

# 2°C target for global warming is melting

More needs to be done to move the needle on climate change

Our climate change score card shows that measures to tackle climate change remain patchy. Technology is advancing but legislation and carbon pricing continue to lag. Energy efficiency gains have failed to offset a global growth upswing, causing carbon dioxide emissions to accelerate. Now is the time to step up actions to move the needle on climate change. Risks, and opportunities, are simply too large to be ignored.



Source: iStock

The summer of 2018 was a not so gentle reminder that the climate matters. Heat records were set in almost all regions, from Asia to North America, Africa and Northern Europe. Devastating wild fires, droughts, intense rainfalls, typhoons and mudslides brought with them human tragedies and disruptions to economic activity. While it is not possible to connect a specific event to the climate change created by modern society, and there are natural cycles in the earth's temperature unrelated to human activity and

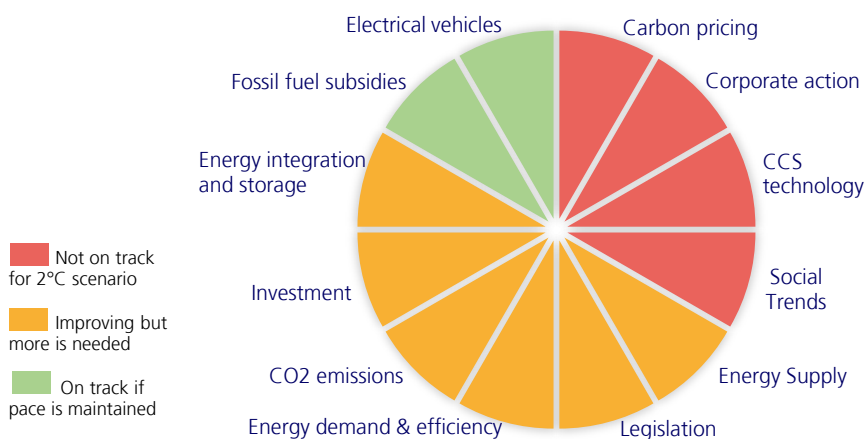
emissions, these extreme events are clearly more likely in a warming world. And as the summer showed, all societies are vulnerable when the weather changes.

### Climate change is one of the most complex risks facing society

Zurich Insurance Group identifies climate change as perhaps the most complex risk facing society today, as it is inter-generational, international and interdependent. To help

navigate climate change related risk and uncertainty, we have developed a framework and a score card that attempt to measure progress and commitment in critical areas around climate change: [Navigating Climate Change](#). Our initial analysis suggested that the likelihood of missing the Paris Agreement's target of limiting global warming to 2°C or below is higher than achieving it. This is why Zurich has taken further actions to facilitate the shift to a low carbon economy, including advocating for a global price of carbon, a clear roadmap for phasing out fossil fuel subsidies, and policies to support R&D of critical technologies. As an investor, Zurich has also raised its commitment to impact investment, more than doubling the target for the portfolio of impact investments to USD 5bn, with the goal of avoiding 5mn tons of CO2 equivalent emissions annually.

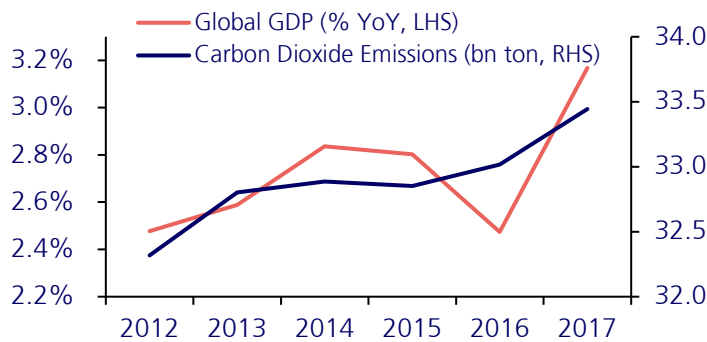
## Progress remains slow in critical areas



### Slippage on follow through actions to tackle climate change

Almost two years after the initial analysis, we have updated our score card. During this time, global political and geopolitical risks have abounded, acting as distractions and stealing attention from longer-term issues such as climate change. The US, which represents the world's largest economy and the second largest carbon dioxide emitter has stated its ambition to leave the Paris Agreement. More recently, trade disputes have tended to

## Emissions accelerate on a cyclical upswing in growth



Source: IMF, BP

Note: GDP valued at market exchange rates

overshadow the climate in the G7 discussions. Tackling climate change was never going to be easy, but some policies that are needed for countries to meet their carbon pledges are now being blocked, and rich countries are not fulfilling their climate investment pledges towards poorer nations.

### Reacceleration in global carbon dioxide emissions

The failure to tackle climate change is mirrored in global carbon dioxide emissions, which saw a reacceleration last year. This largely reflected rising emissions in Europe, which coincided with a long awaited and badly needed recovery in the region. Some of this additional carbon dioxide will remain trapped in the atmosphere for thousands of years, raising the burden for future generations. It will also make it more difficult to transition to the 2°C trajectory, which requires carbon emissions to start plateauing by 2030.

This highlights the issues at stake. The global economy needs growth to create wealth and opportunities. However, with carbon emissions still on a rising, if not accelerating, trend, it is clear that governments need to do more to reposition their countries for a cleaner and more productive future.

It appears to us that now is a good time to do so. While growth and global interest rates have risen, they remain low in most countries compared to their historical averages. Bond investors are calling for more long duration and green bonds to be issued, and the climate needs investment in energy efficiency and new green technologies.

From a macro perspective, it is also clear that successfully tackling climate change is likely to represent such a major leap that it could put it on a par with other historical transformations. As history tells us, countries will want to be well positioned should such transformation occur.

### Zurich is calling out for a global price on carbon

As an investor, Zurich is advocating for a global price on carbon, established at a level that over time becomes consistent with transitioning to a 2°C trajectory. Such a price would help make sure that a proper assessment of risks and opportunities is reflected in investment and business decisions.

More broadly, it would put in place the proper market mechanisms that are needed to unlock more green private capital, spur green R&D investment and drive shifts in the global demand for fossil fuels.

We are far from there, however, as only around 15% of global greenhouse gas (GHG) emissions are priced, with an average price of USD 20 per ton of carbon dioxide. This compares to the World Bank Group's indication that a price of USD 80-120 per ton of carbon dioxide equivalent emissions is required to transition to the 2°C path. Hence, on the critical aspect of a carbon price, too little progress is being recorded to be on track for the 2°C scenario.

While the overall picture remains one of limited progress, there are encouraging developments. China has announced the initial details of its emissions trading system (ETS) which, if rolled out, will be the largest in the world. There have also been reforms to the EU's ETS aimed at reducing surplus allowances from the market. EU carbon prices have already responded, tripling since the reform and rising to the highest level in 10 years. The EU and Switzerland signed an additional agreement to link their ETSs. While small in size, this was the first time this happened for two parties to the Paris Agreement.

## The Paris agreement is not credible without stronger legislation

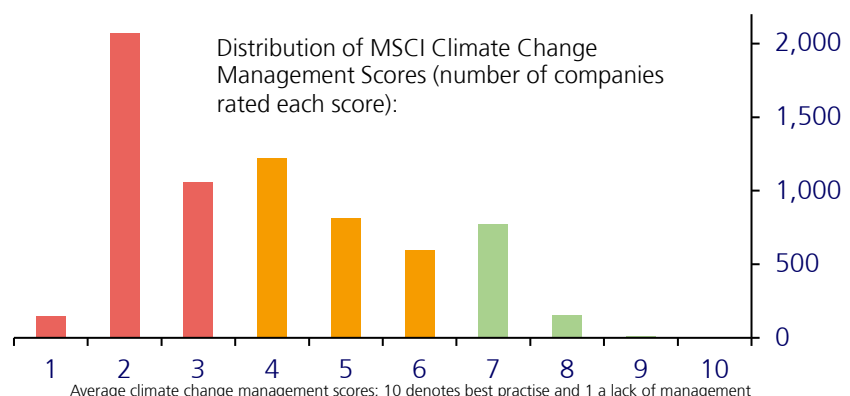
Alongside a global carbon price, legislation and regulation can help to transition towards the 2°C trajectory. The Paris Agreement was done on a voluntary basis with no mechanisms to enforce the pledges made by countries. Changes to legislation – at a global, regional, country and state level – are now required.

Data on climate change related legislation (in fields such as air emissions, emissions trading, alternative fuels, energy efficiency and alternative investment) show that legislation spiked higher at around the time of the Paris Agreement. The number of new initiatives (commenced and introduced) on related topics almost doubled from 2014 to 2015. Since then, momentum has slowed. Over the past 18 months, for example, the number of new legal initiatives was about the same as in 2015. More mandatory laws are clearly needed to enforce the pledges made in the Paris agreement, particularly in the absence of a global carbon price, and we hope momentum in this field picks up over the coming years.

### Bottom-up action is not yet sufficient to move the needle on climate change

As long as carbon emissions are not priced and regulation is not adjusted, many businesses will continue to operate in a 'business as usual' mode. Our analysis suggests that this is also the case. MSCI data for corporate action on climate change and ESG related topics show a small decline in the global ranking over the past year. The MSCI scores also confirm that although a large group of companies are making good progress in these fields, many continue to drag down overall progress. Our view is that it should be in the interest of these businesses to act on climate change, as they themselves are vulnerable to climate change related risk. Consumers are becoming increasingly aware of climate change issues, demanding more responsibility from businesses. Stronger disclosure standards could also become a risk if action is not taken, as investors and regulators all have the ability to review such disclosure. Businesses that do not act to reduce their energy emissions will also stand

## Many businesses are still lagging on climate change



Source: MSCI, Zurich Insurance Group

to lose out as new energy efficiency – and productivity – enhancing technologies are developed.

### **Clean technology is moving forward, but breakthroughs are still missing**

While carbon pricing and legislation continue to lag, technology is moving forward. We use data from the International Energy Agency's (IEA's) Clean Energy Tracker to monitor progress around technology and energy supply, integration and storage. While the overall scores remain inconsistent with the 2°C trajectory, there has been progress on several dimensions: Battery prices have fallen rapidly and power generation from solar PV and offshore wind has surged, in part reflecting strong deployment in China. In lighting, LEDs now capture one third of market sales, on track for the 2°C trajectory. Rapid expansion in electrical vehicles use has also been maintained, and 2017 saw record global sales, with China accounting for nearly half of all new cars. Strong gains in these

fields continue to be offset by a lack of action around coal power generation. Technological breakthroughs, for example in the form of carbon capture and storage (CCS) technology, are also missing.

We are encouraged by these changes and it is positive that China, the world's largest carbon dioxide emitter, has put the environment and the climate high up on the agenda.

### **Steering toward a “business as usual scenario” with physical risk dominating**

To conclude, there is now broad agreement on the minimum set of actions and developments that are needed to tackle climate change, but actual developments lag behind. Overall, insufficient progress has been recorded on carbon pricing and legislation, while clean energy technology is advancing, albeit in a patchy manner. Energy efficiency gains are not strong enough to offset a modest upswing in global growth over the past year. Taken together, this underpins our view that the likelihood of missing the Paris

Agreement's target of limiting global warming to 2°C or below remains higher than achieving it.

We can only hope that this year's extreme weather events will serve as a wakeup call. If not, the longer it takes to tackle global warming, the greater the efforts that will be needed in the decades ahead to counter the rise in temperature and the subsequent disruptions.

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