

A climate primer

An investor's introduction to climate change
UBS Asset Management



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Over the past decade sustainable investing has swung from being a niche strategy, adopted by a select few high conviction clients to the fastest growing investment strategy in the world, according to the Global Sustainable Investment Alliance.¹ Today, over 75% of EMEA based institutional investors take ESG factors into account as part of the investment process.² And leading this move to mainstream integration has been investors' growing awareness of the risks and opportunities posed by climate change.

However, of all the ESG factors, climate change is not only arguably the most urgent in terms of its impact, it's also the most complex and the one which raises the greatest degree of uncertainty.

Climate change is particularly important for our overall sustainable investment strategy given that it is a key material issue across a wide range of sectors. UBS was on the working group that developed the Task Force for Climate Related Financial Disclosures, and we are committed to assessing and reporting on our own risks relating to climate change as well as to providing solutions for clients to integrate climate risks into their investment strategies.

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This climate change primer is designed to give:

- an overview of the climate change debate;
- the key drivers from the perspective of an investor;
- examples of ways in which investors can start to think about climate change and develop investment approaches.

Already a priority

As we have outlined, climate change is already a key priority for many investors. According to the latest USSSIF report published in October 2018, it is the single most important ESG issue considered by asset managers in asset-weighted terms. Managers responsible for USD 3.0 trillion cited climate as their number one ESG concern—a doubling compared to 2016. And in the same report, US institutional investors reflected that sentiment. They also regarded climate change and carbon emissions as the most important environmental issue.

Regulation, regulation, regulation

A key driver underpinning investors' concern with climate change is the efforts of policy makers to address global warming. Efforts which date back over twenty-five years, to the 1992 United Nations Framework Convention on Climate Change, famously opened for signature at the Rio Earth Summit that same year. Today, there are over 1,500 separate pieces of climate policy or legislation in force around the world.³

¹ Source: Global Sustainable Investment Alliance, 2014 and 2016 Global Sustainable Investment Review.

² ESG: Do you or don't you? Responsible Investor survey June 2018.

³ Policy brief. Global trends in climate change legislation and litigation: 2018 snapshot, London School of Economics, Grantham Research Institute on climate change and the environment.

In recent years, many of these initiatives have been introduced in response to the Paris Agreement of December 2015. This requires countries to implement their nationally determined [carbon] contributions (NDCs) and to increase their ambitions over time, in a bid to keep the rise in global mean temperature well below 2°C. And some of these pieces of legislation affect investors very specifically.

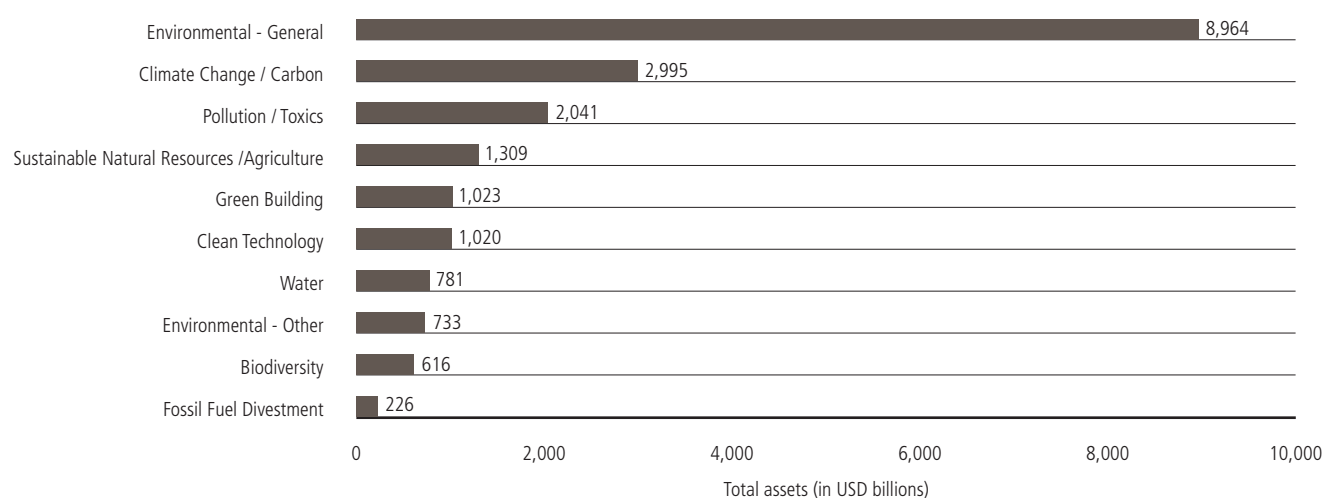
In August 2015, shortly after the Paris Agreement was signed, France became the first country to make climate-change reporting mandatory for institutional investors, set out under Article 173 of the country's law on "energy transition for green growth". In California, comparable steps were taken two months ago, when in September 2018 the state passed legislation requiring the California Public Employees' Retirement System (CalPERS) and the California State Teachers' Retirement System (CalSTRS) to identify climate risk within their portfolios and report triennially, both to the public and the legislature on the level of risk.

The Paris Agreement, together with the UN Agenda for Sustainable Development, has also been responsible for shaping much of policy behind initiatives such as the EU Sustainable Finance Action Plan, which itself has a key emphasis on investment approaches relating to climate change.

Investors, and in particular, institutional investors, therefore have much to grapple with in terms of understanding the raft of legislation and policy which exists, not just around climate change, but sustainable investing more broadly.

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Exhibit 1: Leading Environmental Criteria for Money Managers 2018



Source: US SIF Foundation.

Facing the consequences

Looking more closely at the reasons why there is such urgency around climate regulation, it is very clear from all the evidence that the world needs to align to a low carbon economy.

This is strikingly illustrated by the chart below, which shows three key scenarios:

The reference technology scenario (RTS)

Taking into account recent pledges by countries to limit CO₂ emissions and improve energy efficiency would help to temper this growth. But from 2013 to 2050 we would see CO₂ emissions continue to grow. This would be consistent with temperature rises of 4 degrees and, even in the best cases, 3 degrees.

The 2 degree scenario (2DS)

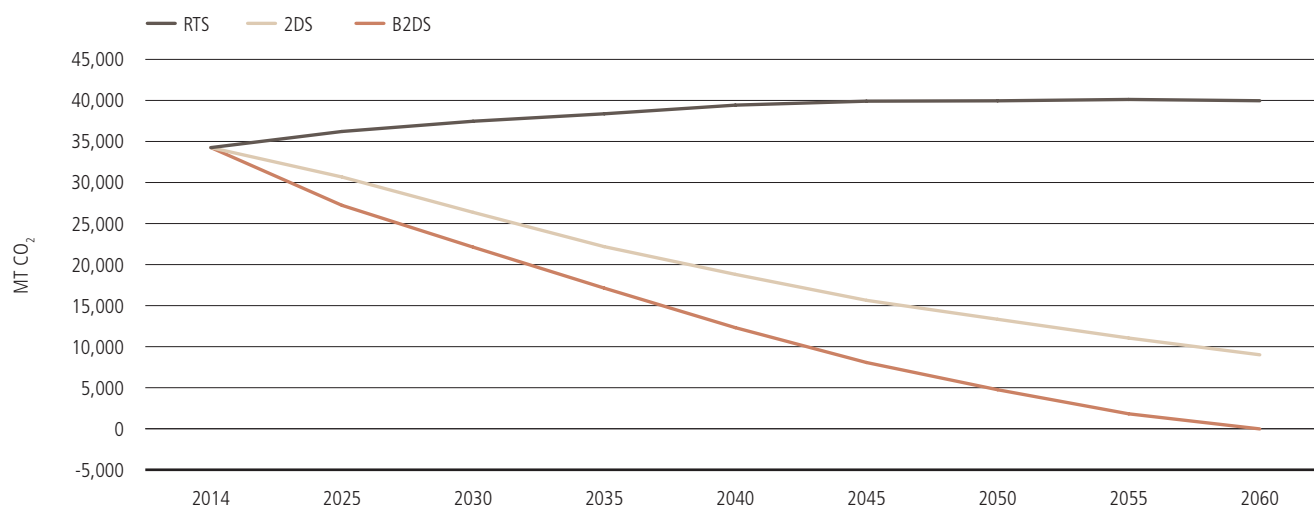
In contrast, achieving the Paris Agreement aspiration of containing global warming at 2 degrees, with a probability of 50%, would require a substantial reduction in emissions.

The beyond 2°C scenario (B2DS)

This explores how far deployment of feasible technologies could take us beyond the 2DS. These improvements and deployment are pushed to their maximum practicable limits across the energy system in order to achieve net-zero emissions by 2060 and to stay net zero or below thereafter, without needing unforeseen technology breakthroughs or limiting economic growth. This “technology push” approach is consistent with a 50% chance of limiting average future temperature increases to 1.75°C. Although the B2DS meets the stated ambition of the Paris Agreement it does not purport to define a specific temperature target for “well below 2°C”.

However, there is a fourth scenario, starkly highlighted by a Special Report released by the IPCC (Intergovernmental panel on climate change) in October of this year, and that is the **1.5 degree scenario**. Already we have 1 degree of warming; what the IPCC Report points to is the urgent action which will be needed if we are to hold global warming to 1.5 degrees.

Exhibit 2: Absolute CO₂ emissions (MT CO₂)



Source: International Energy Agency, Technology Perspectives. Data as of July 2016.

An uncertain future

From an investor's perspective therefore, the over-riding picture is one of uncertainty. How is it possible to navigate the complex web of legislation while also understanding and synthesizing the effects and consequences of differing climate change scenarios? How might different sectors be affected by climate change?

Clearly, this is an issue for which there are no simple answers but let's start by looking briefly at an approach which offers investors a way in which it is possible to start thinking about climate change and highlighting not just the risks, but also the opportunities.

The role of scenario analysis

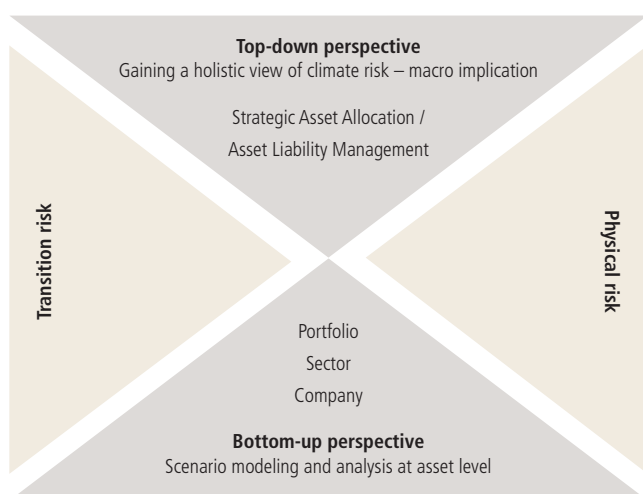
Scenario analysis is a technique very familiar to most investors, but its application to climate change is relatively recent. Nonetheless, it formed one of key recommendations to come out of the Task Force on Climate-related Financial Disclosures (TCFD) in 2017, led by Michael Bloomberg and supported by

Mark Carney, in his capacity as Chair of the Financial Stability Board. They explicitly stated that investors and companies should be asked to undertake climate change scenario analysis.

We were therefore pleased to have been part of a working group formed by the Institutional Investors' Group on Climate Change (IIGCC), to create five-step framework to help asset owners and managers use scenario analysis as a means of understanding how climate changes can drive financial impact across their portfolios. This framework is outlined in a paper released in November 2018 to which UBS-AM also contributed, titled '*Navigating climate scenario analysis*'.⁴

The paper carries a number of key takeaways. While noting that as a discipline scenario analysis is still in its infancy, it highlights the fact that rapid innovations are taking place, with improved disclosure throughout the value chain, from corporates to investors, being a critical factor for success.

Exhibit 3: Applying scenario analysis to investments



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Source: Navigating climate scenario analysis, the Institutional Investors Climate Change Group, November 2018.

⁴ Navigating climate scenario analysis, a guide for institutional investors. The Institutional Investors Group on Climate Change. November 2018.

Crucially, the paper draws attention to the importance of taking a cross-functional approach, bringing together experts with backgrounds in risk management, investment and ESG (Environmental, social and governance). An approach such as this helps create outcomes which are both actionable and investment—relevant.

Ultimately though, by giving investors a structured way to think about climate change, what an effective climate change scenario analysis can offer is a starting point from which the early warning signs can be monitored. By observing these, investors are better placed to assess which climate scenario is most likely to unfold and position their investment strategy accordingly. In this way, they can optimize emerging opportunities while better managing downside risk.

In 2017, UBS Asset Management partnered with a UK pension fund client to create the Climate Aware strategy, as a rules-based equity strategy.

Putting it into practice

So how could scenario analysis work in practice at a portfolio level? One example is UBS Asset Management's Climate Aware strategy.

In 2017, UBS Asset Management partnered with a UK pension fund client to create the Climate Aware strategy, as a rules-based equity strategy. The approach aims to be forward-looking and uses a probabilistic framework to capture the inherent uncertainty surrounding carbon data.

A key building block of the strategy is the alignment of investments with a 2°C scenario. A quantitative model compares the company's carbon footprint trend with the emission reduction required by the IEA's (Institute of Economic Affairs) 2°C scenario. An estimate of "glide path probability" shows how close the company is to the necessary trajectory. A number of scenarios were considered in the design of the strategy, and the final choice took into account both the granularity of projections at sector and geographical level, and the regularity of the updating cycle.

The quantitative model is combined with a range of other quantitative and qualitative information including companies' climate disclosures, policies, objectives and/or initiatives related to carbon efficiency; carbon footprint; renewable energy generation and technologies; and power generation from coal and companies owning coal, oil and gas reserves.

This is then supported by a voting and engagement program, with the glide path probability and other information helping to identify companies that are a priority for engagements.

The value of engaging

When thinking about climate change in an investment context, engagement is an important element for investors, as it offers an opportunity to directly influence company behavior. By way of an illustration, we outline below our approach to climate engagement.

The engagement program combines the recommendations of the Taskforce on Climate-related Financial Disclosure (TCFD), of which we are a member, with the conclusions of the IIGCC expectations documents on the sectors we target.

What we are looking for is an improvement in governance, risk management, strategic alignment, targets and metrics, as well as the overall approach to disclosure. We also align our engagements whenever possible with collaborative programs that are consistent with our goals. This includes Climate Action 100+ - a global initiative of more than 300 investors with over USD 30 trillion of assets under management. In addition, we align our engagements on climate issues with our voting policy so that we support climate resolutions which are consistent with long-term shareholder interests.

Our key focus is on the oil & gas and utilities sectors, using the rules-based approach of Climate Aware to identify individual companies to engage with, as well as specific areas of weakness.

Our engagements have highlighted a number of findings. For example, we can see that oil & gas companies are still in the early stages of explaining strategy implications, with only a very small number able to articulate future actions in terms of business models. Some are diverting a small amount of cashflow to new business ventures.

Clearly, climate change is one of the most pressing concerns which investors currently face.

In the Utilities sector, particularly in the US, we find a large number of companies are retiring coal fired power stations, with some being replaced with natural gas, while others have more ambitious plans for renewable energy. In Europe, some companies are unable to disclose scenarios, with no ambition beyond regulation and the trading scheme, and lobbying on retirement of coal is opaque.

Learnings such as these help us:

- Assess and strengthen the methodology and data used in the Climate Aware strategy
- Deepen the conversation in our ESG integration activities
- Adjust our engagement program for more effective dialogue and leverage

Conclusion

Clearly, climate change is one of the most pressing concerns which investors currently face. And for investee companies, climate transition is a material consideration. Nonetheless, there are means by which investors, even those who are new to investing for climate change, can approach the topic and strategies already exist which allow them to manage their exposure to climate change within their chosen risk return profile. Finally, both asset managers and asset owners have the capability to drive positive long-term change by engaging with companies to influence their business models and activities as they impact on climate transition.

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Americas

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