

# Climate change

## The investment perspective





Climate-related risks are too far-reaching for financial institutions to avoid entirely. They will impact all sectors, and require tangible actions to address these issues.

## Contents

Executive summary	1
The complex financial impact of climate risks	2
How did we get here – and what comes next?	4
Climate and the investment value chain	8
Challenges and responses:	
Asset owners	11
Asset managers	13
Consultants, advisors and ratings agencies	14
Banks	15
Conclusion	16

---

# Executive summary

The risks posed by “stranded assets” – assets that unexpectedly lose value as a result of climate change – are rapidly climbing the investment industry’s agenda.

**The 21st annual Conference of the Parties (COP 21), held in Paris during December 2015 and ratified in early October 2016 by 74 signatories, has propelled global warming toward the top of the financial services agenda. Even so, the sheer scale of the issue makes it a challenging one for many institutions.**

Stranding may have grabbed the headlines, but it is arguably the tip of an iceberg. If commitments to limit global warming to 2°C are to be fulfilled, then the coming decades will see a worldwide “energy transition” with vast financial implications. Financial institutions face many interrelated and highly complex climate-related risks. On the upside, research suggests that investment opportunities arising from the energy transition will actually outweigh climate-related risks in the long term.

The scale of these issues calls for an urgent response across the investment value chain. Individual firms also have a fiduciary duty to address climate-related opportunities to enhance value of the investment. Indeed, climate-related risks are too far-reaching for financial institutions as the possible value creation or erosion can be significant. They will impact all sectors, including extraction industries (mining and energy), manufacturing, and carbon sinks\* such as forestry. A dearth of consistent, reliable data and an absence of credible analytical models also mean that investment professionals trying to address climate change are largely working in the dark.

Despite these obstacles, financial institutions are taking tangible actions to address climate-related challenges. This not only allows them to begin identifying risks and opportunities. It also shows that external stakeholders such as regulators, individual investors and the media are playing an active role in the energy transition.

The report will address a number of specific steps that asset owners, asset managers, banks and other players, such as consultants and advisors should consider taking. These vary between institutions, but consistent themes include:

- ▶ Developing investment beliefs
- ▶ Strengthening governance and risk management
- ▶ Working with clients to develop investment strategies
- ▶ Engaging with other financial institutions and nonfinancial companies

Above all, it is vital for financial institutions to understand that addressing stranding risks and other financial risks and opportunities of climate change is not a one-off process. It needs to become a permanent part of everyday decision-making.

Addressing climate change requires collective action and collaboration across the investment value chain. But individual institutions bear ultimate responsibility for managing climate-related risks and opportunities on behalf of their clients and their own shareholders. Those that respond proactively will create value for their clients, give themselves a competitive advantage, reduce systemic financial risks and make an invaluable contribution to society as a whole. However, those who fail to take action will soon experience the implications across the whole investment value chain, resulting in significant costs and damage to economies.

\* A carbon sink is a forest, ocean, or other natural environment viewed in terms of its ability to absorb carbon dioxide from the atmosphere.

# The complex financial impact of climate risks

The Paris Agreement of December 2015, ratified in early October 2016, provides a milestone achievement in a series of events, speeches and reports that have propelled the issue of climate change to prominence over the past two years.

The potential financial consequences of climate risk are often debated in terms of “stranded assets.” The value of global financial assets at risk from climate change has been estimated at US\$2.5t by the London School of Economics,<sup>1</sup> and US\$4.2t by the *Economist*.<sup>2</sup> For comparison, the annual Gross Domestic Product (GDP) of Japan, the world’s third largest economy, is worth about US\$4.8t.

The staggering scale of these potential losses has done a lot to raise awareness of climate risks in investment circles. But “stranding” is only part of a complex range of climate risks – each of which creates its own opportunities. Climate risks can be summarized as:

- ▶ **Physical:** damage to land, buildings, stock or infrastructure owing to physical effects of climate-related factors, such as heat waves, drought, sea levels, ocean acidification, storms or flooding
- ▶ **Secondary:** knock-on effects of physical risks, such as falling crop yields, resource shortages, supply chain disruption, as well as migration, political instability or conflict
- ▶ **Policy:** financial impairment arising from local, national or international policy responses to climate change, such as carbon pricing or levies, emission caps or subsidy withdrawal
- ▶ **Liability:** financial liabilities, including insurance claims and legal damages, arising under the law of contract, tort or negligence because of other climate-related risks
- ▶ **Transition:** financial losses arising from disorderly or volatile adjustments to the value of listed and unlisted securities, assets and liabilities in response to other climate-related risks
- ▶ **Reputational:** risks affecting businesses engaging in, or connected with, activities that some stakeholders consider to be inconsistent with addressing climate change

This simplified list is only a starting point for assessing climate-related risks. Scientists expect many physical effects of climate change – such as polar melting – to be self-reinforcing. Different types of these risks can interact with each other in complex ways, for example when physical effects lead to migration, causing economic instability or underinvestment, all contributing to the stranding of the core asset. Other external factors also have huge potential to complicate or enhance climate-related risks. These factors include oil, gas, coal and energy prices, the potential for emerging renewable technologies to render existing infrastructure uneconomical, and the views of consumers, lobbyists and nongovernmental organizations.

As complex as climate risks may be, they only represent half the story. Global GDP is expected to triple by 2060, driven largely by developing markets.<sup>3</sup> Yet, today, 1.3 billion people in those markets still have no reliable access to electricity.<sup>4</sup> Delivering the power that global development will require represents a vast investment opportunity. Research suggests that the economic benefits of investment will outweigh the costs of inaction. Studies by both the London School of Economics and *Economist* (referenced earlier) expect total global output to be higher under a lower emissions scenario; Citigroup expects investment in climate change mitigation to generate attractive and growing yields;<sup>5</sup> and Mercer believes a 2°C scenario will not harm diversified returns to 2050, and would be accretive thereafter.<sup>6</sup>

Of course, the precise balance of investment risks and opportunities will depend on future climate scenarios, and what investment decisions will be made – whether through conventional means, e.g., coal-fired power stations, which add to global warming and climate change, or through low carbon means to help mitigate the problem. But, in aggregate, the post-Paris “energy transition” should not present fears for well-prepared investors.

**1.3 billion people  
in the developing markets still  
have no reliable access to  
electricity.**

---

## Climate change scenarios

Climate change scenarios are used by public and private sector bodies as a basis for policy decisions and economic planning. Financial institutions can develop their own scenarios, but many will find it easier to adapt those used by expert bodies, such as the Intergovernmental Panel on Climate Change (IPCC). Climate change scenarios are often described in terms of post-industrial temperature rises (e.g. “a 2°C scenario” or “a 4°C scenario”), but are properly defined by both probabilities and temperatures. For example, the IPCC’s Representative Concentration Pathway 2.6 (RCP 2.6) offers a 50% chance of limiting global warming to 2°C.

### The IPCC’s latest scenarios are:

- ▶ RCP 2.6 – a “severe mitigation” scenario where significant efforts are made to transition from fossil fuels to alternative energy sources and to try to limit post-industrial global warming to 2°C.
- ▶ RCP 4.5 – an intermediate scenario with material efforts to reduce emissions.
- ▶ RCP 6 – a higher greenhouse gas emission version of the intermediate scenario.
- ▶ RCP 8.5 – a high greenhouse gas emissions (or “inaction”) scenario with no additional effort to limit emissions.

Each scenario makes assumptions about the levels of greenhouse gas emissions and the capture mechanisms required to achieve it. Understanding and questioning those assumptions is crucial to gaining valuable insights from scenario planning.

Source: Pachuari, Meyer, “Climate Change 2014: Synthesis Report – Summary for Policymakers”, Intergovernmental Panel on Climate Change, 2014, © 2014 IPCC

# How did we get here, and what comes next?

Sustainability campaigners have tried for years to use the financial industry as a lever for environmental action. However, direct activism has often been counter-productive and deterred financial institutions from engaging with climate-related issues.

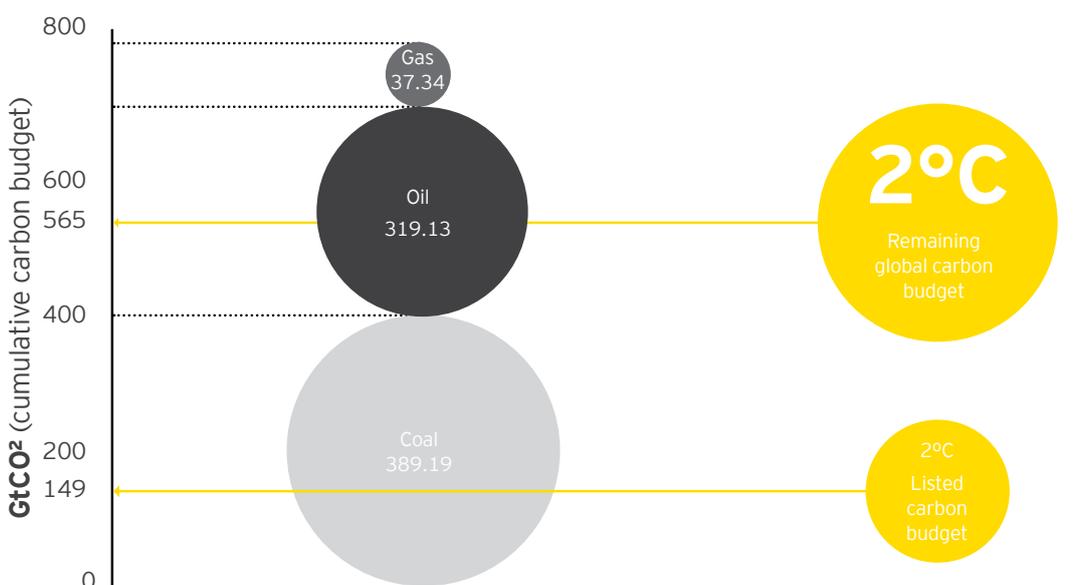
In contrast, research-led campaigns – such as Carbon Tracker’s influential *Unburnable Carbon* reports – have done much more to raise awareness of stranding risks and spark debate over other climate-related factors. Figure 1 from the Carbon Tracker Initiative reflects the surplus of oil and coal that exists that would not be useable in a 2°C scenario. This awareness has led to the development of more than 400 national and international corporate disclosure schemes, such as the International Integrated

Reporting Council (IIRC) and the World Bank’s Carbon Pricing Leadership Coalition (CPLC). Approximately 90% of FTSE 100 and 80% of Fortune Global 500 companies participate in at least one of these schemes.<sup>1</sup>

At the same time, institutional investors such as pension funds and insurers have made commitments to improve the disclosure of the carbon footprints of their investments. For example, 2014 saw the Montreal Carbon Pledge signed by 92 institutions managing US\$6t in assets, and the Global Investor Statement on Climate Change signed by 347 institutions managing US\$24t. The Carbon Disclosure Project (CDP) has also been a key contributor in this area, not just for carbon.

**Figure 1: Carbon dioxide emissions potential of listed fossil fuel reserves**

The below graph shows the relative 2 degree carbon budget against listed fossil fuel reserves. It demonstrates the large disconnect between what is being invested and what the Paris Agreement will allow.



Source: *Unburnable Carbon Report*, Carbon Tracker Initiative

# Timeline on climate action

## 1987-2016

1987

**The World Commission on Environment and Development** issues the report *Our Common Future* with the most commonly accepted definition of sustainability as: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

1990

**UN General Assembly negotiations on a Framework Convention begin in December.** The Intergovernmental Negotiating Committee (INC) held five sessions, where more than 150 states discussed binding commitments, targets and timetables for emissions reductions, financial mechanisms, technology transfer, and "common but differentiated" responsibilities of developed and developing countries.

1991

**The United Nations Framework Convention on Climate Change (UNFCCC) opens for signature at Rio Earth Summit in June,** bringing the world together to curb greenhouse gas emissions and adapt to climate change.

1997

**Kyoto Protocol is adopted in December 1992,** establishing for the first time in history global commitments to reducing carbon emissions and to fight climate change.

2001

The **seventh Conference of the Parties (COP7)**, held in Marrakesh in November 2001, formalized the agreement on operational rules for International Emissions Trading Association (IETA), the Clean Development Mechanism (CDM) and Joint Implementation (JI) along with a compliance regime and accounting procedures.

2002

**The Global Reporting Initiative (GRI) and the Extractive Industry Transparency Initiative (EITI)** are launched, increasing corporate transparency, allowing stakeholders to hold them accountable for their contributions to sustainable development.

2005

**The UN-backed Principles for Responsible Investment (PRI) are launched,** a catalyst for financial markets to adopt responsible investment approaches.

2005

**EU Emissions Trading launches** in January 2005 – the first and largest emissions trading scheme in the world, launches as a major pillar of EU climate policy. Installations regulated by the scheme are collectively responsible for close to half of the EU's emissions of CO<sub>2</sub>.

2006

**The Stern Review** concludes that climate change damages global GDP by up to 20% if left unchecked, and climate change emerges on the global business agenda.

2010

The Cancun Agreements establishes the Green Climate Fund in December 2010.

2014

**The European Union** issues a new directive on nonfinancial reporting, requiring all large public interest entities with more than 500 employees to report on policies, risks and outcomes related to environmental, social and governance (ESG) matters.

2014

**The Intergovernmental Panel on Climate Change (IPCC)** releases the synthesis report of its fifth assessment report, which underlines the urgency of climate action in March 2014.

2015

In December 2015, the **21st Conference of the Parties (COP21)** convenes countries and forms an agreement to limit temperature rise to two degrees. This may mean that far-reaching measures must be taken, such as limiting fossil fuel extraction, implementing carbon pricing mechanisms on a global level, and company disclosure on emissions intensity of asset portfolios.

2016

In October 2016, the **landmark Paris Agreement**, requiring 55 countries representing 55% of global emissions of greenhouse gases, is ratified after 10 more countries formally endorse the deal.

The volume of financial debate on climate change increased significantly in 2015. In May, France introduced **Article 173** of a new law on energy transition, requiring institutional investors to disclose how they manage climate risks. In June, a UN report on responsible investing stated that pension funds in the developed world have an obligatory duty to consider sustainability as part of their fiduciary responsibilities.<sup>1</sup> In September, Bank of England Governor Mark Carney explicitly linked climate change to financial stability in a major speech.<sup>2</sup> The year also saw a range of eye-catching commercial research findings focused on stranded assets:

- ▶ Standard & Poor's stated that climate risks influenced its downgrade of Volkswagen and could affect 299 other ratings<sup>3</sup>
- ▶ HSBC calculated that fossil fuel equities could fall by 40-60% in a low emissions scenario<sup>4</sup>
- ▶ Barclays predicted that Germany's coal generation assets could be effectively worthless by 2030<sup>5</sup>

In retrospect, it seems clear that Mark Carney's *Tragedy of the Horizon* speech and the landmark Paris Agreement represent a major turning point in the climate debate. Institutional investors can be in no doubt of the potential for climate risks to lead to financial ones.

Financial institutions are also increasingly aware of international efforts to honor the Paris Agreement's third objective: making "finance flows consistent with a pathway towards lower greenhouse gas emissions and climate-resilient development." In particular, the Financial Stability Board's Taskforce on Climate-Related Financial Disclosure (TCFD) aims to facilitate this "energy transition" by improving global transparency over climate-related reporting. The TCFD's final report, due in February 2017, will intend to suggest historic and forward-looking quantitative and qualitative disclosures, as well as making recommendations for securities issuers, listed companies and financial institutions.

Furthermore, financial institutions are realizing that the transition to a lower-carbon future, including understanding which assets are likely to become stranded, will also create investment opportunities. The potential upside of the energy transition has received relatively little attention to date, but that is changing fast. One example of this is contained in the *G20 Green Finance Synthesis Report*, which highlights the voluntary options that could enhance the ability of the financial system to mobilize private capital for green investment.<sup>6</sup> The rest of this paper considers what actions different financial institutions can take to mitigate climate risks and maximize the related opportunities.

Diane Larsen, Assurance Partner, Ernst & Young LLP, in our Americas' practice is the EY representative on the Taskforce on Climate-related Financial Disclosures (TCFD). EY is one of the four project managers on the task force providing recommendations across sectors on how companies can identify, manage and evaluate climate change risks and opportunities.



# Climate and the investment value chain

Investment decisions are already reflecting climate risks. This is illustrated by the US\$20b decline in the market capitalization of Peabody Energy over the past few years, a textbook example of stranding.<sup>1</sup>

However, reducing exposure to coal or any other sectors cannot protect investors from climate risks.

As Julian Poulter of the Asset Owners Disclosure Project (AODP) describes it, “the scale and breadth of these risks mean they simply cannot be avoided or diversified away. They will impact all sectors and asset classes in different ways.”

## Which sectors will climate risks affect, and which assets will they leave stranded?

**The short answer is that climate risks impact every sector. It is simply not possible to say that any climate change scenario is either “good” or “bad” for a specific industry. Every sector requires energy and has some carbon exposure, including knowledge-based industries such as financial services, pharma or healthcare. Each company’s exposure will depend on business models, strategies, locations, assets and liabilities.**

- Coal mining and transportation
- Oil and gas
- Natural resource extraction
- Power generation and utilities

**Other sectors that are heavy users of energy or particularly emission intensive are:**

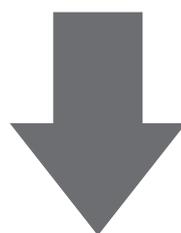
- Chemicals
- Steel
- Industrial manufacturing
- Construction
- Transportation

**And there are sectors that act as “carbon sinks”, such as:**

- Agribusiness
- Forestry

**However, it is just as important to stress that individual companies within all of these sectors could also offer investment upsides. Looking forward, other established and emerging sectors that could help to mitigate climate risks might also include:**

- Manufacturers and operators of renewable energy assets
- Energy efficiency technology
- Climate capture and storage
- Batteries and other forms of energy storage



# US\$20b

decline in the market capitalization of Peabody energy over the past few years, a textbook example of stranding.<sup>1</sup>



The scale and breadth of these risks mean they simply cannot be avoided or diversified away. They will impact all sectors and asset classes in different ways.

Julian Poulter, Asset Owners Disclosure Project (AODP)



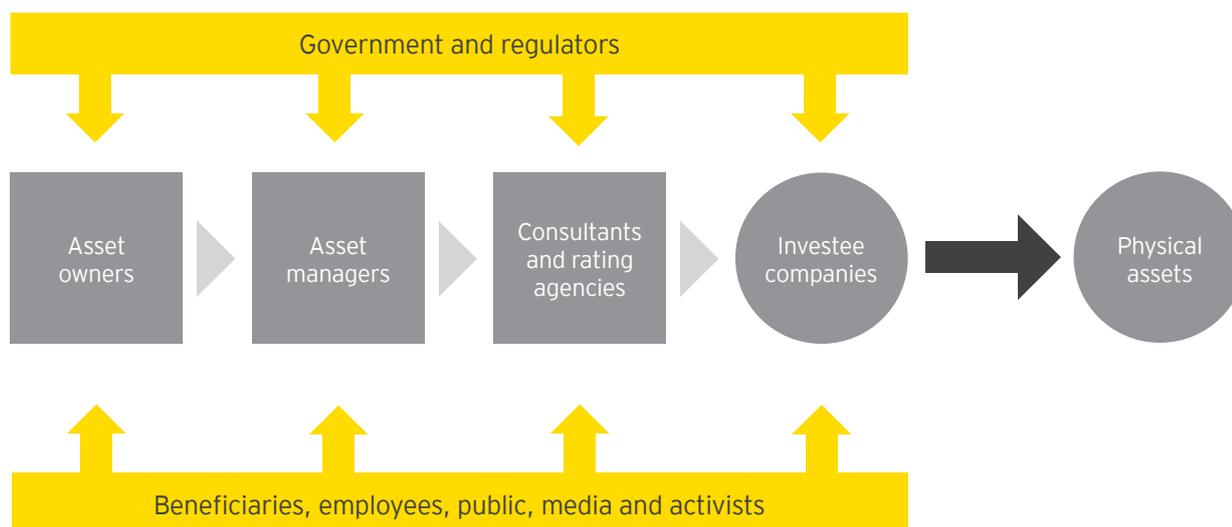
Nor are risks clear-cut, as illustrated by the complexity of the “unburnable carbon” debate. Despite estimating that only 700-800b of the world’s 1.7t proven barrels of oil will be required under a 2°C scenario, the International Energy Agency (IEA) still believes significant investment in oil exploration and production is required. That reflects a range of factors including oil prices, OPEC policy, geopolitics and the different costs of producing oil from sands, shale, onshore and deep water sources.

Unfortunately, it is difficult for financial institutions to make precise judgements about climate risks – or related investment opportunities. One major problem is the absence of sufficiently detailed, reliable and consistent data. The TCFD is widely viewed as the most encouraging disclosure initiative to date, but it is far from an ideal solution. In the opinion of Ben Caldecott, leader of the University of Oxford’s Sustainable Finance Programme, “the TCFD is a step in the right direction, but much greater detail is required for meaningful analysis to be possible. Investors need a scientific approach based on detailed emissions data at individual asset level.”

Financial institutions are also working without robust investment models. Macro-level Integrated Assessment Models (IAMs), such as the “social cost of carbon” (SC-CO) model used by the US EPA have serious limitations and do not support individual investment decisions.

The problems of data and analysis will not be resolved overnight. Furthermore, financial institutions need to respond to the actions of other players in the investment value chain, not to mention the shifting agenda of stakeholders including governments, regulators, customers, staff and the media (see figure 2). Even so, actors in the investment value chain need to address climate risks sooner rather than later. The sections that follow consider what specific actions different players can take to try and optimize their own responses.

**Figure 2: The investment value chain**



The efficient movement of capital up and down the value chain depends on every player’s ability to provide the others with useful and accurate information and guidance.



There are steps that all asset owners can take to optimize their response to climate-related issues.

# Challenges and responses:

## Asset owners

Insurers, pension funds and other asset owners are increasingly keen to address the financial aspects of climate change. Institutions want to show regulators, their own investors and the public that they can manage climate-related risks and opportunities – just as they manage other investment variables.

- ▶ EY's 2015 survey of institutional investors shows that 36% of respondents divested assets during the previous year in response to ESG factors, with a further 27% planning to monitor this risk more closely in future.<sup>1</sup>
- ▶ AODP's 2016 *Global Climate 500 Index* shows that 97 of the world's 500 largest asset owners are taking tangible action on climate risks, compared with 77 in 2015. A further 157 are taking initial steps to address climate-related factors.
- ▶ Major institutions are beginning to publicize investment decisions around climate risks, citing their fiduciary duty to address sustainability. In 2015, the Government Pension Fund of Norway began screening for material coal exposures; the Rockefeller Foundation plans to withdraw from fossil fuels; and Aviva, AXA and Aegon are all looking to reduce their carbon exposure.
- ▶ Major asset owners are working collectively to demand better climate-related disclosure from investee companies. For example, a recent report by the European Institutional Investors Group on Climate Change called for investee companies to provide greater clarity over energy consumption, "transition pathways" and the internal use of carbon pricing.<sup>2</sup>
- ▶ Institutional investors are increasingly willing to provide direct finance for renewable assets, or to invest in green bonds and other debt instruments backed by renewable energy revenues. Recent research by HSBC predicts that the global total of outstanding green bonds could be as high as US\$158b by the end of 2016.<sup>3</sup>

Even so, many asset owners are only beginning to respond to stranding and other risks. Many lack the in-house expertise to develop an informed view about climate change scenarios. As one UK pension fund trustee put it "we just don't have the ability to critically evaluate the decisions of asset managers in this area." More broadly, asset owners find it hard to incorporate climate risks into investment strategies while meeting their solvency and performance benchmarks. EY's survey shows that only 24% of institutions frequently factor ESG considerations into their investment decisions.<sup>4</sup>

Fortunately, there are steps that all asset owners can take to optimize their response to climate-related issues. "Insurers, pension funds and other institutions can ask themselves some key questions to assess their readiness," says Christina Larkin, Manager, Climate Change and Sustainability Services practice, Ernst & Young LLP.

**Are we prioritizing climate-related issues?** Clear leadership from the top of the organization is essential. Asset owners need to show that they intend to take advantage of their unique influence to shape the financial debate over climate change.

**Have we set up a climate change governance framework?** Developing investment beliefs or policies that reflect the house view on ESG issues, such as climate change, is vital to developing a coherent strategic response.

**Are we translating investment beliefs into decisions about asset allocation or investment strategy?** This could mean factoring climate-related risks and opportunities into sector views, even if the impact is rarely clear-cut. Asset owners might also review their balance between passive assets and those actively managed with an eye to climate-related risks and opportunities.

**Are we engaging with prospective and current asset managers?** Asset owners need to scrutinize managers' climate-related beliefs and procedures, their research and investment strategies, their skills, capabilities and access to data, their top-down views of asset allocation, and their approach to bottom-up stock picking. Asset owners may also find investment consultants and other advisors to be a useful source of guidance as they consider the risks and opportunities of a range of asset classes and investment vehicles (see next page).

**Are we engaging directly with investee companies?** Asset owners have a fiduciary duty to consider ESG issues when evaluating long-term value drivers. Financial institutions can take direct action to ensure that companies are addressing climate risks adequately. This can take place in private or, if required, by publicly challenging companies on their attitudes to climate change. Investor pressure for more detailed climate-related disclosure was a notable feature of two oil majors' AGMs in May 2016,<sup>5</sup> and EY's survey shows that 64% of investors believe corporations are currently making ESG disclosures that are inadequate.<sup>6</sup>

4. "Tomorrow's Investment Rules 2.0", EY Climate Change and Sustainability Services, October 2015, © 2015 EYGM Limited

5. "Exxon, Chevron shareholders narrowly reject climate change stress tests", Wall Street Journal, 25 May 2016

6. "Tomorrow's Investment Rules 2.0", EY Climate Change and Sustainability Services, October 2015, © 2015 EYGM Limited



---

## Asset classes and investment vehicles

A wide range of asset classes can expose financial institutions to climate-related risks and returns. Looking forward, credit markets may offer the greatest potential for growth. Investor demand for yield is strong, and renewable energy and energy efficient assets have the potential to generate stable cash flows to fund the costs of debt.

- ▶ Secured debt – Senior, secured debt offers low risks and returns. Despite current low yields, secured debt is ideally suited to financing renewable energy or other growing industries. However, low sovereign credit ratings make it hard for asset owners to find attractive opportunities in emerging markets.
- ▶ Subordinated bonds – Green bonds are an increasingly popular vehicle for fixed income investors seeking an environmental return as well as a financial one. Green bond markets have grown significantly in recent years, with a record US\$41.8b issued in 2015. The scope for growth is enormous, given the potential for green bonds to finance the infrastructure, such as low carbon transport, required to achieve an effective energy transition.
- ▶ Project finance – Asset owners are increasingly willing to provide initial project finance for the development or construction of real assets in areas, such as solar power generation or windfarms.
- ▶ Listed equities – Common equity exposes investors to comparatively high risks and returns. The losses some investors have made on the equity of listed coal producers illustrate the potential downside, but equity can also offer significant capital or yield upside when issued by high growth companies.
- ▶ Property and real estate – On one hand, existing real estate assets can be highly vulnerable to the physical effects of climate change. On the other, one third of global greenhouse gas emissions are a result of energy use in construction, presenting large opportunities for climate change mitigation.
- ▶ Asset-backed securities (ABS) – Securitization offers growing scope for large asset owners to invest in small-scale assets, such as rooftop solar or wind. Residential solar ABS has been issued in markets including the US and China.

# Asset managers

The financial implications of climate change represent a major challenge for asset managers. Asset owners and, increasingly, regulators expect them to demonstrate specific policies and processes to identify and mitigate stranding risks.

However, many are struggling to provide anything more than general reassurances about existing risk management procedures. This is especially true for managers investing in emerging markets. The problems of reliable data and analysis also strike at the heart of asset managers' business models. Many are frustrated by the difficulty of obtaining climate-related information from investee companies. Portfolio managers specializing in oil and gas, energy, mining or utilities often struggle to reconcile third party academic and economic research with the plans and projections they receive from investee companies.

The good news is that there is a major opportunity on the other side of these challenges. Asset managers that can limit climate-related losses and seize on investment upsides have a chance to claim a valuable advantage in an extremely competitive industry. The prospect of increasing scrutiny from consultants and other observers will only enhance the benefits for early adopters and champions in this space.

There is no such thing as a perfect climate strategy for asset managers, but there are a number of positive steps that asset managers can explore, if they have not done so already:

## **1. Adapt governance and culture to overall business strategy.**

Change existing governance and risk management frameworks to take account of climate-related risks and opportunities. The United Nations Environment Programme's Financial Institutions framework is one example of best practice that firms can adopt. Developing a statement of investment principles or beliefs on climate change will help to prevent contradictory decisions and avoid any appearance of inconsistency – something asset owners are increasingly sensitive about.

**2. Communicate with asset owners.** Asset managers need to understand investors' qualitative and quantitative views and factor them into investment decisions. Firms also need to ensure that they are being as open as possible with asset owners about their own governance arrangements, risk management controls and investment processes, and taking a flexible approach to environmental investments – as suggested in a recent report by Barclays.<sup>1</sup>

**3. Explore “tilting” investment strategies.** It is not feasible to incorporate climate-related factors into entirely passive strategies, but there are several possible quasi-passive approaches to follow. Mutual or exchange traded funds can be set up to track low-carbon or ESG versions of major indices, such as S&P Dow Jones' series of Carbon Efficient indices. Asset managers can tailor broad-based or multi-asset funds for major investors. Firms can also set up retail impact funds incorporating environmental factors, as BlackRock has done.

**4. Establish active management and stewardship.** As yet, there are no proven quantitative mechanisms for factoring climate-related factors into asset valuations. Active portfolio managers may be used to judging intangible factors, but many will find semi-quantitative screening a useful starting point for traditional stock-picking. Active asset managers also have a unique role to play as stewards of investee companies. This includes questioning them rigorously, voting on climate-related resolutions, emphasizing the value that investors place on climate-related disclosure, and stressing the potential valuation upside from engaging with the issue.

**5. Engage and collaborate with the industry.** Engage with policymakers and regulators to ensure that incoming disclosure schemes meet the requirements of investment analysis. Talk to investment banks to understand current and potential vehicles for investment in renewable energy, carbon capture and other emerging technologies in both developed and emerging markets. Use industry bodies and other groupings to compare notes with peers and speak with one voice on climate-related issues. Consider the creation of a shared industry database of asset-level carbon risk data.

1. “Investing in the Environment”, *Barclays*, March 2016, © 2016 Barclays Bank PLC

# Consultants, advisors and ratings agencies

Investment consultants, ratings agencies and other advisors have a valuable opportunity to help asset owners navigate their way through the uncharted waters of climate-related investment.

Investment consultants in particular can help to bridge the gaps that can develop between investors and asset managers. It is not unusual for climate-related factors to be overlooked, with asset owners assuming that asset managers are taking charge, while asset managers feel unable to take decisions without specific instructions.

Investment consultants can help to ensure that asset owners make their priorities clear through investment agreements or via statements of investment principles – as institutions such as the UK Environment Agency Pension Fund have done. In doing so, they may need to convince investors that they can tackle climate-related issues without

negatively impacting investment performance. Consultants can also help investors to balance their portfolios – perhaps by offsetting a large slice of passive assets with smaller active mandates. Mid-tier institutions, such as local authority pension funds are likely to be especially grateful for guidance.

As already mentioned, credit ratings agencies are beginning to incorporate climate risks into their ratings methodologies. In time, there may be scope for an incumbent or a new entrant to provide a ratings service dedicated to ESG metrics including carbon emissions. In the words of Herve Guez of Mirova, “an ESG equivalent of Moody’s, Fitch or S&P will take time to emerge, but would create a huge amount of value across the investment universe.”



# Banks

Banks, investment banks and broker-dealers play a wide variety of roles within the investment value chain, both as providers of finance and as facilitators of investment.

Regulators, shareholders and activists, aware of this pivotal role, are encouraging the banking industry to address climate-related risks and opportunities. Given their complex business models, it is particularly important for banks to develop a consistent view on climate-related issues that can serve as the basis for strategic and operational decisions across a range of business units. As for asset owners and asset managers, banks also need to incorporate climate risks into their overall governance and risk management frameworks.

The banking industry can respond to climate-related issues in two ways. The first is through their own balance sheets. Many banks are taking steps to monitor their balance sheet exposure to stranding risks, often adapting frameworks supplied by specialists, such as Carbon Tracker. For example, several Australian banks have publicly documented their adoption of a top-down approach that combines internal sector exposure data with external emissions data to estimate the carbon intensity of their lending books. Even if this can only offer an approximate measure of risk, it still provides a starting point for future assessments of balance sheet exposure.

Banks can also take climate-related factors into account when making forward-looking lending decisions. This is particularly true given the long-term nature of many lending commitments and the consequent risk of exposure to unpredictable policy shifts. Like other financial institutions, banks are limited in their ability to make quantitative judgements about climate-related data. However, that does not prevent them from developing a lending strategy that combines their views on the energy transition with other strategic considerations, such as growth targets or geographic priorities. Banks can also contribute to collective organizations, such as the 2° Investing Initiative, exploring new tools for assessing climate-related investments. At a micro level, banks also need to ensure that they are taking note of specific risks to assets or borrowers from local changes, such as energy efficiency regulations.

Banks' advisory activities as facilitators of investment represent the second way they can respond to climate-related issues. Sell-side research is one aspect of this, and has a key role to play in shaping the debate on environmental economics. Sell-side analysts hold companies to account by questioning and critiquing companies' performance and plans. Investment banks' research teams are also the most likely source of credible valuation techniques for investors, asset managers and others to use. "I would love to see the sell-side suggest new valuation approaches that go beyond current models – for example, by setting out a way to value oil and gas majors during the energy transition," says Mark Campanale of Carbon Tracker Initiative.

Finally, the advisory businesses of corporate and investment banks can help shape the finance industry's response to climate change. "Banks have a huge role in helping their clients to evolve," explains a director from a major UK bank. "It is banks that can do more than any other institution to help large corporates adapt and move in new directions." The banking industry has been instrumental in the development of green bond markets, and can help develop new investment routes for a changing world. For example, financial vehicles that would allow institutions from developed markets to invest in emerging market assets at investment grades could unlock a powerful new wave in clean energy investment.

In short, there is a huge opportunity for the banking sector to use its central role in modern financial systems to help other financial institutions create value as they transition to a low carbon economy.

# Conclusion

**The growing public debate over climate risks, particularly stranded assets, means that financial institutions are increasingly aware of the potentially vast scale of climate risks. Even though divesting these risks entirely is impossible, many have already taken tangible investment decisions in response.**

Institutions such as insurers and pension funds are also waking up to the opportunities arising from the transition to a low carbon economy, and are working to improve the data and expertise they can call on. Nonetheless, few financial institutions would claim that they have mastered climate-related issues, nor that they fully understand the systemic risks they pose to the stability of the financial system. Players throughout the investment value chain are struggling to get to grips with this uniquely complex issue – one made even more challenging by the unpredictability of future political and regulatory responses, and a lack of reliable data.

There is much that financial institutions can do to address climate-related risks and opportunities. Collective action can be a powerful tool when facing such an intimidating issue. The Portfolio Decarbonization Coalition – launched by the United Nations Environment Programme (UNEP) and the Carbon Disclosure Project, and supported by a range of large insurers, endowments, pension funds and asset managers – is one such example.

Above all, individual actors in the investment value chain have a fiduciary duty to optimize their responses to climate change – as they do for all risks and opportunities. Institutions need to incorporate the management of climate-related issues into their day-to-day activities.

Depending on their role within the investment value chain, firms can take a number of tangible steps including:

- ▶ Developing a considered view of climate change and a set of related policies or goals
- ▶ Strengthening governance and risk management in line with best practice frameworks
- ▶ Adapting their business models to the changing demands of investors
- ▶ Engaging with nonfinancial companies and other institutions in the investment value chain

Financial institutions around the world have a unique opportunity to shape the global transition to a low carbon economy. This will help their clients to optimize climate-related risks and opportunities. It will play an invaluable role in reshaping the global economy. It will reduce the risks of a systemic financial crisis. And it will help individual firms to emerge as winners from the rapidly changing economic order.

---

## EY's experience and knowledge

EY Financial Services and EY Climate Change and Sustainability Services practices operate globally and draw together financial services and sustainability knowledge to provide effective services for our clients. We have wide experience of advising asset owners, asset managers, banks, corporates, governments and regulators on climate-related matters. Some examples of our experience include:

- ▶ Reviewing the potential physical risks of climate change associated with real asset investments on behalf of major asset owners
- ▶ Helping to shape authoritative risk management guidelines such as the UNEP's Financial Institutions framework
- ▶ Auditing climate related and other ESG disclosure on behalf of clients
- ▶ Advising institutional investors on developing a consistent view on climate-related issues, along with a supporting strategy designed to tackle related risks and opportunities
- ▶ Supporting nonfinancial corporations in raising finance via Green Bonds and other investment vehicles

For further information or to start a conversation, please get in touch with one of our EY contacts below.

---

### Further information:

If you would like to discuss this report, please contact:

**Alex Birkin**

Partner, EMEIA Financial Services  
Wealth & Asset Management Lead,  
Ernst & Young LLP  
abirkin@uk.ey.com

**Mark Fisher**

Executive Director, Climate Change and  
Sustainability Services  
Ernst & Young LLP  
mfisher@uk.ey.com

**Shipra Gupta**

Senior Manager, EMEIA Financial Services  
Corporate Sustainability  
Ernst & Young LLP  
sgupta@uk.ey.com

**Christina Larkin**

Senior Manager, Climate Change and  
Sustainability Services  
Ernst & Young LLP  
clarkin1@uk.ey.com

---

To find out more about our sustainability services,  
visit [ey.com/fssustainability](https://www.ey.com/fssustainability).

---

**EY | Assurance | Tax | Transactions | Advisory**

### **About EY**

EY is a global leader in assurance, tax, transaction and advisory services. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.

EY refers to the global organization, and may refer to one or more, of the member firms of Ernst & Young Global Limited, each of which is a separate legal entity. Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients. For more information about our organization, please visit [ey.com](http://ey.com).

### **EY is a leader in serving the financial services industry**

We understand the importance of asking great questions. It's how you innovate, transform and achieve a better working world. One that benefits our clients, our people and our communities. Finance fuels our lives. No other sector can touch so many people or shape so many futures. That's why globally we employ 26,000 people who focus on financial services and nothing else. Our connected financial services teams are dedicated to providing assurance, tax, transaction and advisory services to the banking and capital markets, insurance, and wealth and asset management sectors. It's our global connectivity and local knowledge that aims to deliver the insights and quality services to help build trust and confidence in the capital markets and in economies the world over. By connecting people with the right mix of knowledge and insight, we are able to ask great questions. The better the question. The better the answer. The better the world works.

© 2016 EYGM Limited.  
All Rights Reserved.

EYG no: 03530-164GbI  
ED None



In line with EY's commitment to minimize its impact on the environment, this document has been printed on paper with a high recycled content.

The views of third parties set out in this publication are not necessarily the views of the global EY organization or its member firms. Moreover, they should be seen in the context of the time they were made. This material has been prepared for general informational purposes only and is not intended to be relied upon as accounting, tax or other professional advice. Please refer to your advisors for specific advice.

**[ey.com/fssustainability](http://ey.com/fssustainability)**

---