and put governance structures in place that ensure proper support and implementation of the policy – including incentive schemes, commitment of resources, capacity building and involvement of members and beneficiaries (see chapters 5.2 and 5.5 for more details).
- **Adopt an investment policy that reflects and implements their climate-related investment beliefs** – including investment targets, strategic asset allocation, engagement objectives, selection criteria and incentives for all service providers, and performance measurement and reporting.
- **Include climate risks and opportunities in strategic asset allocation (SAA)**, including increasing exposure where feasible to alternative asset classes that are more likely to have a direct positive climate impact on the real economy (e.g. infrastructure: grids and renewable energy; real estate: highly energy efficient and resilient buildings; private equity: renewable and energy efficiency companies).
- **Extend their investment policy** to address sectors and technologies that pose particular climate-related risk or offer particular opportunities, and actively follow-up on the implementation of these policies, notably by increasing scrutiny on investment managers.
- **Communicate and report annually** on the implementation of the policy and adopt a proactive review process to incorporate new evidence of climate-related risks and opportunities.



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Flooded car on Cockermouth Main Street, UK.

4.



ASSET OWNER GOOD PRACTICE

4.1 INTRODUCTION

This chapter highlights asset owner good practice. It is organised according to key asset owner roles: learning, decision-making and monitoring. Such good practice is by no means exhaustive. As such it can be read in parallel with the Summary of the WWF Climate Guide to Asset Owners providing 15 topline recommendations.

The Asset Owner Disclosure Project (AODP, merged with ShareAction as from 2017) has tracked the 500 largest asset owners' actions on climate change annually for five years. Its most recent report indicates that in 2017, for the first time, a majority of large asset owners recognise the financial risks of climate change by taking some sort of action – reflecting that climate change has become a mainstream concern (AODP 2017). Moreover, many asset owners have scaled up their activities with a significant increase in both the group of leaders (scored A to AAA) and challengers (scoring B to BBB), showing that a genuine leadership race is occurring.

4.2 LEARNING AND SEEKING ADVICE

Over 120 investors are signatories to the Montréal Pledge, an initiative spearheaded by the UN Principles for Responsible Investment (PRI) and the UNEP Finance Initiative and UN Global Compact. Under it investors commit to measure and publicly disclose the carbon footprint of their investment portfolios (see chapter 4.4 Box 5. Investor coalitions). It is becoming clear, however, that carbon footprinting does not allow for a comprehensive forward-looking assessment of climate-related financial risks and opportunities: a number of more advanced assessment tools have become available (see chapter 1.5), and some asset owners have started to employ these methodologies.

Axa (France) gained an award for its climate-related disclosures from the French Ministry of the Environment and the 2° Investing Initiative at a ceremony in October 2016. As part of their submission, which was made public, Axa presents the results of a variety of climate assessments it has undertaken (Axa 2016):

- Axa has tested the alignment of its equity and corporate fixed income portfolios for key sectors with the 2°C limit, more concretely the 2°C scenario developed by the International Energy Agency (IEA 2°C scenario). Axa used the Sustainable Energy Investment Metrics tool (see chapter 1.5), and also investigated options to improve the 2°C alignment of the corporate fixed income portfolio on the basis of the assessment findings;
- Axa has tested climate-related physical and energy transition risks using various internally developed methodologies. The physical risks were tested on their property and infrastructure portfolios. The energy transition risk was analysed on the basis of regional/national regulation and asset level sensitivity.

The California State Teachers' Retirement System (CalSTRS, US) has, as part of the 2016 annual report of its green initiative task force (CalSTRS 2016), disclosed findings of a climate-risk assessment it has undertaken using Mercer's TRIP model (see chapter 1.5). It has, moreover:

- Highlighted the key recommendations that Mercer formulated on the basis of the assessment result, these being to develop investment beliefs at board level, enhance engagement with external fund managers, increase exposure to sustainability themed equity managers, shift passive public equity exposure to low-carbon themed indices and consider increasing investments in real assets.
- Set out how CalSTRS has taken these recommendations into account: “The Teachers’ Retirement Board acknowledged climate change as a material investment risk many years ago and has been consistently working with staff to mitigate climate risk. This is reflected in efforts such as the ongoing board review of the CalSTRS 21 Risk Factors and the recent board decision to invest in low carbon indices. Additionally, staff is regularly assessing and updating its external manager due diligence efforts and how ESG issues, such as climate change, can be better integrated into those diligence efforts. Finally, staff is in the process of performing a search for “sustainable” external public equity managers, another recommendation made in the Mercer report.”

BOX 3. DISCLOSURE OF HOLDINGS DATA: AN IMPORTANT CONDITION FOR HOLDING ASSET OWNERS ACCOUNTABLE

WWF has itself undertaken extensive research on the alignment of the largest European asset owners’ public equity portfolios in the coal and renewable energy sectors (WWF 2017a). While lack of transparency and disclosure were key obstacles in this research, WWF has identified 26 asset owners in 5 countries (Denmark, Finland, Netherlands, Norway and Sweden) that make comprehensive public equity holdings public and available for analysis, showcasing that transparency of holdings data is indeed possible.

Examples of particularly good practice can be found in Finland (e.g. Varma, Elo, State Pension Fund, Ilmarinen) where the selected asset owners consistently report some or all of the following information:

- Public equity holdings.
- Private equity holdings.
- Bond holdings.
- Infrastructure investments.

The Finnish asset owners’ reporting also stood out in terms of the reporting of additional information, for instance:

- Date for the holdings lists.
- Total number of shares/bonds held.
- Total value of shares/bonds held.
- A breakdown between directly owned assets and assets held in various types of funds.

While the reporting from Finnish funds can lack identifiers (e.g. ISIN codes), which are crucial for conducting financial analysis, examples from Sweden (e.g. AP funds) show that it is also possible to provide this information.

From the examples above, WWF concludes that **it is feasible for asset owners to publish complete and detailed holdings information without being at a competitive disadvantage with peers.**

4.3 DECISION-MAKING

Climate-related investment beliefs and policies

“AVIVA IS DETERMINED TO MAKE ITS OWN CONTRIBUTION TO TACKLING CLIMATE CHANGE. THIS IS NOT AT ODDS WITH BUSINESS OR INVESTMENT. IN FACT, IT IS A BUSINESS IMPERATIVE”

Mark Wilson, Group Chief Executive Officer, Aviva⁵

Axa (France) has set out its position regarding climate change: “Climate change is a direct risk to our business, both on our liabilities - the claims we pay out - and on our assets - the value of our investments. But climate change also presents us with unprecedented opportunities for action. Insurers are well equipped to address climate-related risks. They can fund and promote risk research and education. They possess loss data, as well as models and tools to analyse and project this data. They have a duty to unveil and disseminate knowledge about such new risks, including poorly known threats to society. They can help build greater climate resilience and in bringing about the behaviour changes needed to create a sustainable, low-carbon economy. Through their significant investments, they are also well positioned to send the right signals to the investment community and to specific invested companies.” (Axa 2016). Based on this, the company sees its role as three-fold:

- “Understanding, managing and modelling risk.
- Repairing where there is damage and preventing future damage.
- Through our assets and liabilities: on the one side, providing and pricing risk (and, by doing so, helping influence behaviour); on the other, through where we choose to invest”.

“WE BELIEVE A MULTI-FACETED RESPONSE TO CLIMATE CHANGE IS MOST EFFECTIVE.”

Phil Vernon, Managing Director, Australian Ethical Investment (PDC 2016)

HESTA (Australia) has adopted a climate change policy in which it commits “to ensure that relevant climate change risks and opportunities are incorporated in investment processes and decision making for investments made on behalf of HESTA, in that they are fully reflected in the valuation of any investment” (Hesta 2016). Concretely, the fund identifies six means through which this commitment will be implemented:

- Seeking to understand the impact of relevant climate change risks and opportunities in HESTA’s portfolio and within each of the major asset classes;
- Considering climate change risks and opportunities within the structure of the portfolio;
- Considering climate change in the selection of external investment managers appointed to manage HESTA’s investments – and incorporating climate change into the Investment Management Agreements that HESTA has with these external managers;
- Being an active owner by engaging with companies to improve their governance, management and disclosure of climate change related matters;
- Being active in public policy in relation to climate change related matters that are material or have the potential to be material in terms of the economic interests of their members and beneficiaries – either directly or via like-minded organisations, and;
- Collaborating with other organisations to achieve these objectives.

⁵ <http://www.aviva.com/responsible-sustainable-business/climate-risks-and-environmental-impacts/>.

Climate targets

The Global Investor Coalition on Climate Change identifies climate target setting as an important step in the development of a climate-related strategy. Such targets should be measurable and reportable over time (GICCC 2015). Targets can indeed be instrumental to translate climate-related investment beliefs into concrete indicators, and to drive the development of more specific climate-related sectoral policies.

Climate target setting by asset owners is at an early stage. The targets cover differing parts of the portfolio (entire portfolio, equity-only, passive investments, etc.), and asset owners employ different metrics (PDC 2016):

“THE IMPORTANT STEP FOR US WAS TO SET AMBITIOUS TARGETS, AND THEN BUILD OUR KNOWLEDGE BY CONSTANTLY MONITORING AND REVIEWING THE INVESTMENT PROCESS”

Mats Andersson, CEO AP4
(PDC 2016)

- **PGGM (Netherlands)** has committed to reduce the carbon footprint of its entire portfolio by 50% by 2020.
- **Varma (Finland)** has committed to reduce the carbon footprint of its listed equity investments by 25%, that of its listed corporate bond investments by 15%, and that of its real estate investments by 15%, by the year 2020.
- **AP4 (Sweden)** aims to invest 100% of its global equity portfolio in low-carbon strategies by end 2020.
- **ABP (Netherlands)** seeks to reduce the carbon footprint per euro invested in listed equity by 25% by 2020 compared to a 2014 baseline.
- **FRR (France)** focuses its efforts on reducing the carbon intensity and reserves of passive equity investments by at least 50%.
- **The Environment Agency Pension Fund (UK)** has several targets for 2020: invest 15% of the fund in low carbon, energy efficient and other climate mitigation opportunities; and decarbonise the equity portfolio by reducing its exposure to “future emissions” by 90% for coal and 50% for oil & gas by 2020 compared to the exposure in the underlying benchmark at end March 2015 (The Environment Agency Pension Fund 2015).

29 asset owners and investment managers have signed on to the Portfolio Decarbonisation Coalition (PDC – see Box 5 in chapter 4.4. below), committing to develop a concrete decarbonisation plan and make commitments public. This will further drive the development of climate-target setting and strategies to reduce/increase high-carbon/low-carbon exposure (see below).

“WE HAVE SET OURSELVES A GLOBAL LEADING OBJECTIVE TO ENSURE THAT OUR FUND’S INVESTMENT PORTFOLIO AND PROCESSES ARE COMPATIBLE WITH KEEPING THE GLOBAL AVERAGE TEMPERATURE INCREASE TO REMAIN BELOW 2°C RELATIVE TO PRE-INDUSTRIAL LEVELS, IN-LINE WITH INTERNATIONAL GOVERNMENT AGREEMENTS”

The Environment Agency
Pension Fund, 2015

A number of asset owners are recently moving from general climate statements or to formulating commitments that their portfolios will respect climate science and so align with the below 2°C climate target:

- **Ilmarinen (Finland)** has adopted a climate policy that takes promising first steps in aligning its investment portfolio to the internationally agreed climate targets. Ilmarinen’s long-term goal is for all their investments to be in line with the 2°C scenario. They have carried out analysis on how their investments in the power, automotive and fossil fuel sectors perform against this benchmark (Ilmarinen 2017).
- **Varma (Finland)** has committed to develop their portfolio such that their investments will be in line with the 2°C target, and will focus investments in the longer term on investees that are low carbon or whose climate strategy aims for a low-carbon society. Varma has also provided concrete targets for each asset class (Varma 2016).
- **Several Danish pension funds (PFA, MP Pension, Industriens Pension, Medical Doctor’s pension fund, P+ PenSam, Sampension)** have strongly referenced the Paris Agreement in their investment policy.
- **The Environment Agency Pension Fund (UK).**

Strategies to reduce high-carbon exposure

WWF has identified over 20 asset owners that have publicly committed to divest or reduce exposure to the coal sector: Allianz, Aviva, AP2, AP4, Axa, Caisse des Depots, CalPERS, CalSTRS, CNP Assurances, Government Pension Fund Global, HESTA, Ilmarinen, KLP Bank, Local Government Super, New Zealand Superannuation Fund, P+ (JØP/DIP), PenSam, PGGM/PFZW, PKA, Skandia Liv, Storebrand, SWIP, Varma. While this list is not exhaustive, an analysis from the known commitments shows some general tendencies:

- The divestment trend clearly accelerated from 2013 onwards, and 2015 was the breakthrough year in terms of the size of investors (e.g. Allianz, Axa and the Norwegian Government Pension Fund Global).
- The majority of coal divestment commitments cover both coal mining and coal power, but some are still limited to coal mining. The criteria for the exclusion of companies in these sectors have grown more sophisticated over time: from no clear criteria, to coal share of revenues, and finally coal share of power production. The applied thresholds to the divestment criteria have tightened as well, from 50% to 30% - with some asset owners applying even more stringent thresholds (e.g. 15% by Hesta and CNP Assurances).
- Less than half of the asset owners communicate the total divested amount, and only a small minority (e.g. Government Pension Fund Global, KLP, Nordea, PenSam, PKA, SEB) disclose a list of excluded companies. The latter asset owners often employ divestment as part of a larger company engagement strategy (see chapter 5.4).

Recently, **AP7 (Sweden)** publicly announced it has divested from six oil & gas companies (ExxonMobil, Gazprom, TransCanada, Westar, Entergy, Southern Corp) for violating the Paris Agreement (Reuters 2017). This might indicate that climate-aware asset owners are expanding the sectoral scope from coal to other high-carbon sectors.

Strategies to increase low-carbon exposure

Numerous asset owners have adopted policies and different approaches to increase low-carbon exposure, usually with measurable targets. They are often a subset of more general climate targets or presented in tandem with policies to reduce high-carbon exposure.

Some asset owners have set portfolio-wide or sector-specific investment targets:

- **PKA (Denmark)** has committed to invest 10% of total assets in projects which reduce the deployment of fossil fuels by 2020, corresponding to approx. 23.5 billion DKK. To date it has invested 17.3 billion DKK in climate related projects, among others wind farms, green bonds, its own energy renovation fund (SustainSolutions) and the Danish climate investment fund (PKA 2017).
- **Allianz (Germany)** has committed to double investments in photovoltaic and wind parks across Europe from €3 billion to €6 billion in the medium term (PDC 2016).
- **Axa (France)** has committed to triple its green investments to reach over €3 billion across its accounts by 2020.
- **Aviva (UK)** has committed to invest €2.5 billion in renewable power and energy efficiency over a 5 year period (Aviva 2015).

- **Ilmarinen (Finland)** focuses on increasing the share of renewable power production of portfolio power companies from the current level of 21.5% in equity and 16% in corporate bonds; and has integrated sustainability indicators in their investment operations: investing in companies with a low rating always requires further investigation (Ilmarinen 2017).

Other asset owners have focused on increasing exposure to alternative asset classes:

- **PensionDanmark's** investment strategy is to invest 10% of their total assets 'in infrastructure such as wind farms, biomass-fired power plants and transmission plants' (PensionDanmark 2016). PensionDanmark reports that they have already invested in and committed to invest in renewable energy and transmission assets worth DKK 23 billion (€3.1 billion). It has also pooled resources with other Danish asset owners as part of the Copenhagen Infrastructure Partners.
- **AP7 (Sweden)**, on the other hand, focuses its efforts on private equity investments in clean tech (PRI 2015a).
- **PGGM (Netherlands)** has committed to re-invest capital released from high-carbon investments into CO₂ outperformers as part of a more comprehensive approach to reduce the carbon footprint of its portfolio (see above). It also aims to increase impact investments that directly address climate change issues (i.e. water and food scarcity) to 12% of its total €162 billion portfolio.

BOX 4. COPENHAGEN INFRASTRUCTURE PARTNERS (CIP)

CIP was founded in 2012 under the instigation of PensionDanmark. The company pools expertise and collects funds (€5 billion AUM) from institutional investors to invest in a "wide range of energy infrastructure assets including offshore wind, onshore wind, offshore power transmission, biomass and waste to energy, and solar PV". CIP has activities in Europe, North America and East Asia (Taiwan).

CIP has three operational funds that have attracted commitments from 19 Danish and international institutional investors.⁶ It has initiated the fundraising process for a fourth infrastructure fund, that may attract more investors.

CIP "has built a large investment team capable of originating proprietary investment opportunities and executing projects and investments based on the team's industrial background, large industrial network and extensive experience in structuring, executing and managing investments within energy infrastructure" (CIP 2017).

WWF believes that using such a fund management company is very relevant for many investors, as it enables them to support renewable infrastructure projects in a more secure way, thanks to the expertise built by the company.

⁶ Including PensionDanmark, Lægernes Pension & Bank, PBU, JØP, DIP, Nordea, PFA, Nykredit, AP Pension, SEB Pension DK, SEB Pension SE, Lægernes Pension, Oslo Pensjonsforsikring, Villum Fonden, KLP, Townsend on behalf of a UK pension fund,

Widex, LB Forsikring. It also benefitted from the support of the European Investment Bank with the backing of the EU through the European Fund for Strategic Investment (part of the Juncker Investment Plan).

4.4 MONITORING SERVICE PROVIDERS AND ENGAGING WITH KEY STAKEHOLDERS

Engagement with investment managers

Varma (Finland)'s goal for hedge funds and private equity funds is to influence fund managers such that by 2020 more than half of the capital Varma invests is subject to a climate change policy and has climate change integrated into the investment process (Varma 2016).

The Catholic Super Fund (Australia) has scored its domestic and international equity managers on the basis of their response to eight questions (UN PRI 2015a):

- “Do you measure the carbon footprint of your portfolio, and if so, can you include this as part of your reporting on an annual basis?”
- If you do not measure the carbon footprint of your fund, would you be prepared to start doing this and including it as part of the reporting to the fund on an annual basis?
- Have you set a goal to reduce the carbon intensity of your fund over time? Have you considered this? Why/ why not?
- Do you engage with the companies that you invest in on climate change? If so, have you discussed the way in which they manage carbon exposure and how they might reduce the carbon intensity of their operations now and into the future?
- Do you know the exposure of your fund to fossil fuel assets, and would you be willing to disclose this? If you don't know the exposure, can you begin to measure and report this?
- Have you estimated the potential risk of portfolio assets becoming stranded? If not, would you be willing to undertake this exercise and report the outcomes?
- Do you know the exposure of your fund to low-carbon, energy-efficiency assets, and would you be willing to disclose this? As above, if you don't know the exposure, can you begin to measure and report this?
- What other initiatives or activities are you involved in to proactively mitigate the risk of climate change to the investment portfolio?”

CalSTRS (US) has developed 21 risk factors that internal and external investment managers must take into account if they make an investment on their behalf (CalSTRS 2016). They have, moreover, set up a 21 Risk Factor Review Committee that is led by the Chief Investment Officer and composed of senior staff representatives from each asset class. The committee evaluates exposure to ESG-related risks, and takes appropriate actions to ensure that external and internal managers adhere to CalSTRS policy surrounding the management of ESG risk exposure.

Some specialised investment managers have started to anticipate and respond to growing asset owner concern on climate change:

- **Generation Investment Management** has \$15 billion assets under management. Their approach to active investment management is based on an investment process that fully integrates sustainability analysis into their decision-making and is focused on long-term performance. They form a strategic view on how certain areas of the economy are expected to perform in the long-term; identify companies they believe will thrive in a low-carbon, prosperous, equitable, healthy and safe environment, and act as an engaged shareholder.

- **Impax Asset Management** has \$8.7 billion assets under management and works primarily for institutional clients. Their investments are based on a strong conviction that population dynamics, resource scarcity, inadequate infrastructure and environmental constraints will profoundly shape global markets, creating investment risks and opportunities. They have developed listed equity, private equity and sustainable property funds.
- **WHEB** is a specialist investment manager focused on the opportunities created by the global transition to more sustainable, resource efficient and energy efficient economies. It has a single long-only global equities strategy.

Mainstream global investment managers are starting to reflect on the impact of climate change on their portfolios as well, even though clearly not in the same level of detail as the specialised investment managers. For example, Hermes Investment Management has developed upfront ‘Responsible Ownership Principles’ that detail in twelve areas what they expect from listed companies; it claims that “at any one time around 400 companies are included in our core engagement programme”, and roughly 15% of their engagement in 2016 focused on climate issues; Hermes Equity Ownership Services (EOS) publishes an annual report detailing the state of play of these engagements (Hermes 2013, Hermes 2016).

Engagement with portfolio companies

The Government Pension Fund Global (Norway) – also known as the Norwegian Sovereign Wealth Fund – actively employs its power as a shareholder: “2016 saw 3,790 meetings between representatives of the fund and companies’ management, and we voted at 11,294 shareholder meetings. We have clear expectations of companies in areas such as corporate governance, shareholder rights, social issues and the environment. Our tools for active ownership are dialogue with companies, investors, regulators and other standard setters, voting at shareholder meetings and filing shareholder proposals”. They prioritise engagement with companies on the basis of pre-selected topics, portfolio holding value and ownership share: on that basis, they engaged with twelve companies on climate change in 2016 – representing approximately 1% of their equity portfolio (Norges Bank Investment Management 2017).

KLP (Norway) has developed an extensive and transparent engagement approach in cooperation with Global Engagement Services (GES), a service provider specialised in “engaging with companies in the hope to reduce the risk of adverse events occurring in companies invested in”. They follow a six steps process in case a company violates the guidelines adopted by the organisation; investigation of violation; dialogue through meetings, emails and telephone; evaluation of dialogue outcomes; divestment if evaluation is negative; continue dialogue and re-instatement if procedures re-align with the guidelines. KLP publishes the companies it has excluded and re-included on its website, just as the exclusion criteria it applies for specific topics.

Asset owners such as **PKA (Denmark)**, **KLP (Norway)** are disclosing their votes at AGMs of portfolio companies or committed to do so (**ATP, Sampension, Denmark**).

CalSTRS (US) has put in place a Corporate Governance Unit that “engages corporations, regulators, policy makers, and fellow investors on a variety of sustainability issues with the goal of increasing the level of awareness and importance that the global investment community places on sustainability considerations”. This unit also leads the Green Initiative Task Force, which is an ‘internally staffed team that incorporates all asset classes of the CalSTRS Investment Office’ (CalSTRS 2016). They employ a three step approach to engagement (see Figure 12).

FIGURE 12. CALSTRS ENVIRONMENTAL, SOCIAL AND GOVERNANCE RISK MANAGEMENT PROCEDURES

<p>WHEN FACED WITH A CORPORATE DECISION THAT VIOLATES THE CALSTRS 21 RISK FACTORS, AT THE DIRECTION OF THE TEACHERS' RETIREMENT BOARD'S INVESTMENT COMMITTEE OR AT THE THE DISCRETION OF THE CIO, THE INVESTMENTS STAFF WILL DIRECTLY ENGAGE MANAGEMENT TO SEEK A CHANGE IN THAT CORPORATE BEHAVIOR IN THE FOLLOWING MANNER.</p>	
1	<p>CalSTRS will actively engage, in a constructive manner, corporate management whose actions are inconsistent with this policy. All forms of engagement are used, including letter writing, meetings, participation in advocacy groups, media campaigns and proxy voting.</p>
2	<p>After all reasonable efforts have been made to constructively engage corporate management and there is a clear nexus between the corporate behavior and the CalSTRS policy violation and, in the CIO's opinion, the corporate remedies are insufficient or nonresponsive, CalSTRS will inform its active investment managers that to the extent suitable alternate investments are available and their inclusion in the portfolio would result in no diminution in portfolio return or increase in risk, the managers will invest in these alternatives until the CalSTRS policy violations cease.</p>
3	<p>Upon remedy of the policy violation, CalSTRS will inform the active investment managers and passive managers that the securities can be purchased and report this action in writing to the Investment Committee.</p>

MN (Netherlands), on behalf of its clients PMT and PME, started in 2016 engagement with the ten largest CO₂ emitters in its equity portfolio, formulating concrete objectives for improvement. It will evaluate progress early 2018 and set up three options: 1. "The company remains in the portfolio because even in a 2 degree scenario it is expected to remain a good investment"; 2. "The company is making steps in the right direction but MN is not yet convinced that the company is sufficiently transition resilient: we then propose to extend the dialogue on the basis of concrete targets to be achieved"; 3. "The company is making insufficient progress and according to MN it is not climate resilient: MN will then advise its client to dispose of the positions" (MN 2016).

Specifically, **FRR (France)** made clear that engagement with portfolio companies is required for passive funds as well: "The mandate requires our passive managers to vote and assist FRR in engaging dialogue with companies" (PRI 2011).

Asset owners have also joined forces for specific engagement purposes: **Folksam, Ilmarinen and KLP** have set up the Nordic Engagement Cooperation that targets a limited list of companies for long-term engagement. They disclose their activities annually in a public report. They have for instance engaged with BP and TransOcean Limited following the 2010 oil spill in the Gulf of Mexico (NEC 2016).

Shareholder resolutions are a particular engagement tool that asset owners have at their disposal. Progress has been made on that level over the past few years in advancing climate-related resolutions at annual general meetings of high-carbon companies.

The Ceres 'Climate and Sustainability Shareholder Resolutions Database' is a useful database listing almost 1000 resolutions on sustainability issues, many of which focus on climate change (Ceres 2017). To a large extent the climate-related resolutions can be divided into two groups of requests:

- More transparent reporting: for example investors requested in 2017 that beginning in 2018, ExxonMobil publishes an assessment of portfolio risks under a 2°C scenario, including the impacts on ExxonMobil's full oil and gas reserves through 2040 and beyond;

- Adopting a transition plan: for example investors asked Apple in 2017 to “generate a feasible plan for the company to reach a net-zero GHG emission status by the year 2030”.

The ability to file shareholder resolutions and the extent to which these are binding once adopted vary between countries. No matter these specific circumstances, they have proven to be instrumental in putting climate issues on the public agenda of companies.

Engagement with policy makers

The global investor statement on climate change was signed by 409 investors representing more than US \$24 trillion in assets who express a shared concern that “gaps, weaknesses and delays in climate change and clean energy policies will increase the risks to our investments as a result of the physical impacts of climate change, and will increase the likelihood that more radical policy measures will be required to reduce greenhouse gas emissions. In turn, this could jeopardise the investments and retirement savings of millions of citizens” (IICCC et al 2014). They call on policy makers to:

- Provide stable, reliable and economically meaningful carbon pricing that helps redirect investment commensurate with the scale of the climate change challenge.
- Strengthen regulatory support for energy efficiency and renewable energy, where this is needed to facilitate deployment.
- Support innovation in and deployment of low carbon technologies, including financing clean energy research and development.
- Develop plans to phase out subsidies for fossil fuels.
- Ensure that national adaptation strategies are structured to deliver investment.
- Consider the effect of unintended constraints from financial regulations on investments in low carbon technologies and in climate resilience.

A group of six investor coalitions (AIGCC, CDP, Ceres, IGCC, IIGCC, PRI), covering investors across the globe:

- Urged world leaders to maintain momentum on climate ahead of the 2017 G7 and G20 summits. They called on them to continue to support and implement the Paris Agreement; drive investment into the low carbon transition; and implement climate-related financial reporting frameworks (AIGCC et al 2017a);
- Further reinforced these views in a letter, expressing their concern that climate change would be insufficiently addressed at the G20 summit and stating that: ‘it is imperative that the public and private sectors work closely together to get the signalling and incentives right to shift the trillions of capital required across the global economy. This includes creating the policy frameworks to support investment in low carbon assets now and into the future, to evolve the financial frameworks required to improve the availability, reliability and comparability of climate-related information, and to ensure the utilisation of tools and metrics that effectively incorporate the risks and opportunities into financial assessments’ (AIGCC et al 2017b).

BOX 5. INVESTOR COALITIONS

Asset owners can take part in investor coalitions to share best practices (learn) and amplify their engagement with portfolio companies and policy makers (monitor):

- **CDP (formerly Carbon Disclosure Project)** requests standardized climate change, water and forest reporting from some of the world's largest listed companies (notably 1300 high carbon companies) through annual questionnaires sent on behalf of institutional investors that endorse them as 'CDP signatories'. It is backed by more than 827 investors representing more than \$100 trillion in assets.
- **The UN Principles for Responsible Investment (UN PRI) established** six principles for investors about ESG integration into investment practices and companies they invest in, promotion of ESG in the investment industry, coordination between signatories, and reporting on progress toward implementing the principles. Thematically focused initiatives can occur: the PRI Climate Change Strategy Project was set up in response to asset owner interest in understanding whether and how to set a portfolio-wide emissions reduction goal, notably producing a guide on how asset owners can develop a climate change strategy. In addition the PRI Collaboration Platform (formerly the Clearinghouse) is a private forum allowing signatories to pool resources, share information and enhance their influence on ESG issues.
- **The Institutional Investor Group on Climate Change (IIGCC)** provides European investors with a collaborative platform on climate change. It has two objectives: changing market signals by encouraging public policy solutions that ensure an orderly move to a low carbon economy; and informing investment practices to preserve long-term investment values. IIGCC has over 120 members from 9 countries representing over €13 trillion in assets. Together with counterparts outside Europe, IIGCC forms the Global Investor Coalition on Climate Change (GICCC).
- With the **PRI Montréal Pledge** investors commit to measure and publicly disclose the carbon footprint of their investment portfolios on an annual basis. It has reached over 120 investors with more than \$10 trillion in assets under management. It is overseen by the PRI and supported by the UNEP-Finance Initiative and UN Global Compact.
- **The Portfolio Decarbonisation Coalition (PDC)** is an initiative driving GHG emissions reductions by requiring all members to commit to a concrete decarbonisation plan, and to publicly disclose an overview and key features of the employed techniques and methods. It now convenes 27 investors overseeing the decarbonisation of \$600bn in commitments out of \$3.2 trillion in assets under management. It is supported by the UNEP-Finance Initiative and CDP.
- **The Aiming for A** shareholder coalition is undertaking in-depth engagement with the largest high carbon companies, notably by filing climate-related resolutions. In 2017, the work pioneered and led by the 'Aiming for A' initiative became a Shareholder Resolutions 'sub group' of the IIGCC's Corporate Programme.
- **The Climate Action 100+** is a five-year investor initiative to engage with the world's largest corporate greenhouse gas emitters to curb emissions, strengthen climate-related financial disclosures and improve governance on climate change. It has been developed and is co-ordinated through a partnership between five organisations: the four regional climate-related investor networks (including IIGCC) and PRI.

4.5 THE WWF VIEW

WWF believes that the actions that have been taken by asset owners indicate a growing understanding about the reality of climate-related risks and opportunities. As such, this confirms that the abundant analysis on climate related financial risks (see chapter 1) and rapidly changing policy context (see chapter 2) increasingly leave no place for asset owners to hide. WWF encourages asset owners to learn from the actions of their peers. More work is still needed, however, to drive portfolio alignment with the Paris Agreement (see chapter 5).

The above examples of asset owners setting **targets** are commendable. However, WWF points out that while a few leading asset owners have committed to align their investments with the Paris Agreement, they have not currently set concrete targets that sufficiently mirror this commitment - potentially because the metrics by which such targets can be set, and progress assessed, are still insufficiently developed.

A concern related to the **selection of investment manager(s)** arises from inconsistent practices of many investment managers on climate issues. The Financial Times reported in May 2016, for instance, that four of world's largest investment managers – BlackRock, Invesco, BNY Mellon and Vanguard – were accused of “climate change hypocrisy” after voting against an investor-led climate change resolution at the annual meetings of the two US oil giants ExxonMobil and Chevron (Financial Times 2016). This criticism has put pressure on these investment managers to strengthen their corporate governance record – with BlackRock and Vanguard supporting for the first time two climate-related shareholder resolutions (ExxonMobil and Occidental) that were opposed by company management (Financial Times 2017). However a ShareAction study using Proxy Insight data and analysing the 2017 US proxy season by the largest 30 shareholders in 7 high-carbon companies on shareholder resolutions addressing climate-related risk management found that 40% of them voted against one or more resolutions - including 3 that voted against all the resolutions (for example Blackrock voted for 2 of the climate resolutions but against 5, and Vanguard for 2 but against 4) (ShareAction 2017c). For WWF, and no doubt for many of their asset owner clients, the climate policy of the investment manager should be consistent and aligned with their engagement practices, in particular when voting climate-related resolutions.

About **engagement with portfolio companies**, the Eurosif 2016 study finds that 19.6% of EU assets under management benefit from an engagement strategy. While this is a 30% increase in asset volume compared to 2013, it still reveals a major gap and need for progress (Eurosif 2016).

About **engagement with policy makers**, a 2014 PRI analysis finds that only 41% of PRI investor signatories had conducted dialogue with public policymakers or standard-setters in support of long-term investment in the previous year, individually or collectively (PRI et al 2014). This means that practice lags behind commitments: the fourth Principle for Responsible Investment includes action to “support regulatory or policy developments that enable implementation of the Principles” (for long term investment).



WWF strongly supports climate-related **investor coalitions** as one of the most relevant ways to learn, seek advice and share best practice, and even more importantly to engage with portfolio companies and policy makers. Joining forces helps to overcome capacity limits and to pool more expertise. It also brings more weight when engaging with portfolio companies: this is particularly relevant given the urgency of the climate challenge and the need to get high carbon companies quickly move their business model towards alignment with the Paris Agreement – where they are capable of doing it timely. WWF notes and welcomes that the most recent climate-related investor coalitions have increasingly specific objectives (e.g. the Portfolio Decarbonization Coalition, Montréal Pledge, Climate Action 100+, Aiming for A coalition - now part of IIGCC), that make their commitments more concrete and measurable.

However, WWF believes that a central element is still missing throughout all the climate-related investor coalitions: a commitment to align portfolios with the Paris Agreement, as the most appropriate way to mitigate climate-related financial risks and invest in the best interests of members and beneficiaries. In addition, some investor coalitions focus on or recommend the carbon footprint (e.g. the Montréal Pledge): now that the TCFD has acknowledged the limitations of such a metric and emphasised the need for forward-looking climate scenario analysis, WWF believes that it is time to move to the latter.

WWF RECOMMENDS ASSET OWNERS TO:

- **Work collectively, through investor coalitions**, with other asset owners to learn, seek advice, share best practice and, most importantly, increase the impact of engagement activities with investment managers, portfolio companies and policy makers. Asset owners should, moreover, drive coalitions to promote the alignment of portfolios with the Paris Agreement.



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A Euro symbol is reflected in the water as a train crosses the river.

5.



WWF RECOMMENDATIONS FOR DRIVING PORTFOLIO ALIGNMENT WITH THE PARIS AGREEMENT

5.1 INTRODUCTION: WHY THIS CHAPTER

WWF believes that the existence of climate-related risk for financial assets is strongly supported by scientific evidence and the multiple actions of many actors globally: legislators, financial regulators, policy makers, high- and low-carbon companies, other asset owners and climate-related investor coalitions, investment managers, civil society organisations, etc. The previous chapters indicate that this action is well under way, and is irreversible.

WWF believes that asset owners, as the powerhouse of long term global investment, can and should maintain and increase this momentum. To meet their responsibilities, asset owners should increasingly manage the risks and seize the investment opportunities which arise from the climate agenda.

Mercer sees the “emergence of a group of climate-aware future makers, investors that feel compelled by the magnitude of longer-term risk of climate change to seek to influence which scenario comes to pass”. This group of asset owners seeks in particular to “reduce additional uncertainty and achieve carbon mitigation in line with a 2°C world” (Mercer 2015).

The recommendations below aim to accelerate progress and turn more asset owners into proactive leaders that drive alignment of their portfolio with the Paris Agreement. Such recommendations are more operational and advanced than those in previous chapters, which they complement.

WWF believes that asset owners should take action on four levels: development of their own climate policy and disclosure in accordance with TCFD recommendations (including by using relevant tools to set climate science based targets), engagement with investment managers, engagement with portfolio companies, engagement with policy makers.

As presented in Box 1 (Chapter 2), WWF believes that such actions will likely become necessary (and potentially mandatory) for asset owners to fulfil their climate-related fiduciary duties.

5.2 DEVELOP CLIMATE POLICY AND DISCLOSURE IN ACCORDANCE WITH TCFD RECOMMENDATIONS

The context The TCFD recommendations highlight the importance for asset owners to address climate-related risks and opportunities across their organisation.

Chapter 3 indicates that financial service providers (e.g. investment consultants) and asset owner analysis favour a top-down approach for climate change integration, generally following a three-pronged approach: developing climate-related investment beliefs, putting in place (investment and engagement) policies and processes, and implementation at portfolio level. WWF has provided its views on each of these steps in chapters 3 and 4 of this Guide.

The TCFD recommendations add two additional perspectives that are not covered in detail in the above-mentioned strategic advice: establishing governance structures and setting of targets and metrics. WWF provides its views on these two elements below.

Governance and reporting (See chapter 3.4 for the general WWF recommendation on governance and reporting)

WWF RECOMMENDS ASSET OWNERS TO:

- **Engage the Board, Trustees and Chief Investment Officer** at an early stage of the climate policy development.
- **Commit resources to capacity-building** through training and if needed staff hiring and ensure that the relevant staff has the needed climate knowledge, including Board members.
- **Create ownership of the climate issue** through clear identification of roles and responsibilities, setting up Key Performance Indicators, implementation structures and adjusting the executive remuneration policy.
- **Communicate to members and beneficiaries** about climate change, and report annually on the implementation of the climate-related policy (investment objectives, engagement policy with portfolio companies, monitoring of service providers notably investment managers, engagement with policy makers) via mainstream financial reports.

Climate change is a whole-of-fund issue that affects every part of an asset owner's portfolio (AODP 2015). Early discussion with the Board, Trustees and Chief Investment Officer is therefore of crucial importance. This should include in particular:

- The adoption by the board of climate-related investment beliefs recognising, in light of the evidence on climate risks and the fiduciary duty to protect the best interests of members and beneficiaries, the need to align their full portfolio with the Paris Agreement.
- The adoption by the board of a motion that sets out the need for policy development and adjustments in fund governance, identifying a process to build capacity within the organisation (AODP 2015).
- Oversight by the board of the policy development and adjustments in fund governance – including discussing consistency with investment objectives, potential implications for asset allocation and portfolio managers, new performance indicators for monitoring and evaluating success – and formal approval of final strategies (PRI 2015a).
- Identification and approval of resourcing needs.

The integration of climate change will be facilitated by committing resources to capacity-building and ensuring the creation of ownership. According to an E3G study focused on PRI signatories (that are considered to have above-average awareness of ESG and climate risks), 33% of signatories directly employ no ESG staff and a further 20% employ just one. This means over 500 PRI signatories, representing \$6.9 trillion, directly employ one or fewer ESG staff. Such findings are worrying as this inadequate capacity will prevent investors from developing



sufficiently granular and sophisticated ESG and climate policies. E3G finds that “while several investors outsource responsible investing and others claim to take an integrated approach, it is clear from this analysis that the majority of PRI signatories need to rapidly expand and strengthen their in-house ESG expertise by employing more specialists and training existing staff” (E3G 2017).

WWF believes that asset owners should take the following steps:

- **Establish key roles and responsibilities** (project leader, project sponsor, etc.) within the organisation to lead the process of climate change integration into investment portfolios.
- **Empower teams to understand climate risks:** trustees and investment managers should undertake a minimum training on the financial materiality of climate change and climate-related financial risks and opportunities. The training is more effective if tailored to the target group: executives and trustees require an appreciation of the risks and business change, whereas other staff will require training in areas specifically relating to their own role and responsibilities (AODP 2015, Ceres 2014).
- **Increase capacity:** asset owners can hire additional staff with knowledge in the area to ensure there is capacity at hand – in particular to prepare and follow-up engagement with service providers and portfolio companies (AODP 2015), and ensure that the relevant staff has the needed climate knowledge, including Board members.
- **Set up internal Key Performance Indicators (KPIs):** this creates incentives to encourage climate alignment, in particular holding senior management accountable for the achievement of set goals (Ceres 2014).
- **Set up a governance framework for climate change:** the CIO should normally be responsible for the implementation of the climate strategy. He/she can liaise with senior management and the Board on the one hand; and, on the other hand, oversee the work undertaken by cross-functional climate-focused committees/task-forces comprised of diverse staff from all business units that provide timely progress reports on climate risk and the implementation of climate-related strategies (e.g. investment policy, engagement activities, setting up of new data information systems, etc.) (AODP 2015, Ceres 2014).
- **Share knowledge:** asset owners with experience of climate strategies should share their knowledge with others in the industry (ShareAction 2013).

Finally, WWF recommends that asset owners communicate and report their climate actions. They can in particular:

- **Communicate to members and beneficiaries** through regular reporting, websites and social media; and by the organisation of an annual member meeting open to all beneficiaries (PRI 2015a).
- **Ensure a signalling effect** to amplify their efforts by making them public. This should address key areas: climate-related investment beliefs; investment policy and sectoral policies; targets; climate criteria employed for selection of service providers; and engagement activities with service providers and key stakeholders (investment managers, investment consultants, proxy voting advisors, index providers, portfolio companies, policy makers, members and beneficiaries). Given the climate urgency, the signalling effect is critical to raise the awareness of relevant service providers and stakeholders, emphasise the importance of the issue, and accelerate efforts of the latter (WRI, UNEP-FI, 2° Investing Initiative 2015b).

- **Annually report** in their financial filings and on their website relevant climate-related information, as recommended by the FSB TCFD. Granular information should be provided about the engagement with portfolio companies, directly or through investment managers (e.g. names of portfolio companies engaged with or divested, questions asked, type of engagement, filing of shareholder resolutions and voting at AGMs).

Targets and metrics

WWF RECOMMENDS ASSET OWNERS TO:

- **Publicly commit to align their investment portfolios with the Paris Agreement**, actively contribute to the development of tools that enable setting climate-science based targets, and commit to setting such targets per asset class as these tools become available (see chapter 5.2 for more details).

“THE EUROPEAN PARLIAMENT (...) CALLS ON PUBLIC AND PRIVATE FINANCIAL INSTITUTIONS, INCLUDING BANKS, PENSION FUNDS AND INSURANCE FIRMS, TO MAKE AN AMBITIOUS COMMITMENT TO ALIGNING LENDING AND INVESTMENT PRACTICES WITH THE GLOBAL AVERAGE TEMPERATURE TARGET OF WELL BELOW 2 °C, IN LINE WITH ARTICLE 2(1)(C) OF THE PARIS AGREEMENT (...)”

The European Parliament
2017

Currently, most of the asset owners set targets to reduce their carbon footprint or other intensity metrics that only consider past and present conditions. The TCFD has acknowledged the limitations of carbon footprinting for asset owners to assess climate risks and supports advancement in the development of new decision-useful climate-related metrics (see chapter 1.5).

WWF believes that asset owners can play a decisive role in supporting the development of tools enabling them to set climate-science based targets. A public commitment from asset owners to align their portfolio with the Paris Agreement and employ the tools and metrics as they become available will help to further spur their development. In WWF’s view this will eventually require a framework tailored for each asset class (public equity, corporate fixed income, real estate, private equity, etc.). Asset owners can, for instance, build on:

- **The Sustainable Energy Investment Metrics (SEIM)** tool (see chapter 1.5) currently enables the assessment of the exposure of public equity portfolios to the IEA 2°C scenario for a number of technologies in high-carbon sectors (power sector, oil & gas, automotive). Sectoral (steel, cement, aviation, shipping) and asset class (corporate fixed income) expansion is planned. The tool does not currently enable portfolio-wide climate-science based targets per asset class to be set, but follow up phases are in development.
- **The Science Based Target (SBT) initiative** (see chapter 5.4) enables companies to set science-based targets in a number of high-carbon sectors, covering their scope 1, 2 and 3 emissions. Provided that the bulk of emissions of asset owners are related to their investments, and therefore fall out of the emission scopes covered by SBT, this tool is currently not applicable for their activities. Follow up phases are in development to ultimately cover financial institutions.

Finally, asset owners can drive the adoption of climate science-based targets by portfolio companies through targeted, meaningful engagement (see chapter 5.4).

Beyond climate science based targets, WWF believes that asset owners should align their portfolio with environmental science and international agreements (such as the Sustainable Development Goals).

5.3 ENGAGE WITH INVESTMENT MANAGERS AND OTHER SERVICE PROVIDERS

Asset owners that understand climate-related financial risks and opportunities will want to address the need to align their investments with the Paris Agreement, together with their service providers. However there are many reasons why the investment supply chain would not act in alignment with asset owners’ interests on climate issues: commercial conflicts of interests, time horizons, cultural norms (e.g. US-headquartered organisations) etc. Asset owners therefore need to closely monitor all their service providers – most notably investment managers, investment consultants, index providers, proxy voting advisors, sell side analysts & credit rating agencies, remuneration consultants and auditors.

Investment managers

They are critical service providers, as they manage – whether internally or externally – the asset owners’ assets on the basis of the mandates awarded to them. The selection of experienced investment managers is therefore crucial if asset owners want all their assets to be managed in line with their own climate-related beliefs, policies and targets.

To select their investment managers, asset owners can usefully use the benchmarking survey provided by ShareAction on 40 of the largest asset managers in Europe and their responsible investment performance (including climate change considerations) (ShareAction 2017b). ShareAction also ranked the responsible investment performance of the 33 largest investment managers in the UK (ShareAction 2015). Another ShareAction study reveals how the largest 30 shareholders (essentially investment managers) in 7 US high-carbon companies voted on climate-related shareholder resolutions, which also provides useful insights to select investment managers (ShareAction 2017c).

“MAJOR ASSET MANAGEMENT FIRMS ARE BECOMING MORE COMFORTABLE ABOUT EXPRESSING, ON BEHALF OF CLIENTS, THEIR DISCONTENT WITH CORPORATE MANAGEMENT ABOUT WEAK DISCLOSURES ON CLIMATE-RELATED RISKS”

ShareAction 2017c

WWF RECOMMENDS ASSET OWNERS TO:

- **Require internal and external investment managers to address climate-related risks and opportunities** – notably by requiring investment managers in new requests for proposals to align mandated portfolios with the Paris Agreement, to amend existing mandates, to forcefully engage with high carbon portfolio companies and align proxy voting with the climate objectives of the asset owners, to deliver TCFD-aligned reporting and to adjust remuneration accordingly (PRI 2015a).
- Publicly signal these requirements for investment managers to create market demand and increase impact (WRI, UNEP-FI, 2° Investing Initiative 2015b).
- Make climate change a core criterion in the selection procedure of investment managers: investment managers should demonstrate a robust track-record that shows capacity to assess and address the climate issue and indicate how the climate inclusion may alter the existing portfolio strategy, the investable universe, tracking error, liquidity, financial risk and return expectations and time horizons (PRI 2015a).
- Require their internal and external investment managers, in their proxy voting policy, to support climate-related resolutions in AGMs of portfolio companies and interact with the proxy voting advisors on climate change, scrutinise their investment managers’ proxy votes to check consistency and require them to publicly disclose their voting records (ShareAction 2017c).
- Require investment managers, on climate reporting, to notably report the climate alignment of their mandated portfolios using forward-looking climate scenario analysis (FSB TCFD 2017a).

Investment consultants Asset owners rely on Investment consultants to solve particular problems, which invariably have an embedded time dimension (Oxford Smith School of Enterprise and Environment 2015). Investment consultants operate at a critical interface in the investment ecosystem, and asset owners can push them to drive innovation within the financial community (Preventable Surprises 2015).

WWF RECOMMENDS ASSET OWNERS TO:

- Ensure that investment consultants address climate-related risks and opportunities and adapt their core services accordingly, and demonstrate a robust track-record that shows capacity to assess and address the climate issue.
- Require investment consultants to advise so as to help asset owners develop climate-related strategies (beliefs, policies, targets, processes and portfolio implementation) that will gradually align investments with the Paris Agreement.
- Ask investment consultants to allocate a significant percentage of time for interaction and discussion on long-term risks and opportunities – most particularly climate change – and to adjust remuneration accordingly (Oxford Smith School of Enterprise and Environment 2015).
- Ask investment consultants to assess the climate-related performance of investment managers and suggest approaches for accelerating their climate-related efforts.
- Publicly signal their climate-related requirements for investment consultants to urge them to act in order to avert a potential devaluation of their reputational capital (Oxford Smith School of Enterprise and Environment 2015).

Index providers Index providers (MSCI, FTSE, S&P, etc.) provide the investment community with a standard to quantify and understand the performance of markets and asset classes. Market-capitalisation weighed indices are replicated by passive investors, and used as allocation guidelines for sector diversification by the majority of investors. Analysis indicates that indices usually reflect business-as-usual scenarios, where for instance high carbon sectors (e.g. oil & gas) are overweighed in term of achieving the Paris goal, and they lack a good indication of energy technology exposure. The measurement of relative risk is also related to these indices, further limiting the possibility to allocate investments in line with climate goals, and away from the current unsustainable business-as-usual market (2° Investing Initiative 2014). Asset owners should drive demand to index providers to tackle these shortcomings in the design of indices.

This issue is critical for passive investors that essentially rely on indices to define their default capital market exposures.

WWF RECOMMENDS ASSET OWNERS TO:

- Require index providers to disclose how their existing products align with the Paris Agreement, using forward-looking climate scenario analysis.
- Require index providers to develop new products that reflect the performance of markets in a well below 2°C transition, to help asset owners to benchmark their own investment portfolios against the Paris Agreement.
- Publicly signal their climate-related requirements for index providers to urge them to act in order to avert a potential devaluation of their reputational capital.

Proxy voting advisors

Proxy voting advisors (e.g. ISS, Glass Lewis, Manifest, etc.) consult with asset owners to decide how to vote on matters that require shareholder approval at AGMs (and EGMs) of their portfolio companies. As shareholder resolutions are a crucial tool for engagement with portfolio companies (see chapter 5.4), it is important for asset owners to interact with proxy voting advisors, with the objective of improving their climate-related advice (ShareAction 2017c).

WWF RECOMMENDS ASSET OWNERS TO:

- Ensure that proxy voting advisors address climate-related risks and opportunities and adapt their core services so that they align with the Paris Agreement.
- Request their proxy voting advisors, in collaboration with their internal and external investment managers, to ensure that voting activities are wholly consistent with the climate objectives of the asset owner and support resolutions that call for the adoption of well below 2°C transition plans.
- Publicly express their support for climate-related shareholder resolutions at portfolio companies, in collaboration with their internal and external investment managers.

5.4 ENGAGE WITH PORTFOLIO COMPANIES

Summary The TCFD recommendations highlight the importance for companies across sectors and jurisdictions to prepare for the risks and opportunities posed by climate change (FSB TCFD 2017a-d). Asset owners are well placed – in their capacity as both share and bond holders – to engage with portfolio companies on how they should gradually align their business model with the Paris Agreement, and implement the TCFD recommendations.

WWF RECOMMENDS ASSET OWNERS TO:

- Develop an assertive engagement strategy to **ensure high-carbon portfolio companies publish in the very near term time-bound well below 2°C transition plans and climate science-based targets, and deliver TCFD-aligned reporting**. For most asset owners this will mean acting in collaboration with like-minded peers and investment managers.
- Escalate engagement to more public and more assertive strategies or reduce/remove exposure to high carbon companies if engagement efforts do not result in targeted companies publishing credible targets and transition plans in a timely fashion, and require investment managers to act accordingly.
- Together with relevant service providers, identify the high-carbon portfolio companies that are most relevant for such engagement purposes.
- Ensure that internal and external investment managers prioritise and have sufficient capacity to engage forcefully with portfolio companies on their behalf.

Objectives and approach WWF believes that asset owners – both through internal and external investment managers – can and should set **clear objectives and criteria** to ensure that their engagement with portfolio companies bears fruit:

- The ultimate explicit engagement objective should to bring portfolio companies' business models in line with the Paris Agreement targets, resulting in concrete CO₂-emission reductions and the deployment of climate-friendly technologies in a timely manner.
- Engagement should be organised so that it increases the chance of realising the above objective. This implies that asset owners build internal capacity, define targeted portfolio companies in collaboration with relevant service providers, formulate concrete demands to these companies in terms of business plan and governance, and set timelines by which these demands need to be implemented. If engagement does not bear fruit within set timelines, asset owners should instruct internal and external investment managers to reduce exposure to the company in question.



WWF believes that a meaningful engagement strategy requires both rapid results with portfolio companies in order to address the urgency of climate change, and sustained effort and capacity over several years. Asset owners should become **forceful stewards**, using their full influence to make business part of the solutions to address climate-related risks. This includes sending public signals to drive deeper and faster corporate change (Preventable Surprises 2017). WWF believes that asset owners should in particular:

- Provide **clear instructions to internal and external investment managers** that engage with companies on their behalf, driving them to meaningful in-depth engagement with a targeted number of companies on priority issues – including climate change. Changing a company’s direction of travel does not happen overnight, and requires applying pressure over time using different means (letters, e-mails, phone calls, meetings, shareholder resolutions, etc.).
- Expand engagement from equity to fixed income portfolio companies – at least those companies for which asset owners hold both shares and bonds, as a first step. The corporate fixed income asset class is increasingly researched on ESG and climate issues, including for engagement (PRI 2014). Notably, engagement leverages the opportunities provided by new corporate bond issuances.
- Engage through investor coalitions as much as possible, to bring more weight and deliver greater impact.
- Make the engagement with portfolio companies – and their requests to companies – public: the signalling effect of such efforts is important to raise awareness, gather more investors and accelerate the efforts of portfolio companies (WRI, UNEP-FI, 2° Investing Initiative 2015b). It is very likely that engagement behind closed doors will not be bold and rapid enough to solve the climate challenges and bring alignment with the Paris Agreement.
- It should be noted that passive investors can and should engage as well with portfolio companies. There is long standing evidence, strategic advice and cases studies about how passive investors can be active owners and forceful stewards (PRI 2011, Mercer 2014, Investor Responsibility Research Center Institute 2015).

Identifying companies for engagement

Together with relevant service providers, asset owners need to **identify the most relevant high carbon portfolio companies**, and ensure that internal and external investment managers engage on that basis. This can be achieved by focusing on the following sectors:

“CALPERS ESTIMATES THAT OUT OF THE 10,000 FIRMS IN THEIR EQUITY PORTFOLIO, 314 ARE RESPONSIBLE FOR 75% OF EMISSIONS”
CalPERS 2016

- Sectors where carbon-intensive companies have a significant potential to offer alternative solutions and thus reduce their emissions – in particular power utilities, industrial sectors (steel, cement, chemicals) and automotive;
- Similarly, the banking sector could shift its support from high to low carbon sectors, resulting in massive indirect climate benefits (ShareAction 2017a);
- Sectors that are deemed to shrink and ultimately disappear with the energy transition (e.g. coal mining and oil & gas), but where some companies still have the potential to make a timely shift to other business models (e.g. some diversified miners or oil & gas companies that are already active in the renewable industry);⁷
- In addition, increasing low carbon capital expenditure and R&D plans will be needed as well for some low carbon portfolio companies to ensure rapid enough developments.

⁷ WWF position is to achieve a 100% renewable-based energy system globally by 2050 at the latest (WWF 2011).

- On that basis, develop specific policies that maximise asset owner’s ability to harness change within these sectors, by defining criteria that allow internal or external investment managers to identify portfolio companies able to align their business model with the Paris Agreement. Given the urgency of the climate agenda, WWF considers that several companies will not be able to shift rapidly enough, run a high risk of stranded assets, and might ultimately become bankrupt. The US coal mining sector already provides significant examples, having cost billions to investors (Carbon Tracker Initiative 2015a). In light of the above, an exposure reduction strategy should be favoured for companies whose business model is still heavily dependent on the development of fossil activities (e.g. pure play coal miners or power utilities with plans to build new coal-fired power plants).

Figure 13 summarizes the approach above. The prioritisation exercise will allow the asset owner to identify, through their internal and external investment managers, a list of the most relevant companies for engagement.

FIGURE 13. IDENTIFYING PRIORITY HIGH-CARBON COMPANIES FOR ENGAGEMENT

BUSINESS MODEL	HIGH-CARBON SECTORS			INVESTOR ACTION
	Sector 1	Sector 2	Sector 3	
DIVERSIFIED	Company X	Company A	Company i	Engage
LESS DIVERSIFIED	Company Y	Company B	Company ii	Case-by-case assessment
NOT DIVERSIFIED	Company Z	Company C	Company iii	Reduce exposure

In addition to the sector-specific guides and league tables of peer companies provided by investor coalitions (see chapter 3.3), asset owners can also usefully build on several tools, analysis and rankings from other organisations to identify companies in most sensitive sectors and fine-tune their engagement work, for example:

- Power utilities: Carbon Tracker Initiative analysis on the largest EU utilities (Carbon Tracker Initiative 2015b);
- Banks: ShareAction’s investor guide to engage with banks on climate change (ShareAction 2017a); WWF sustainability ranking of the largest banks in South East Asia (WWF 2017b);
- Buildings: The Global Real Estate Sustainability Benchmark;
- WWF also developed a Water Risk Filter tool that can help both companies and investors to assess water-related risks – a significant part of them being correlated to climate change (WWF 2017c).

The engagement of internal and external investment managers with the targeted high-carbon companies will result in better outcomes if it is accompanied by concrete, specific demands. WWF believes that asset owners should encourage high-carbon companies to adopt and publish time-bound 2°C business transition plans, composed of the following elements:

Formulating demands to portfolio companies

The engagement of internal and external investment managers with the targeted high-carbon companies will result in better outcomes if it is accompanied by concrete, specific demands. WWF believes that asset owners should encourage high-carbon companies to adopt and publish time-bound well below 2°C business transition plans, composed of the following elements:

- **A commitment to align its business model with the Paris Agreement and, more precisely, a time-bound climate science-based target** built on forward-looking climate-scenario analysis. For example, WWF has developed, in collaboration with CDP, WRI and UN Global Compact, the Science Based Target tool that allows companies to set CO₂ reduction targets in line with the IEA 2°C scenario (see Box 6 below).
- **Capital management plans to end capital expenditure for high carbon projects, increase capital expenditure for low carbon projects**, and a clearly articulated timeline for the closure of existing high carbon assets. Capex discipline could include cash returns through buybacks or dividends instead of capital expenditure for high carbon projects. Throughout the engagement process, the selling of existing high-carbon assets by the company should explicitly be discouraged by asset owners: this would not have any positive impact in terms of reducing CO₂ emissions and may instead extend the lifetime of the assets. Other financial institutions are starting to clarify their position in this issue, for example BNP Paribas committed to reject any mandate to buy or sell coal plants: “The objective is that these plants are closed and not sold to less environmentally regarding companies” (Novethic 2017). What is required is the timely closure of existing high carbon assets. When a company intends to buy high-carbon assets, this should be regarded as an increase in capital expenditure – and WWF encourages asset owners to oppose such move and/or reduce exposure to that company.
- **A commitment to publicly disclose the target and transition plan**, and ensure climate reporting aligned with the TCFD disclosure recommendations. Such information should be published in mainstream financial reports and not in separate non-financial reports (integrated reporting). The asset managers need to monitor the information disclosed by the portfolio companies as part of the TCFD recommendations and ensure that the data provided is meaningful and of good quality.
- **A commitment to review and ratchet up targets and transition plan** in the light of evolving scientific evidence and research, in particular the development of 1.5°C compliant decarbonisation scenarios driven by the Paris Agreement.
- **A public commitment to support policies that aim to reduce emissions in line with the Paris Agreement**, be transparent about lobbying activities and expenditures, not favour policies that risk derailing the Paris Agreement and act when third party organisations’ (e.g. business and trade associations) policy engagement is not aligned with these objectives – by e.g. leaving such organisations (PRI 2015b, Policy Studies Institute 2015). Asset owners can usefully use metrics provided by InfluenceMap: an organisation that scores and ranks the world’s largest companies (and trade associations) on how their policy engagement/lobbying aligns with a 2°C aligned climate and energy regulatory environment (InfluenceMap 2017a-b). InfluenceMap states that “for corporations, the score (from A+ to F) can be viewed as an indicator of readiness for a transition to low carbon policy globally”. It regularly updates its metrics on over 250 global industrial companies and releases reports on the topic.

Asset owners should also drive requests to companies **to put in place governance structures that allow for an efficient implementation of climate commitments**. Such plans should be adopted at board level; define board and senior management responsibilities and accountability for managing climate change risk and overseeing the plan's implementation; and adjust the executive remuneration policy to reflect the climate target and transition plan.

BOX 6. THE SCIENCE BASED TARGETS INITIATIVE

The Science Based Targets Initiative is a collaboration between WWF, CDP, World Resources Institute (WRI) and the United Nations Global Compact (UNGC). The consortium has developed a sectoral decarbonisation approach (SDA):

- SDA is a climate science-based method for companies to set CO₂ reduction targets necessary to stay within a 2°C temperature rise above preindustrial levels. The method is based on the International Energy Agency's detailed 2°C scenario and their 2014 Energy Technology Perspectives report. The Energy Technology Perspectives report's carbon budget is consistent with the IPCC's Fifth Assessment Report scenario that provides the highest likelihood of staying below 2°C of global warming in 2100.
- The SDA differentiates from other existing methods by virtue of its subsector-level approach and global least-cost mitigation perspective. It intends to help companies in homogenous, energy-intensive sectors to align their emission reduction targets with a global 2°C pathway. The SDA is best suited for companies in the following subsectors with well-defined activity and physical intensity data: power generation; chemicals; iron and steel; aluminium; cement; pulp and paper; road, rail and air transport; commercial buildings.

Accompanying the method, a free publicly-available tool has been developed for companies to use. The tool determines the company's target trajectory compared to the sector intensity pathway. Businesses can use the SDA method and tool to set scope 1 and 2 reduction targets (and soon scope 3) informed by climate science or to compare the level of ambition of their current targets.

To date, 42 companies have science-based targets in place, and another 220 have committed to set such targets in less than two years.

Engaging versus reducing exposure

Asset owners should require internal and external investment managers to reduce and remove exposure to the targeted companies if the engagement process does not lead to significant results within set timeframes (e.g. cycles of 12, 18, 24 months) (GICCC 2015a). Figure 14 below provides an example of such stepwise exposure reduction.

One intermediate option for asset owners is to vote against the management report or the remuneration report and policy of the company, to manifest discontent if the company does not sufficiently integrate climate-related risks and opportunities, factor them in its capex plan, adapt remunerations and incentives accordingly, etc.

FIGURE 14. SAMPLE ROADMAP FOR EXPOSURE REDUCTION IN CASE OF UNSUCCESSFUL ENGAGEMENT

MONTHS SINCE START OF ENGAGEMENT	NO ADOPTION OF MEANINGFUL TARGETS AND TRANSITION PLANS BY PORTFOLIO COMPANY	ADOPTION OF MEANINGFUL TARGETS AND TRANSITION PLANS BY PORTFOLIO COMPANY
12 months	Stop purchase of newly issued corporate bonds of the company	Monitor implementation
18 months	Reduce public equity exposure	Potentially increase exposure in public equity and corporate bonds, and monitor implementation
24 months	Divest	
Beyond 24 months		

5.5 ENGAGE WITH POLICY MAKERS

WWF RECOMMENDS ASSET OWNERS TO:

- Engage with policy makers to ask for **climate and energy policies and regulations** that drive a timely implementation of the Paris Agreement and its embedded climate targets.
- Engage with policy makers to ask for adequate climate and wider ESG **corporate disclosure** policies and regulations to ensure that relevant climate and ESG data become available to investors – in particular by swiftly transposing the TCFD recommendations into European and/or national legislation, with an emphasis on forward-looking climate scenario analysis.
- Engage with policy makers to ask for financial policies and regulations that drive **better understanding of climate-related risks and opportunities for financial institutions**, through the assessment of climate and wider ESG risks for investors and their mitigation, with the ultimate goal of portfolio alignment with the Paris Agreement.

Regulations and government policies are key drivers of systemic change. Asset owners that are most climate-aware should therefore engage with policy makers to accelerate the integration of climate risk analysis and mitigation across the whole investor and financial community.

Strengthening long-term investor involvement in the ‘rules of the game’ that govern the financial system is a strategic area of interest: WWF believes that given the high urgency of the climate challenge, asset owners should swiftly and unequivocally engage with policy makers in favour of the proper implementation of the Paris Agreement – as the best pathway to mitigate their climate-related risks, protect the long term value of their assets and invest in the best interest of members and beneficiaries (see the evaluation of climate finance evidence in chapter 1 and strategic advice from financial stakeholder in chapter 3).

Asset owners can usefully refer to the analysis and recommendations on engagement with policy makers from PRI, UNEP-Inquiry, UNEP Finance Initiative and UN Global Compact on 'The case for investor engagement in public policy' (PRI et al 2014).

WWF recommends policy engagement in three areas:

Firstly, asset owners should support climate and energy policies and regulations that are in line with the well below 2°C goal embedded in the Paris Agreement. This notably includes:

- The rapid ratification of the Paris Agreement by remaining countries⁸ and the review of Nationally Determined Contributions (NDCs) by countries in 2018 to align them with the forthcoming IPCC 1.5°C scenario and close the gap.
- Ambitious greenhouse gas emission reduction targets for 2030 and 2050 (e.g. at least 95% reduction in the EU by 2050), consistent with the Paris Agreement.
- Adequate climate legislation (e.g. adequate carbon pricing for the EU Emission Trading System).
- Adequate energy legislation (e.g. EU Renewable Energy Directive and Energy Efficiency Directive).
- The phasing out of fossil fuel subsidies by 2020 at the latest.
- Adequate support/frameworks for low carbon businesses, including infrastructure (smart grids, charging systems for electric vehicles, etc).
- Generally, preventing any attempt to weaken climate and energy policies and regulations that aim to decarbonise the economy and implement the Paris Agreement.

Secondly, asset owners should support adequate climate- and wider ESG-related financial disclosure policies and regulations for companies to ensure that relevant climate and ESG data become available to investors (and a wider audience) so that they can make informed investment decisions and ensure proper capital allocation. This notably includes the following elements:

- The TCFD recommendations are an unprecedented opportunity to improve climate-related financial disclosure. They should be swiftly transposed into European and/or national legislation, with an emphasis on climate scenario and forward-looking analysis as emphasized by the TCFD. Climate-related financial disclosure should be a part of the EU sustainable finance strategy committed to by the European Commission for early 2018 on the basis of the recommendations from the EU High Level Expert Group on sustainable finance (European Commission 2017a).
- Harmonisation work should gradually foster standard ESG factor disclosure by companies within a consistent global reporting framework. For that purpose, policy makers should ensure clear and consistent definitions of ESG with detailed taxonomies where relevant; they should also work towards the harmonisation of reporting standards, frameworks and guidelines.

Thirdly, asset owners should support financial policies and regulations that drive better understanding of climate-related risks and opportunities for investors, through the assessment and mitigation of climate and wider ESG risks for investors – with the goal of portfolio alignment with the Paris Agreement. This notably includes at the European level:

⁸ As of August 2017, 160 countries have ratified the Paris Agreement out of 195 signatories; in June 2017 the United States stated its intention to withdraw from it.



- The promotion of responsible investment and forceful stewardship: clarification that fiduciary duties include material climate and wider ESG factors for investors; publication of the responsible investment policy and of the engagement policy of the investor demonstrating how climate change and wider ESG issues are factored into stewardship activities.
- The understanding of climate-related risks and opportunities for investors, through the assessment and disclosure of portfolio alignment with the Paris Agreement building on forward-looking climate scenario analysis. The analysis should use a commonly defined/standardised well below 2°C scenario (and 1.5°C scenario when available) to ensure comparability. Climate alignment assessments can be carried out by the asset owner, by the regulator or by third parties.
- Building on best practice, greater public disclosure of holdings data across a broad range of asset classes, to the benefit of asset owners, their members and regulators. Publication of the underlying holdings data increases confidence through public scrutiny; it also builds momentum across the investor community. There is scope for voluntary requirements to become mandatory over time (WWF 2017a).
- The acceleration of large-scale capital reallocation, through notably the development of robust, credible, fully developed and widely-accepted standards for green bonds, sector by sector.

5.6 ENGAGE WITH MEMBERS AND BENEFICIARIES

WWF RECOMMENDS ASSET OWNERS TO:

- Ensure they have a sound understanding of the broad range of long term sustainability interests and preferences of their members and beneficiaries (notably on climate change).
- Incorporate such preferences in their investment policy.
- Disclose in a clear and understandable manner to their members and beneficiaries how such preferences were considered.

A survey of over 7000 respondents in 22 countries by Natixis Global Asset Management found that **social and environmental objectives are an important factor for around 70% of them** (Natixis 2017). Similarly, a survey from Schroders surveying 22,100 people from 30 countries found that 78% think sustainable investing is more important to them now than five years ago. People are also keen to improve their knowledge about investments that make a positive impact (Schroders 2017).

There is evidence that such long term sustainability interests and preferences of individuals (notably on climate change) are not factored in adequately by asset owners (2° Investing Initiative 2017).

Such issues should be better integrated by asset owners. It is crucial that members and beneficiaries who wish to be informed and express their views are provided financial education, are asked about their long term interests and preferences, and are explained how the asset owners integrate such preferences.



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The Glentagart open cast coal mine in Lanarkshire, Scotland, UK.

6.



NEXT WWF STEPS

The present WWF Climate Guide to Asset Owners is a first step in WWF's work to help align asset owners' portfolios with the Paris Agreement. While significant action can be undertaken on that basis, WWF recognises that several climate-related tools, methodologies and products are still at early stage and that more work is needed.

To better assist asset owners on their journey towards portfolio alignment with the Paris Agreement, WWF is preparing sector-specific recommendations for asset owners on **coal mining** (Autumn 2017), **coal and renewable power** (Autumn 2017), **oil and gas extraction** (Autumn 2018), and **real estate** (tentatively Autumn 2018).

WWF is also partnering with several stakeholders to drive a meaningful shift in financial flows: developing a methodology and tool to set climate science-based targets for investors; deepening company-level analysis (notably on corporate alignment with the Paris Agreement) to provide more in-depth analysis to investors for engagement with key high and low carbon companies and sectors; ensuring a comprehensive and harmonized management framework with tools, methodologies and metrics for assessing portfolio alignment with the Paris Agreement for all relevant asset classes and sectors; providing further analysis on low carbon / sustainable indices; and exploring portfolio alignment with environmental science and international agreements beyond climate change (such as the Sustainable Developments Goals).

In parallel WWF is engaging with public policy makers on disclosure issues (implementation of TCFD recommendations and of the French Article 173), on sustainable finance issues, and has a representative in the EU High Level Expert Group on sustainable finance.

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WWF CLIMATE GUIDE TO ASSET OWNERS: ALIGNING INVESTMENT PORTFOLIOS WITH THE PARIS AGREEMENT

RISKS

Climate-related value at risk for asset owners could reach up to US\$43trillion (Economist Intelligence Unit 2015).

OPPORTUNITIES

A 2°C scenario doesn't jeopardise financial returns (Mercer 2015).




JOURNEY

This Guide provides operational recommendations to asset owners in their efforts to address climate change.

LEADERSHIP

Some asset owners have already committed to align their investment portfolio with the Paris Agreement.

	<p>Why we are here To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.</p> <p>wwf.eu</p>
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