

## Risks posed by climate change are on the rise – Rapid climate protection and new investments in technologies called for

- The impacts of climate change are most pronounced in poorer countries; Establishing public-private partnerships to reduce the insurance gap essential
- The climate targets set in Paris can only be achieved with a radical technological restructuring and substantial negative emissions
- Governments need to develop road maps with clear goals and reliable parameters; Market mechanisms should foster climate-related innovations
- Annual investments in renewable energies need to be quadrupled by 2030



„The fact that this year’s Nobel Prize for Physics went to climate researchers shows that the world should have listened to the experts sooner. Now time is running short, but in many cases we’re still lacking the reliable framework needed to efficiently protect the climate. Together with market incentives, the proper conditions can drive the development of new technologies to transform the global economy into a climate-neutral economy. It’s a good thing that the role of businesses in climate protection is being discussed here in Glasgow. One of Munich Re’s main priorities – both as an insurer and as an investor – is to help new technologies for a low-carbon economy achieve true breakthroughs.“

Joachim Wenning, Chair of the Board of Management

### Risks are on the rise

The latest [IPCC Assessment Report](#), released this August, shows that anthropogenic climate change is contributing to weather and climate extremes around the globe. In fact, the evidence has only become clearer since the release of previous IPCC reports. As temperatures continue to rise, different types of extreme weather events will become even more frequent in different regions of the world. For example, extreme coastal flooding events that used to happen once a century in some regions could now happen every few years due to rising ocean levels.

“The longer we as a global community fail to properly combat climate change, the worse the risks posed by natural catastrophes and consequent losses will be,” says Ernst Rauch, Chief Climate and Geo Scientist at Munich Re.

Moreover, scientists believe that climate change is at least partially responsible for the sheer scale of the latest catastrophic flooding in Central Europe, following on the heels of extreme rainfall in July 2021. At estimated overall losses of €46bn, it was the costliest natural catastrophe in modern European history. Of those losses, over €9bn were insured.

### Human adaptation to the impacts of climate change indispensable; Focus on resilience

Societies need to adapt to the consequences of climate change. Only then can a further rise in losses be mitigated and lives protected. From economic and humanitarian standpoints alike, a larger percentage of natural-catastrophe risks should be borne by insurers, i.e. spread across more shoulders. The insurance gap in industrialised countries has shrunk over the past 40 years. Today, half of all losses are insured, compared to a quarter of them in the 1980s. It’s a different story in developing and emerging countries, many of which are especially hard hit by climate change; as has been the case for decades, more than 90% of all natural catastrophe-related losses in such countries remain uninsured.

In many of these places, national or supranational public-private partnerships could help – with insurance solutions being jointly developed by the private insurance sector and governments, plus the support of donor countries or the IMF. Munich Re bolsters such PPPs by engaging in numerous international initiatives, including the [Sustainable Markets Initiative \(SMI\)](#) and the [Insurance Development Forum \(IDF\)](#).

Increased international financing is an essential building block that means more people in many countries can afford the insurance that will ensure their livelihood if disaster strikes. As part of the COP process, several years ago the world’s industrialised countries pledged to provide US\$ 100bn a year for mitigation and adaptation measures. Part of this money was to be earmarked for risk-transfer solutions. However, the overall sum has not been reached, and partnerships with their governments, which are essential to finding needs-oriented insurance solutions for low-income countries, have not yet been sufficiently developed.

But experience shows that risk prevention, in the form of risk-transfer solutions, can also work in countries with low mean incomes. In this regard, parametric covers may be good candidates – in other words, cover based on previously defined, objectively measurable indices. The insurer pays a contractually agreed amount when a defined trigger occurs, e.g. for storms, if a certain wind speed or volume of rainfall is exceeded. In this way, claimants can quickly receive assistance, benefiting from rapid claims processing and payment precisely when they most urgently need liquidity.

One success story in this context: the [Caribbean Catastrophe Risk Insurance Facility \(CCRIF\)](#), which Munich Re helped to set up in the Caribbean in 2007. CCRIF guarantees payments within 14 days after a natural catastrophe to participating countries, which can then use the money for recovery efforts. In late 2020, the CCRIF paid out over US\$ 30m to Nicaragua shortly after it had been struck by two hurricanes. Munich Re is one of the CCRIF's most important reinsurers.

In order to better respond to natural catastrophes, structured risk management is called for at the national level – with clearly defined responsibilities to ensure prompt action in an emergency. In the private sector, it has proven sensible to appoint a chief risk officer (CRO), who has an overview of the greatest risks to the company. CROs are responsible for preventing risks and deploying necessary measures in an emergency.

At the state level, individual departments often focus only on the risks within their purview. Integrated assessments, let alone comprehensive responsibility, are often lacking. As a result, disaster prevention is often hindered by poorly defined responsibilities in these countries.

“Having a governmental CRO of sorts would mean having someone who knows all the main risks to society – and who is responsible for the requisite preventive measures and disaster recovery alike,” Joachim Wenning explains.

## Everyone is in favour of climate protection, but no one wants to foot the bill

To protect our climate, rapidly and successively phasing out the use of fossil fuels is essential. But doing so will not be cheap. In recent years, worldwide more than US\$ 300bn per annum has been invested in renewable energies for power production alone – a sum that would need to be quadrupled by 2030. In addition, substantial investments in grids and storage will be needed. To cover these costs, companies need latitude and stability.

A sufficiently high CO<sub>2</sub> price of more than US\$ 100 per tonne by 2030, made possible by comprehensive trading systems with a fixed target of “net zero” emissions by 2050, should be used as an incentive for climate-friendly technologies. As an interim solution, a CO<sub>2</sub> tax could be used instead. Moreover, financial hardships must be offset, including perhaps redistributing a share of CO<sub>2</sub> tax revenue to low-income persons.

## Road maps to climate neutrality; The EU's Green Deal exhibits many strong points

When it comes to reaching the climate targets set in 2015, virtually every region around the globe still lacks a road map. One ambitious approach is Europe's Green Deal, which includes a clear long-term target, interim targets, and sub-targets for specific countries. It is also sensible to utilise instruments like the price of CO<sub>2</sub> as a centralised means of regulating emissions

trading, together with a clear plan for reduction. Another worthwhile strategy would be international collaboration on the construction of renewable-energy facilities in those countries where they will be most effective. For Europe this would mean chiefly harnessing wind and water energy in the north, and focusing more on solar in the south. A study conducted by the Fraunhofer Institute years ago indicated just how effectively the transition to renewable energies could be achieved using such an approach. Moreover, coordinated financing for net-zero technologies that remove CO<sub>2</sub> from the air would be important, as the process is currently complex and expensive. In this regard, quantum leaps are urgently needed.

“It is only by making sufficient investments in the net-zero transition and in the decarbonisation of industrialised societies that we will be able to maintain our standard of living and mitigate societal hardships – while also paving the way for greater prosperity in poorer countries. Climate policy will succeed if it takes into account the needs of businesses. For the business world, transparency and reliability are vital,” says Joachim Wenning.

The financial sector is playing a key role in the climate transformation, as both investor and risk carrier. In 2009, Munich Re led the way by introducing a performance guarantee policy for PV module manufacturers, followed by cover solutions for wind farms’ energy production and for the efficiency of renewable-energy storage systems. Munich Re works closely with the research community and is in continual dialogue with leading technology providers, so as to better understand their need for risk solutions and to help new climate technologies make their breakthrough on the market. The Group is successively expanding its investments in renewable energies and climate start-ups. In this regard, Munich Re has already issued two green bonds, giving investors the opportunity to directly foster and contribute to the Group’s climate strategy.

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