

Climate risk

More than a weather forecast



Climate risk

The UN held its first climate talks as long ago as 1990, yet the participation of insurers in helping to tackle what is now described as a climate crisis is starkly recent. Moreover, as extreme weather events become more frequent, severe and interconnected, what are the roles re/insurers can play in managing the challenge of climate risk, not merely for their policyholders but for the global community at large?



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Climate risk is more than a weather forecast

Above all the noise about climate risk, re/insurers should be a voice of clarity, says Steve Bowen from Gallagher Re

Re/insurers should avoid confusing climate and weather when they analyse the risks linked to climate change, says Steve Bowen, chief science officer at Gallagher Re.

With a scientific background in meteorology and business analytics, Bowen leads the broker's climate and environmental, social and governance (ESG) division and works with the Gallagher Research Centre (GRC) and Gallagher's global catastrophe analytics and the public sector and climate resilience groups. The GRC, which launched last year, works directly with academic or other partners on developing and accessing independent peer-reviewed research related to both natural and man-made perils.

While weather clearly refers to short-term and current conditions, such

as temperature and rainfall, and climate is the average of those conditions over a longer period, Bowen says the key when searching for clues as to how the climate is changing over time is what meteorologists call "climate normals". These are 30-year averages updated every decade that show how weather patterns are evolving. The latest update was in 2021, since the most recent average is for 1991 to 2020.

Increasing intensity

He says: "Most parts of the world have seen an evolution towards atmospheric and oceanic warming, which is leading to increased intensity of how weather events behave. When we determine the delta between extreme weather events and 'normal', we can see the hallmarks of climate change emerge. As the be-

"For each peril there will be differences between every territory of the world, but we need to do a better job in helping people understand what tomorrow's climate risk actually looks like"

Steve Bowen
Gallagher Re

havioural intensity becomes more obvious, we can quantify the extent and impact a changing climate is having on individual weather events."

Humans are 'inherently attracted to risk', as evidenced by increased building in the wildland-urban interface



Matthew Smith/Alamy Stock Photo

“If someone lives in a flood zone, the likelihood of a one-in-100-year event within the 30-year period of a standard mortgage is statistically 26% and so it’s important to talk at a probabilistic level to more clearly explain how climate risk is accelerating with time”

Steve Bowen
Gallagher Re



Climate change does not necessarily cause weather events to happen but, rather, it influences how and when they occur.

Bowen says: “We’ve always seen heat-waves and strong hurricanes, but climate change is adding energy and influence that cause those events to be more extreme than in the past. To use a baseball analogy: an extreme weather event is a home run hitter, but climate change is that same player on steroids hitting more frequent and further-travelling home runs.”

This illustrates the “blend” of changes in science and hazard behaviour.

“Population migration patterns and housing unit density show humans are inherently attracted to risk, such as by living close to coastlines, along riverbeds or in the wildland-urban interface or intermix. These areas are where we are expecting to see more influence from climate extremes. Blending those factors increases the potential for greater catastrophe losses than we are currently seeing,” Bowen says.

Primary versus secondary perils

Descriptions of primary and secondary perils typically define the latter as being a less important occurrence. The reality, Bowen says, is over the past 50-plus years the inherent higher frequency of secondary peril events often adds up to a higher annual cost than primary perils. The high frequency of events in combination with growing volumes of exposed property in high-risk areas is why, he adds, losses from severe convective storms, for example, have accelerated.

“What’s needed is an assessment of hazard change plus population exposure change because as climate risk increases, it has a greater potential impact on life and property. Unfortunately, the most vulnerable people in our society tend to be the ones who are most exposed to climate risk because they have the least means to be able to protect themselves from increased weather intensity,” he says.

“An important point is we know building codes work. These can not only limit damage potential, but also save lives. How we provide an equitable opportunity to ensure everyone has a chance to protect their homes and livelihoods is a key next step in climate adaptation preparedness,” he adds.

Re/insurance pricing is typically underwritten using catastrophe models that are based on historical events and data, but this approach is not always appropriate in the context of climate change.

“What we considered 20 years ago to be a one-in-100-year event is now very likely to be closer to being a one-in-75 or a one-in-50-year event. The whole concept of a return period event is not only changing but is accelerating from a hazard behaviour and resultant loss perspective as climate impacts become more apparent,” Bowen says.

Re/insurers need to communicate this development to their customers, who may not understand how probability works in stochastic analysis.

Bowen says: “If someone experiences a one-in-100-year event, it does not mean the clock has been reset and they shouldn’t expect such an event to recur for another 100 years. If someone lives in a flood zone, the likelihood of a one-in-100-year event within the 30-year period during the lifespan of a standard mortgage is statistically 26% and so it’s important to talk at a probabilistic level to more clearly explain how climate risk is accelerating with time.”

This dialogue is particularly important, Bowen adds, given regulators and rating agencies are starting to score companies in terms of how well they are preparing for future climate risk, and the increased financial impacts associated with it.

Evolving models

Catastrophe models need to evolve with climate risk. “Catastrophe modelling is not a perfect science, but it’s still the best option re/insurers currently have to quantify risk. When it comes to future risk, these models will need to be recalibrated using a variety of different environmental scenarios while also making some pretty significant assumptions beyond just changes to event behaviour – for example, guessing what a company’s future portfolio may look like, what public policies may be implemented or what building code requirements may exist,” Bowen says.

“The biggest challenge, though, is going to be how re/insurers communicate uncertainty with their clients because the reality is the global climate model output being used to

create these scenarios is far from absolute or guaranteed.”

That is because there are still “significant pockets” of the world – in Africa, Latin America and south-east Asia – where data availability or quality is not good enough.

Bowen says: “A lot of data used to model climate change is gleaned from satellites rather than on-the-ground observations in areas where there is minimal funding or resources available to take regular weather station observations. From the humanitarian standpoint, there exists a significant opportunity to bring insurance products to underserved markets that can help people have some financial protection in the face of these disasters.”

Bowen works across Gallagher Re teams on modelling, policy, underwriting, public sector outreach and sourcing capital. “My role is to put a spotlight on the science and the research and turn it into translatable action in terms of how we can help our clients and stakeholders,” he says.

Communication is an essential part of his role, to which he brings his previous experience in broadcast television.

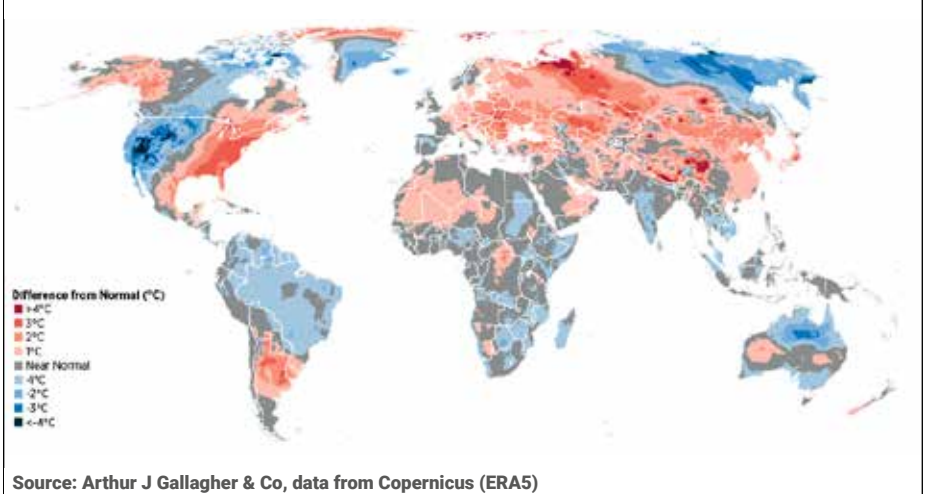
Real-world implications

He says: “We have the tools and datasets available to deliver clear messages to the media of the real-world implications to what emerging science is suggesting may happen. And the media has an important role to play in sharing accurate and truthful accounts to broad audiences of what current and future climate risk means to you and I as individuals.

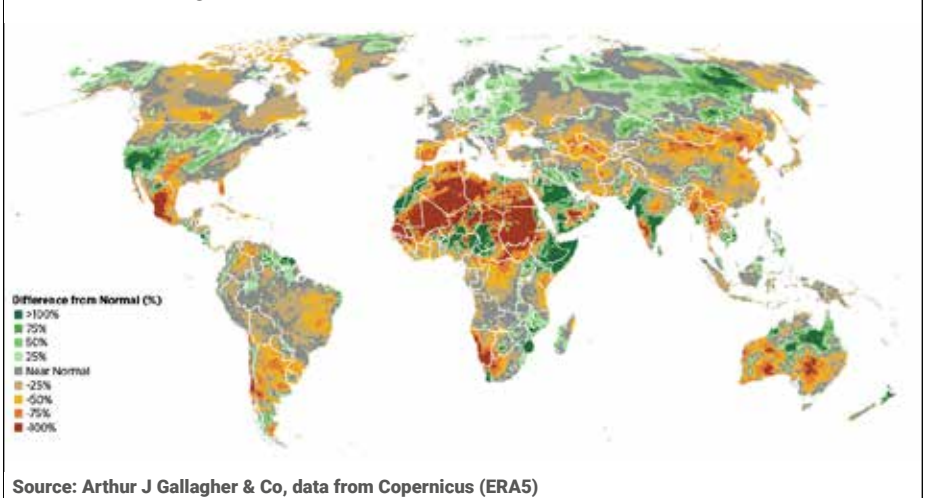
“There’s so much noise out there on this topic and you want to be a voice of clarity. You do not want to scream a message of doom that makes people feel like there is no chance to make a meaningful difference in the fight against global warming. We still have time, but we do need to talk about the urgency

Comparisons with 30-year climate normals show how the climate is changing

Map 1: Global temperature anomalies in Q1 2023 compared with 1991-2020 climatological normal



Map 2: Global precipitation anomalies in Q1 2023 compared with 1991-2020 climatological normal



of the situation. This includes helping companies transition their portfolios towards established net-zero commitments, providing advice on reducing a dependency on a dominant book of fossil-fuel assets, supporting them in understanding how to meet the growing volume of international climate disclosure requirements and understanding the importance of ESG scoring and the role of carbon markets.”

New product development from Gallagher Re’s CESG Centre of Excellence has led to the creation of a carbon portfolio benchmarking tool

and a liability risk scenario modeling technique to help companies better account for potential challenges that may reduce their chances of meeting their own defined climate goals.

All this work illustrates, Bowen stresses, that climate risk is not a linear concept.

“For each peril there will be differences between every territory of the world, but we need to do a better job in helping people understand what tomorrow’s climate risk actually looks like for them.” ■

Improvements to flood defences in New Orleans meant losses from Hurricane Ida in 2021 were far lower than from Katrina in 2005



REUTERS/Alamy Stock Photo

Climate change is forcing the evolution of risk

Recent years have shown that the ‘unthinkable’ really can happen, says Axa’s Renaud Guidée

Axa was the first financial services institution of any kind to announce its intention to stop investing in coal, which is responsible for [46% of global CO2 emissions](#).

Two years later, in 2017, the French insurance major widened its exit from coal to include underwriting.

But 2022 was a turning point, according to its chief risk officer, Renaud Guidée, because it was the year when the experts surveyed in Axa’s [Future Risks Report](#) said climate change had become the highest risk globally – followed by geopolitical, cyber and pandemic.

“Our latest Future Risks Report

showed that climate change is the number one concern for our risk experts around the world. It was the first time ever that climate risk topped the chart across all geographies,” Guidée says.

He says there are three sub-sets to climate risk.

Physical risk is the financial impact of climate change from more frequent extreme weather events and from environmental degradation, including air and water pollution, biodiversity loss and deforestation.

Transition risk relates to the financial loss from adjusting the global economy and society to a lower-carbon

“It is our fiduciary duty to do whatever it takes to assist the mitigation of climate change. That means curbing the carbon footprint of both our underwriting and investment portfolio”

Renaud Guidée
Axa

world, and a more environmentally and socially sustainable system.

Liability risk stems from legal claims arising from the behaviour or lack of action by insureds.

“These three types of risk together are how we comprehend climate risk as a whole and they are creating a shift that requires us to be nimble, especially with how we manage our balance sheet,” Guidée says.

Transition and pivot

The responses to climate change are also made up of three “complementary buckets” – mitigation, adaptation and resilience, and nature-based solutions.

“It is our fiduciary duty to do whatever it takes to assist the mitigation of climate change. That means curbing the carbon footprint of both our underwriting and investment portfolio, which is instrumental to our strategy at Axa,” Guidée says.

Axa aims to exit from coal by 2030 in Europe and other member states of the Organisation for Economic Co-operation and Development, and by 2040 in the rest of the world. It is 90% of the way towards achieving that target, Guidée says.

The word “transition” describes the move to net zero, but it has also been adopted by oil and gas producers that invest in renewables while also investing in new fossil fuel projects. Acknowledging the word “transition” may be viewed as covering two different topics, Guidée describes the change among these companies as a “pivot”.

Guidée, who is chair of the Net-Zero Insurance Alliance, says: “Semantics do matter and sometimes ‘transition’ can be a source of confusion.”

He says: “The Paris agreement is a legally binding target to transition to net zero by 2050 and Axa is committed to its part in delivering on that. When it comes to fossil fuel companies, rather than ‘transition’, I would

“By working only with those oil and gas insureds that are credibly pivoting their business model away from fossil fuels and towards renewables, and by stringently applying our biodiversity-related restrictions... we are embedding climate risk into our underwriting”

Renaud Guidée
Axa



call it a ‘pivot’ towards more renewable energy.”

He continues: “We at Axa are putting pressure on oil and gas companies to be part of the solution because a gigantic step change to renewable energy capacity requires massive capital, which could come from redeploying their cashflow. In addition to their financial firepower, that pivot also means retraining and retooling their engineers to work on renewable and sustainable energy projects.”

Axa will not insure any new greenfield exploration projects for oil unless they are carried out by a “credible player” committed to “massively investing in renewables and reducing the addiction to fossil fuels”, Guidée says. Axa continues to insure projects using natural gas, which is “accepted by public authorities as a transition energy”, he adds.

Such “credible” oil and gas companies form “a very narrow group”, he stresses, and it is important to continue covering their liabilities, not least in case of accidents at their future solar photovoltaic and wind power projects.

He continues: “By working only with those oil and gas insureds that are credibly pivoting their business model away from fossil fuels and towards renewables, and by stringently applying our biodiversity-related restrictions, especially for

the UN’s World Heritage Sites, we are embedding climate risk into our underwriting. All our underwriters are forcefully applying Axa’s technical guidelines, relating to the selection, writing and pricing of risk, which is key to decarbonising our portfolio.”

Pre-underwriting phase

Axa complements these efforts, he adds, by working with its insureds on the prevention of climate risk.

“For instance, we advise them on the carbon footprint of their manufacturing, such as where they locate a factory to reduce its exposure to storms and floods. This is part of our pre-underwriting phase, which means defusing the potential existence of risk.”

Guidée’s native France relies on another source of low-carbon energy for nearly 70% of its electricity – nuclear power – and Axa is an “active contributor” to insurance pools that cover this sector’s liabilities.

“Nuclear energy is not renewable because of the depletion of uranium and all the raw materials it requires, but it ensures clean air and, with the right sustainability framework, it can help disentangle society from fossil fuels and at the same time ensure energy security,” he says.

On adaptation to climate change, Guidée highlights the role played by government-sponsored pools, such as Caisse Centrale de Réassurance (CCR)

in France, which covers losses caused by natural catastrophes, the National Flood Insurance Program in the US and Flood Re in the UK.

“Such mechanisms are welcome because they not only pool resources between private insurers and reinsurers but also manage the loss when it becomes systemic,” Guidée says.

Adaptation also presents an opportunity to use insurance tools and, in 2006, Axa issued its first parametric insurance policy. This was done with the World Food Programme to cover droughts in Ethiopia.

In 2014, Axa created a parametrics team within its Corporate Solutions division and, three years later, it established a separate, standalone entity, Axa Climate, dedicated to creating and pricing index-based solutions.

Axa has also made “forceful commitments” to biodiversity because, just as environmental, social and governance (ESG) “does not boil down to E”, Guidée says, “neither is the E limited to climate”.

Axa has thus collaborated with Unilever and Tikehau Capital to create a private equity impact fund. Guidée

describes the plan, unveiled in May 2022, as an effort to “accelerate and scale” a regenerative transition in agriculture. The three partners aim to invest €100m (\$109.9m) each and combine a unique set of industry, risk and financial expertise to drive structural change.

Three drivers of losses

Risk modelling is evolving to incorporate climate change thanks to the three key drivers of losses from natural catastrophes, Guidée points out. These are hazard, exposure and vulnerability.

Axa’s internal analyses suggest by far the biggest driver of changes in losses over the past 10 years has been from changes in exposure.

These changes have been generated by rising property values, economic growth and population dynamics, among other things. Axa expects exposure factors to continue to change at faster rates than hazard and vulnerability over the coming decade.

A hazard is the frequency and intensity of an extreme weather event, such as storms, floods and heatwaves. This accounts for 20% of the total increase in insured losses from natural

catastrophes over the past 20 years, Guidée says.

Exposure is the value of what is insured – what is indemnified in the event of a loss – and accounts for 60% of the increase. Its share is that high for two main reasons – the “concentration of GDP” in coastal areas, he says, and low interest rates that have boosted the value of property and related assets.

The remaining 20% falls to vulnerability, which is “somewhat overlooked” by many stakeholders, he says, despite being a key driver of risk. Vulnerability concerns land zoning, urban planning and building codes. For example, when Axa reviewed flooding that hit the French Indian Ocean territory of La Réunion in 2018, it found better construction planning could have made the insured losses “100 times lower”, he says. Improvements to flood defences in New Orleans, he continues, meant losses from Hurricane Ida in 2021 were 10 times lower than those from Hurricane Katrina in 2005.

“We make sure our risk modelling encompasses all these three dimensions to pull the right levers,” Guidée says.

Evolution of risk

Climate change is driving the evolution of risk management, he says.

“The role of risk managers over the next decade is to be ever more robust and agile, to be on the lookout for new threats that are emerging. Be rigorous but also be creative, because it’s not about implementing a blueprint or a rulebook, but about factoring ‘blind spots’ into contingency plans so you are ready to devise new solutions in response.”

Guidée concludes: “There’s a natural tendency for the human mind ‘to fight the last war’ but, actually, what comes next is most likely to be something we have not lived through before. What we’ve all learned from the past few years is ‘the unthinkable’ can definitely happen.” ■

Flooding in La Réunion in 2018



MAXPPP/Alamy Stock Photo

AM Best underscores climate risk in its rating methodology



Climate risk impacts the financial strength and creditworthiness of a re/insurer, writes **Andrea Keenan** from AM Best

Climate risk factors play an important role in the financial strength of a re/insurance company writing property business.

Of course, any material risks have always been considered in AM Best's rating approach. Beyond reviewing a company's risk management to understand how it assesses the climate-related risks the company faces, AM Best also takes into account potential modelled losses in determining a company's required capital in Best's Capital Adequacy Ratio, as we seek to consider all the risks that could impact the financial strength and creditworthiness of a re/insurer.

ESG

Over the past several years, the global trend has been to include climate risk factors under the umbrella of environmental, social and governance (ESG). At AM Best, we have always included considerations of these risks in our rating methodology.

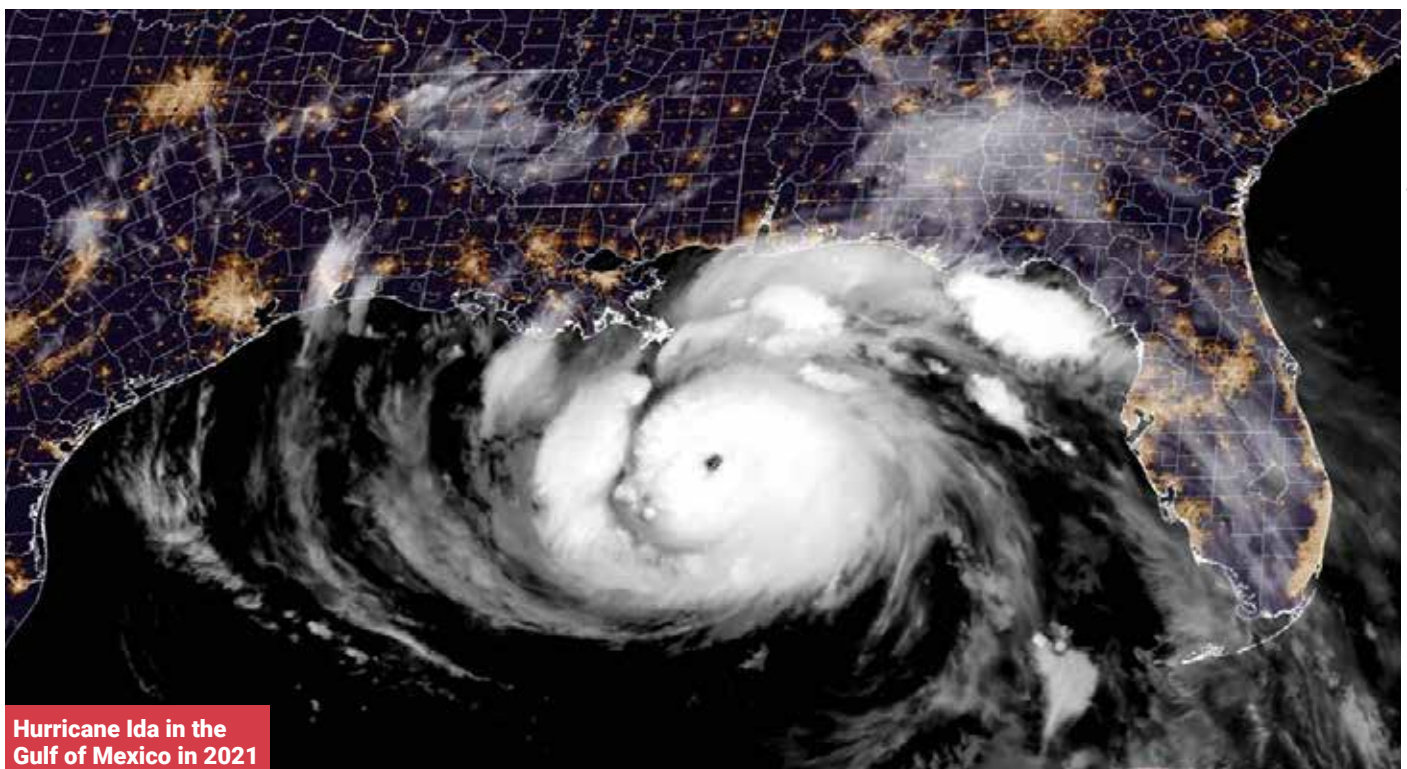
However, two years ago, in the Best's Credit Rating Methodology, we explicitly separated any factors related to E, S or G.

AM Best has not changed its view of these factors, but analysts now identify them separately for the sake of disclosure to both regulators and the larger market via credit reports.

AM Best has identified climate risk as falling under the "E" in ESG, with the greatest potential and immediate impact in the form of natural catastrophes, particularly for property/casualty insurers.

For climate-related risk, there are three main areas of focus from a ratings perspective: physical, transitional and liability-related risks.

Physical risk captures the changing frequency and intensity of weather-related events; transitional risk is associated with the transition to a



AC NewsPhoto/Alamy Stock Photo

Hurricane Ida in the Gulf of Mexico in 2021

low-carbon economy; and liability risk relates to possible increases in litigation arising from pollution or contamination.

Liability from environmental risks is another risk AM Best has long taken into account in its rating methodology. Again, we consider how a company manages this risk, as well as modelling the potential for unfunded liabilities and the impact they might have on a company's financial strength.

Increasing risk

Some perils and regions have well-established data and modelling, such as hurricanes. Other perils, deemed by some as "secondary" – such as wildfires and flooding – now have a higher frequency as well as rising severity.

According to the US National Oceanic and Atmospheric Administration's National Centers for Environmental Information, 60 separate billion-dollar-plus disaster events have occurred in the US over the past three years alone, nearly double the number that occurred during the whole decade of the 1980s.

Human migration patterns have played a part. US Census Bureau figures show, while the country's population grew 15.7% between 2000 and 2017, it increased 26.1% along the Gulf of Mexico coastline. Similar growth trajectories have played out in wildfire-prone areas as well.

The financial impact of such events will depend on a company's gross and net exposures, the level of protection, modelling capabilities and the ability to properly use those models to establish a strong understanding of the risk it faces.

Ultimately, the focus on its catastrophe risk and the amount of risk a company accepts on both a gross and net basis is all relative to its risk appetite. But there are risks and regions where that risk is not well understood. In some areas, including those most likely to be devastated by natural catastrophes, there is an inability to capture sufficient data on the risk.

Moreover, according to the Organisation for Economic Co-operation and Development, "[t]he impacts of climate change are not evenly distributed. Developing countries – especially least developed countries and small island developing states – are disproportionately affected by the impacts of climate change. This is due both to their geographic location and high levels of exposure and vulnerability to climate-related hazards. Marginalised populations and communities, within and across countries, are particularly vulnerable."

Co-operation

Climate risks – like pandemics, terrorism and cyber – require mitigation by individuals, the private sector, the public sector and the international community.

Initiatives such as the 1997 Kyoto agreement and the 2012 Paris agreement have been insufficient in motivating the world to change, given the challenges associated with sacrificing economic growth to accommodate climate objectives.

Climate risk is global, but there is no global mechanism to prevent it and the insurance industry is often seen as the recipient of that risk. But governments can tap into the experience and knowledge of the industry and work with insurers and risk managers to guarantee

protection of the populations they represent.

Recent heightened awareness of climate risk may be the catalyst needed to pull together the right parties to take on these risks.

The Insurance Development Forum, the UN Environment Programme Finance Initiative's Principles for Sustainable Insurance and the Microinsurance Network are a few examples of public and private organisations joining together to tackle the need for insurance-based solutions to these global problems.

AM Best participates with all three of these organisations as they are consistent with our purpose, to strengthen the financial solvency, stability and sustainability of the insurance industry and support the economic growth and wellbeing of all stakeholders.

The climate risk landscape is continually evolving and globally there has been a greater desire from the market to provide new solutions.

Re/insurers have always provided solutions and protection against weather-related events; now, other disciplines are providing innovative initiatives that may help prevent and mitigate risk.

Innovators in environmentally friendly solutions are finding insurance could be the way to reach the maximum amount of people for the greatest impact.

In the future, as before, insurance is the mechanism by which we can flourish in the face of uncertainty. ■

Andrea Keenan is chief strategy officer at AM Best

Some perils and regions have well-established data and modelling, such as hurricanes. Other perils, deemed by some as 'secondary' – such as wildfires and flooding – now have a higher frequency as well as rising severity

Re/insurers need to rethink risk and reward



Coastal erosion reveals the ice-rich permafrost underlying active layer on the Arctic Coastal Plain, Alaska

Alaska and California are very different states, but their insurance commissioners have the same message on how to approach natural catastrophes linked to climate change

Lori Wing-Heier and Ricardo Lara argue re/insurers should think less about increasing rates and more about helping policyholders assess and manage risk.

As co-chairs of the climate risk and resiliency taskforce at the National Association of Insurance Commissioners (NAIC), they are fostering collaboration between states to change the traditional mindset of passing the cost of losses on to consumers. Instead, they want efforts to be directed towards mitigating the impacts of climate change.

“Mother Nature is forcing us to collaborate, to be creative and to come up with real solutions,” says Lara, whose team in California is working on “climate insurance” that could serve as a model for other US states.

Lara is the architect of the nation’s first wildfire safety regulation, introduced last year, which directs insurance companies to provide discounts to consumers under a new Safer from

Wildfires framework with transparency regarding risk rating. In short, it rewards consumers who “harden” their homes or reduce the potential loss of property from wildfire.

Climate insurance

His focus now is on developing a finance mechanism for community-wide climate insurance covering a range of perils, such as coastal flooding. This is not simply another type of insurance policy for consumers to buy, he stresses. Instead, it could take the form of a pool of insurers, supported by state and federal funding, to help manage climate-related catastrophes.

While the community-based product would not eliminate the need for property owners to purchase a personal lines policy, it would provide supplementary coverage to reduce the burden on consumers and improve market conditions by spreading the risk.

“The city, the township, the county



“As insurance regulators, we keep in our wheelhouse but at the same time are clear about the issues we want to tackle because we know devastating climatic events don’t respect state borders”

Ricardo Lara
California Department of Insurance

will enter a policy to protect an entire community by having emergency powers granted by the legislature. It means mitigation works, rescue efforts and relocations won't need to wait for the Federal Emergency Management Agency. And it means insurers can underwrite a community," Lara says.

Wing-Heier says such an innovation in California requires conversations across state and party lines.

"Insurance companies can't continue to raise premiums because consumers won't be able to afford to pay them and so we're going to have to bring in the federal government to support climate insurance products for communities and states," she says.

"With the right sponsors at the federal level, bipartisanship can work wonders and Congress can go pretty fast when it wants to."

California's deputy commissioner on climate and sustainability, Mike Peterson, says he is taking inspiration from projects in other states. These include the insurance of coral reefs in Hawaii and of fighting wildfires in Oregon.

"Most of the book on climate insurance hasn't been written yet and it will depend on single insurers and reinsurers being comfortable underwriting a whole community or on a pool of insurers to diversify potential losses," he says.

"Those who are really thoughtful about climate risk mitigation, such as for wetlands from flooding or for-

ests from wildfire, will become more engaged on solutions," he adds.

Risk mitigation

Wing-Heier stresses the fear of insolvency that has haunted the industry for 30 years could have been reduced had it made mitigation efforts against extreme weather events a priority after Hurricane Andrew in 1992.

"If it had focused on ways to reduce loss through smarter building strategies then we may not have seen as many insurance companies becoming insolvent and consumers collecting pennies on the dollar through guaranty associations."

There is collaboration between states already in terms of sharing resources based on differences in topography, Wing-Heier says, such as the idea, proposed by a former governor a few years ago, of towing fresh water from Alaska to quench drought in California. But climate change means differences in weather events are becoming blurred, which is bringing insurance regulators closer.

Peterson agrees, pointing out how California has had its largest amount of snowfall in a decade and will look to Alaska for advice on the impact of snowmelt on river levels.

Wing-Heier continues: "We just watched the Midwest get hammered by huge tornadoes at a time of year when that does not normally happen and on a path they don't normally take, up through Michigan and Wisconsin. There's not a state that can look us in the eye any more and say it doesn't have any impact from climate change. Not one."

She highlights there is a precedent to reduce information asymmetry in health and life insurance where pre-screenings are required to secure coverage. Property/casualty (P&C) insurers can learn from the health and life sector by assessing property risk using technology such as catastrophe models and sharing that information with consumers. With a better view of the risk, insurers can help customers identify ways to reduce exposure.

"The insurance industry funds research conducted by the Insurance Institute for Business and Home Safety to identify risk reduction measures proven to reduce loss potential. It's time that information be used to inform consumers, planners, emergency management agencies, builders and developers to reduce the potential risk exposure from regional perils," Wing-Heier says. "If we adopted the same philosophy for P&C, risks could be reduced. That means, for example, having the right building codes to mitigate against the impacts of climate change," she adds.

Collaborative approach

Lara underscores how the NAIC's approach to collaboration is to avoid mandates. An example of its success is reporting to the Taskforce on Climate-related Financial Disclosures, with which more than 20 US states representing 85% of the nation's insurance market have complied.

Lara says: "Did we force that on every state? Absolutely not. Were we able to bring in bipartisan states? We absolutely were. That's because, as insurance regulators, we keep in our wheelhouse but at the same time are clear about the issues we want to



"Insurance companies can't continue to raise premiums because consumers won't be able to afford to pay them and so we're going to have to bring in the federal government to support climate insurance products for communities and states"

Lori Wing-Heier
Alaska Division of Insurance

tackle because we know devastating climatic events don't respect state borders. It doesn't matter if you're an elected commissioner or an appointed one, nobody wants a collapsed insurance market in their state."

The NAIC's climate risk and resiliency taskforce has produced deliverables, Wing-Heier says, on state-based pre-disaster mitigation programmes and a catastrophe modelling centre of excellence, which provides relevant information to communicate with insurance regulators and supervisors at the Sustainable Insurance Forum (SIF).

The SIF is a global leadership group of insurance supervisors and regulators working to strengthen understanding and responses to sustainability issues. Wing-Heier is the NAIC's representative to the SIF and Lara is a member representing California.

"I have lived in Alaska for close to 40 years and I have witnessed the changes throughout this state," Wing-Heier says. "The Arctic passageway is becoming a viable alternative for shipping from Asia to Europe and possibly even for commercial traffic, as the sea ice is farther and farther out.



"Most of the book on climate insurance hasn't been written yet and it will depend on single insurers and reinsurers being comfortable underwriting a whole community or on a pool of insurers to diversify potential losses"

Michael Peterson
California Department of Insurance

In some villages the permafrost is melting and structures will topple if there is not a solution found to prop them up."

Regulators need to work hard to clear up any "underlying confusion" among consumers as insurers adapt to climate risk, Lara says.

Similarities transcend borders

"The thing that binds us together as commissioners is, regardless of the size of a state's market, climate change reveals the similarities that transcend borders. Whether we're in Alaska, California, Kentucky or Montana, our communities need to understand their insurance policy – what it covers and what it does not."

Lara grew up in the Hispanic community of east Los Angeles, where language is a potential barrier to understanding insurance cover. That is why, Wing-Heier adds, the NAIC has a special committee on race and the availability of insurance.

She says: "Is everyone being told the same thing, seeing the same commercials, receiving the same flyers in the mail? Insurance policy wording is hard enough to translate into Spanish but try doing that in Iñupiaq, which doesn't even have a word for 'insurance'. And that's before we get to talking about climate risk." ■

A building crushed beneath record snowfall in Mammoth Lakes, California in March this year



Ironstring/Alamy Stock Photo

Response efforts following Hurricane Lisa in 2022



Turneffe Atoll Sustainability Association

Slow-onset climate hazards pose unique risks



Many of the most devastating impacts of climate change, especially for coastal and island nations, will be chronic and slow-onset, write **Simon Young** and **Sarah Conway** from WTW

Sudden and slow-onset climate hazards are having devastating and widespread impacts on lives, livelihoods and nature, especially coastal and island nations, including small island developing states, because of their geographic location and high levels of exposure and vulnerability to these hazards.

These countries are also home to robust natural capital that underpins their economies and food security and serve as nature-based solutions to the physical and economic impacts of climate change. For example, coral reefs help to protect against sea level rise, storm surge inundation, beach erosion and wave-induced damage.

Unfortunately, these same ecosystems are at risk from climate-related hazards, reducing their ability to provide for their many beneficiaries; the loss of natural capital is one

of the greatest risks to society and the global economy as it accelerates climate change and threatens the health of ecosystems that provide critical services.

Risk financing, such as insurance, can build resilience to climate-related hazard events by mitigating the impacts through pre-arranged finance, ensuring liquidity is available to respond and recover.

Pre-arranged, trigger-based finance, including parametric insurance, is an especially useful instrument; parametric insurance provides payouts based on the occurrence and intensity of an event (that is, a payout is “triggered” if pre-agreed event parameters are met, such as wind speed exceeding a certain threshold), as a proxy for impact and loss, rather than indemnifying against actual, assessed loss.

The focus on hazard rather than loss creates a broad range of potential applications that have not traditionally been served by indemnity insurance. For example, parametric insurance can be used to protect natural capital (for example, coral reefs) from damaging events such as cyclones and heavy rain by providing rapid funding to respond (that is, minimise non-economic losses through immediate reef restoration). Other benefits of parametric insurance include its speed, with the claims payment process usually completed within days to a couple of weeks of a triggering event; transparency, as a result of the reliance on independent, third-party data; and a reduction in frictional costs, owing to the simplicity of the contractual arrangements and payout process.

MAR Insurance Programme

One successful parametric insurance example to highlight is the MAR Insurance Programme, launched in 2021. Developed by the Mesoamerican Reef Fund (MAR Fund) and WTW's climate and resilience hub and co-funded by the InsuResilience Solutions Fund (building on the early support of Global Affairs Canada via the Ocean Risk and Resilience Action Alliance), the ground-breaking programme uses parametric insurance to provide timely and reliable funds for emergency action in the aftermath of a hurricane across the critically endangered 1,000 km reef system spanning Mexico, Belize, Honduras and Guatemala.

How does it work? WTW designed a parametric structure that maximises the efficiency of the programme by ensuring the payout amounts align with the resources required to engage in immediate reef response depending on the severity of the event; the payout amount increases the greater the hurricane intensity and the closer the hurricane passes to the reef. It did this with a “cat in nested circles” approach, where an innermost circle covers the core Mesoamerican reef areas and three other progressively larger circles sit around these.

The insurance industry is well placed to inform the mechanisms that would allow for transparent, objective and appropriately targeted flow of finance to address immediate needs after sudden and slow-onset events

When Hurricane Lisa passed directly over Belize's Turneffe Atoll as a category one hurricane on November 2, 2022, the insurance programme demonstrated its value. Calculations completed by WTW as the calculation agent confirmed the wind intensity reached 70 knots, triggering a \$175,000 payout, which MAR Fund received in full within just two weeks of the event. Forty-eight hours after receiving the payout, MAR Fund transferred the funds to the trained brigades and, within the space of a month following the event, 13 brigade members were deployed to two Turneffe Atoll sites to rapidly assess damage to the reef and subsequently carry out the first phases of response activities as outlined in a pre-agreed response protocol. All of this was made possible because of the MAR Insurance Programme and the rapid liquidity provided from the payout.

Belize has recently been the pioneer of further significant innovations in the conservation and climate finance space, including the use of parametric insurance to protect sovereign debt repayments.

In November 2021 environmental-focused charity The Nature Conservancy (TNC) and the government of Belize announced the completion of a debt conversion for marine conservation deal. Belize repurchased \$553m of privately held debt at a 45% discount through a blue loan arranged by TNC and the resulting \$364m 20-year Blue Bond issuance arranged

by Credit Suisse included a “credit wrap” (political risk insurance) provided by the US Development Finance Corporation and a “parametric policy” (resilience wrapper) designed and placed by WTW. In return, Belize committed to a number of conservation goals, including financing.

In the event of a hurricane that meets the parametric trigger criteria, the next semi-annual debt servicing payment the government of Belize must pay is waived and instead paid for via the parametric insurance payout from the insurer (selected via competitive broking process).

The payment can be triggered in several ways: 1) based on the intensity of the hurricane (minimum of category three) and proximity to economic hubs – meaning larger storms can be further away and still trigger payment; 2) the occurrence of two hurricanes of any intensity in the same 12-month period; or 3) a hurricane of any intensity accompanied by very heavy rainfall. In addition to freeing up capital for ongoing conservation investments and ensuring debt servicing payments are protected from key climate impacts, S&P Global Ratings increased Belize's sovereign credit rating three steps from CC to B- after the debt restructuring.

While the application of parametric insurance in the climate space has focused primarily on sudden, shock events, many of the most devastating impacts of climate change, especially for coastal and island nations, will be chronic and slow-onset (for example, sea-level rise, coral bleaching, drought). Building on our experience designing bespoke pre-arranged, trigger-based solutions for a range of shock events, including those focused on ecosystem resilience, WTW has started to think about how to deploy most effectively the tools and analytics of the insurance industry for slow-onset events.

Term life model

One approach that could be deployed is a term life insurance-like model whereby one insures timing risk rath-

er than the event itself – this could be a parametric insurance product that would trigger if sea level rise of a certain pre-agreed amount is exceeded within a certain period of time (for example, 30 cm by 2030). Then there are events such as coral bleaching, which sit between shock events and long-term changes, with the shock events becoming more common because of longer-term changes. For coral bleaching in particular, we have tested an ocean heatwave index, where early triggers are possible to drive anticipatory action (a form of forecast-based finance). For all these perils, both economic and non-economic losses can be captured.

These may sound like radical new ideas but in fact the concept of deploying the tools of the insurance industry for addressing slow-onset risk first appeared before the UN Framework Convention on Climate Change (UNFCCC) was even adopted. In 1991, the Alliance of Small Island States (Aosis) put forward the concept of an “international insurance pool” aimed at compensating low-lying islands for the loss and damage associated with sea level rise. However, this provision was not included in the UNFCCC when it was adopted in 1992.

Loss and damage – often understood as irreversible slow and sudden onset climate risk that materialises when the limits of (cost-effective) adaptation have been reached and breached – has since then featured within the UNFCCC context for decades, although few decisions have been taken to solidify how the multilateral community intends to respond. Fast forward to the 27th Conference of the Parties (COP27) in Egypt in 2022, when a decision was taken on “funding arrangements for responding to loss and damage associated with the adverse effects of climate change, including a focus on addressing loss and damage”. As part of this decision, a transitional committee was called for to support the operationalisation of the new funding arrangements for responding to loss and damage and the associated fund.

Insurance industry’s role

Setting aside the politics of who will contribute financial resources to respond to loss and damage, we think the insurance industry is well placed to inform the mechanisms that would allow for transparent, objective and appropriately targeted flow of finance to address immediate needs after sudden and slow-onset

events, including those that have an impact on ecosystems and the livelihoods that depend on their services.

In other words, insurance tools (and in some cases insurance products) that can include triggering of grant funding or other forms of capital – it does not have to be global, private risk capital – that are agreed in advance so funds can flow quickly after triggering events.

Such flows must complement, not replace, climate finance (for adaptation and mitigation), traditional humanitarian (for response) and development (for disaster risk reduction) funding and should also be aligned with anticipatory and early action investments so that the value of the rapid finance is fully captured (for example, through allowing for shock responsiveness to be built into social benefits programmes). ■

Simon Young is co-lead for disaster risk finance and parametrics in WTW’s climate and resilience hub and Sarah Conway is ecosystem resilience lead within disaster risk finance and parametrics and former lead climate finance negotiator for the US delegation to the UNFCCC



Turneffe Atoll Sustainability Association

Embedding sustainability requires genuine change



Piotr Adamowicz/Alamy Stock Photo



While engagement and collaboration with insureds is key, a commitment to sustainability requires us to sometimes say no, writes Olivia Brindle from Fidelis MGU

We hear a lot about insurance companies “embedding sustainability into underwriting”, but what does this actually mean?

It is a phrase that can sound clichéd and empty but at Fidelis, we use it to mean something quite specific.

At the most basic level, it means something has to change in underwriting as a result of sustainability considerations being taken into account.

Sustainability cannot be something done on the side, disconnected from how risks are evaluated and written – in the form of desk research or ad hoc analysis, for instance.

There are different ways to connect the two, representing different approaches, as well as progressing stages of maturity, but some type of sustainability assessment must form part of the underwriting decision-making process.

The outcome of that sustainability assessment must be able to genu-

inely impact or change the underwriting decision.

Again, this could take different forms – differential pricing, capacity, terms and conditions, a novel product structure or sustainability-linked features. But if underwriting decisions always remain unchanged, we cannot really talk about sustainability being “embedded”.

When we talk about sustainability being embedded in underwriting, it means we carry out assessments of potential new and renewing business from a sustainability angle within the core underwriting process, using agreed (albeit evolving) guidelines and with a tangible impact on decision-making.

Not just exclusions

Every carrier has its own underwriting process so the details of what “embedding” means will have to be tailored to this.

Fidelis has a unique process that involves daily underwriting calls with all underwriters as well as addition-

al individuals across key functions such as claims, risk and actuarial.

This means everyone involved in the underwriting process is aware of every contract that is written, with the ability to ask questions or challenge the proposed approach as relevant. The sustainability function takes part in these calls and is required to approve any risk that raises potential concerns.

Fidelis has a defined set of guidelines – agreed by senior underwriters and other members of senior management – that lay out the issues we look out for.

These cover broad topics such as environmental concerns, animal welfare or human and labour rights, but there are also more specific guidelines for sectors, like energy, defence and forestry. The focus is on direct insurance business.

Not all potential issues are screened for and we have identified a heatmap approach to key issues. Where concerns are identified, not all are equally serious and not all therefore require a change to the underwriting approach.

Companies may have been involved in controversies historically but have visibly improved, with clear targets in place or evidence of co-operation with relevant authorities.

We do not expect perfection and will support insureds that have a less-than-ideal sustainability profile if it is clear they are committed to improving this over time.

However, we do have rules in place to ensure a consistent approach and if our requirements are not met then we will take action accordingly.

This can be as simple as asking questions to clarify existing policies or remedial actions taken. We may ask for an exclusion for an activity we are not comfortable with. For instance, we might insure a defence company but exclude ammunition.

A genuine integration of sustainability into underwriting entails some degree of change. And change implies addressing mindset and culture, with work needed to build understanding and support internally

We may include a subjectivity in the contract wording that specifies the improvement or remediation we expect to see ahead of the next renewal or we may seek to hold a one-to-one discussion with the insured to better understand their policies on certain issues.

We typically explore all these options before declining to work with an insured – the latter only usually happens if the company is not willing to engage with us or if we cannot exclude cover for certain activities. The list of strict exclusions is relatively short and includes, as per our public comments, thermal coal, tar sands and Arctic drilling.

Sustainability guidelines are therefore applied in the daily review of risks. Additionally, we collect data in relation to the referral process and the sustainability profile of our portfolio – tracking metrics around declinatures as well as business that positively contributes to sustainable outcomes. These metrics are regularly shared with senior management and our board, which is an important way to maintain transparency.

Avenues to explore

Embedding sustainability into underwriting is still in its early stages. There are a number of avenues we at Fidelis are exploring so we can build on the solid foundation we now have in place.

As members of the Net-Zero Insurance Alliance, we are working on our first interim targets towards net zero and the detailed implementation strategy behind this, which will necessarily involve integrating some kind of carbon budgeting into our underwriting.

We have a partnership in place with Howden to explore the links between environmental, social and governance (ESG) ratings and underwriting performance, which we expect will over time lead to tangible conclusions that will be factored into how we underwrite.

A slightly different avenue relates to developing products that support sustainable behaviours and encourage transition. Also related are our plans to increase public disclosure – for instance, through our first ClimateWise report, which will be released later in 2023. While not directly related to underwriting, public disclosure is central to driving commitment and creating accountability.

Data

It seems very few discussions about “embedding sustainability” can take place without lamenting the poor state of ESG-related data.

Indeed, for some carriers, the focus of their work appears to be on sourcing high-quality data as a precursor to taking concrete underwriting action. The argument is you cannot take action before you have a robust picture of your existing portfolio and reliable ESG information on potential new risks.

At Fidelis we take a somewhat different view. Given the well-documented weakness of ESG data and the fact it will take years for this to improve materially, we believe we cannot make action conditional on data.

We also do not need to – good data is needed for some purposes, but the foundations of a more sustainable underwriting approach can be built using what we do know.

Underwriting involves not only running models and probabilities but also applying judgment and qualitatively evaluating risk – these elements are equally important for sustainability assessments.

Using them is likely to lead to better decisions than mechanically relying on ESG metrics – identifying whether a company is involved in deforestation or forced labour is more material to a sound assessment than obtaining its ESG rating.

Not every insurer has the ability to carry out in-depth risk-by-risk checks, but it is absolutely worth thinking about ways to embed sustainability without getting held up by the limitations of data. Work on refining data quality is important but should not stand in the way of taking underwriting action. Collecting data should also not become a standalone

goal – always think about what you will do with a given piece of information, what goal will it serve? If it cannot be used in decision-making, what is the value of collecting it?

Do not neglect culture

What is unavoidable is the fact that a genuine integration of sustainability into underwriting entails some degree of change. And change implies addressing mindset and culture, with work needed to build understanding and support internally – this can be the hardest part of the embedding process.

It is equally unavoidable that not all companies or activities are sustainable. While engagement and collaboration with insureds is key, a commitment to sustainability requires us to sometimes say no.

This can involve some tough deci-

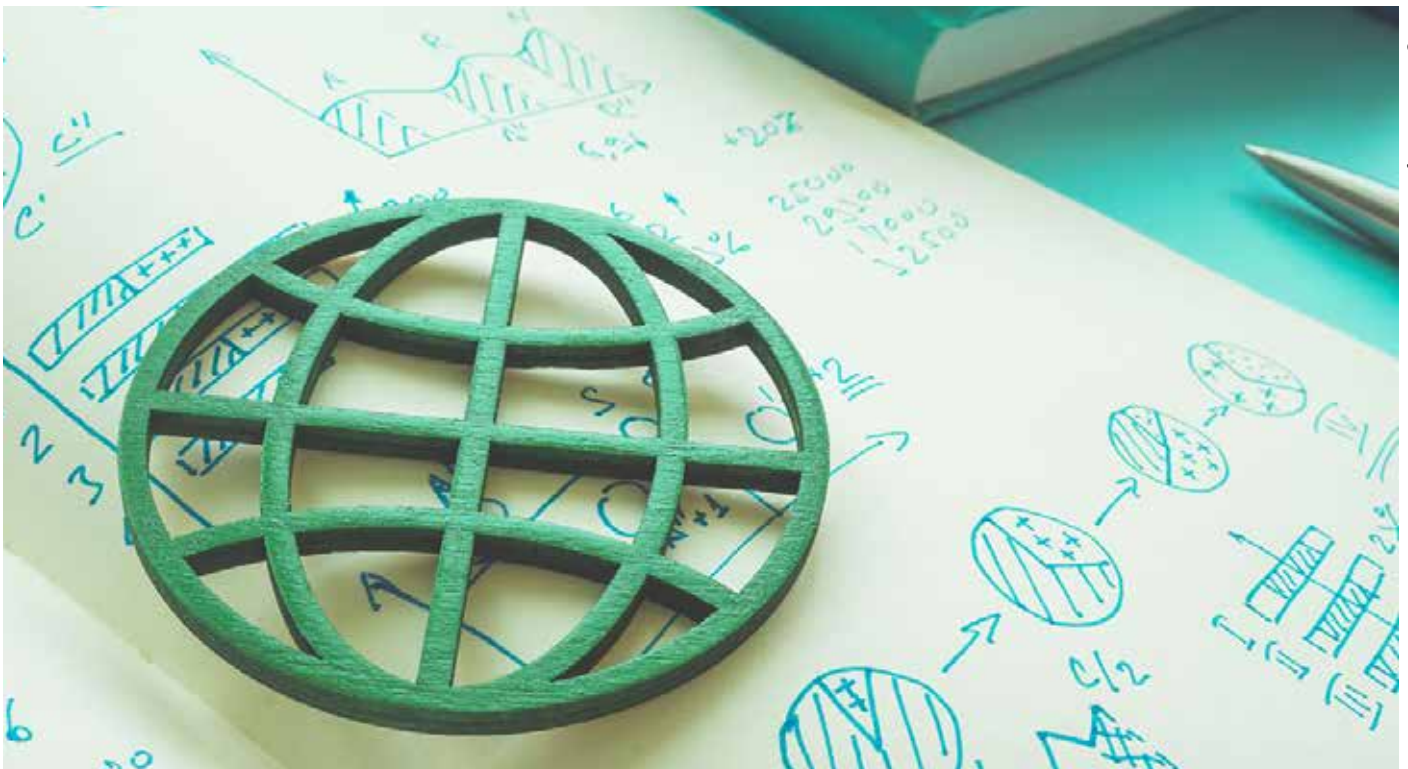
sions, making it all the more important to have a strong understanding of why the organisation is going down this path and what the desired outcome is. Is it purely about generating higher long-term underwriting profit or is there also an element of simply doing the right thing (and how is this defined)?

A strong recommendation therefore is to start with principles and strategy, which will provide a solid underpinning for implementation. Why are you doing this, what are the key issues you want to address and what are your immediate priorities? Get a framework in place and agree it with senior stakeholders. Then work out how to “embed” this into the daily activities of your underwriters.

Staying focused and always being tangible will help you not to get overwhelmed, as will being realistic and pragmatic. You will not have perfect data, you will not be able to address every topic and you will not get it 100% correct from day one. That should not stop you from making a good start. ■

Olivia Brindle is head of sustainability at Fidelis MGU

Underwriting involves not only running models and probabilities but also applying judgment and qualitatively evaluating risk – these elements are equally important for sustainability assessments



designer491/Alamy Stock Photo

Taking social good further



IFRC/Yoshi Shimizu

Insurance helps societies get back on their feet, but through public-private partnerships, it can prevent them falling over again (and again)

There is an opportunity to use insurance not only as financial compensation after an extreme weather event but also as a mechanism for supporting climate risk reduction and even damage prevention.

Cop27 closed with a historic agreement to provide “loss and damage” funding for vulnerable countries hit hard by floods, droughts and other climate disasters. A transitional committee is working on recommendations for the new funding arrangements, with adoption of the fund itself planned for Cop28.

The UN’s secretary-general, António Guterres, also announced a \$3.1bn plan to ensure that by 2027, everyone on Earth should be protected by early warning systems against increasingly extreme weather and climate change.

To aid this effort, Guterres convened an advisory panel of leaders from UN agencies, multilateral development banks, humanitarian organisations, civil society, IT companies

and insurance. Michel Liès, chair of Zurich Insurance Group and chair of the Insurance Development Forum (IDF), is on this advisory panel.

Liès says the “intellectual contribution” the insurance sector can make to the [Early Warnings for All Initiative](#) is its risk modelling expertise. Any contribution to the initiative’s work in monetary terms will be made, at least initially, by the UN, he adds.

It is “natural”, he continues, for insurance to offer itself as “a bridge between the financial community and those impacted by climate change”.

Increasing awareness

The insurance sector has a long way to go, however, in bringing awareness of the role it can play in the global effort to address the impacts of climate risk.

“The banking industry reaches every nation but as insurers we are not yet at the level of an understanding of the added value we can bring to the fight against climate change,” Liès says.



“We, as a society, still spend an enormous amount of money after the fact, but the same amount of money spent on prevention would probably be at least five times more efficient”

Michel Liès
Zurich Insurance Group

“Through the industry’s capabilities and know-how, we can make the price of no action visible and what actions to take before an event to mitigate impact from climate disasters,” he says.

“We, as a society, still spend an enormous amount of money after the fact, but the same amount of money spent on prevention would probably be at least five times more efficient. The attraction for insurers from the Early Warnings for All Initiative is ex-ante investment to reduce disaster impacts, rather than paying after one has occurred.”

Therefore, he continues, in addition to working with countries on developing concrete risk management solutions, the IDF spends a great deal of time on advocacy to ensure both public and private organisations realise the potential of the insurance sector to increase understanding of and reduce the impact from climate risk-related disasters.

That potential is underscored by the IDF’s Global Risk Modelling Alliance (GRMA), which strives to correct the global imbalance in accessing data and tools to manage climate risk. At Cop27, Pakistan was announced as the GRMA’s first partner country.

The GRMA and the IDF’s Global Resilience Index Initiative sit alongside the IDF’s co-operation with the UN Development Programme (UNDP) and Germany’s federal ministry for economic co-operation and development, the Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (BMZ).

Risk modelling

An opportunity from the insurance sector’s ability to help tackle climate-linked disasters is found, Liès says, in “the difference between pure statistics and risk modelling”.

He says: “Risk modelling is not static and it definitely serves to anticipate events and showcase what can happen, also going beyond climate change. It also analyses risks from the concentration of wealth. For example, Louisiana was a desert at the beginning of the 20th century but today it is like Manhattan.”

Where insurers can undoubtedly make a difference, he adds, is through public-private partnerships, such as the IDF. “I know there are some people who pretend liberalism means everything should be private, while others pretend everything should be public, but climate risk is a challenge that requires co-operation,” Liès says.

The beauty of data, he continues, is it overrides political differences. “We should take advantage of our discrete position within the financial industry to increase the visibility of our risk modelling capabilities for those with political responsibilities. That is also what the IDF is trying to do.”

The IDF’s members include 18 companies from the insurance sector (insurers, reinsurers and brokers), but its membership is also open to multilateral organisations, non-governmental organisations and public sector institutions. Its members have the common goal of op-

timising and extending the use of insurance and its related risk management capabilities to build greater resilience and protection for people, communities, businesses and public institutions that are vulnerable to climate change and natural disasters and their associated economic shocks.

“The insurance industry can easily complement the work of the Disaster Risk Reduction unit of the UN or the loan capability of the World Bank,” Liès says.

The aim of this public-private partnership, he adds, is to impart and then nurture knowledge of risk management among governments, help close protection gaps and reduce the impact on governments from climate shocks.

“Our industry created the chief risk officer concept as recently as 40 years ago, which is late if you consider our industry was built on risk. Now, with the global risks from climate change, it would also make sense for every government to have a ‘country risk officer’,” he says.

Humanitarian solutions

Helping the governments of developing countries understand how insurance products and tools can increase their resilience to climate change is front and centre of the IDF’s Sovereign and Humanitarian Solutions (SHS) working group.

This is co-chaired by Ivo Menzinger, managing director for public sector business across Europe, the Middle East and Africa at Swiss Re.

The need for the SHS could not be clearer. According to Swiss Re, global economic losses from natural disasters amounted to \$275bn in 2022 but, at \$125bn, insured losses covered only 45% of the damage.

“Against the background of wanting to accelerate closing of the protection gap, the SHS engages with governments in developing countries

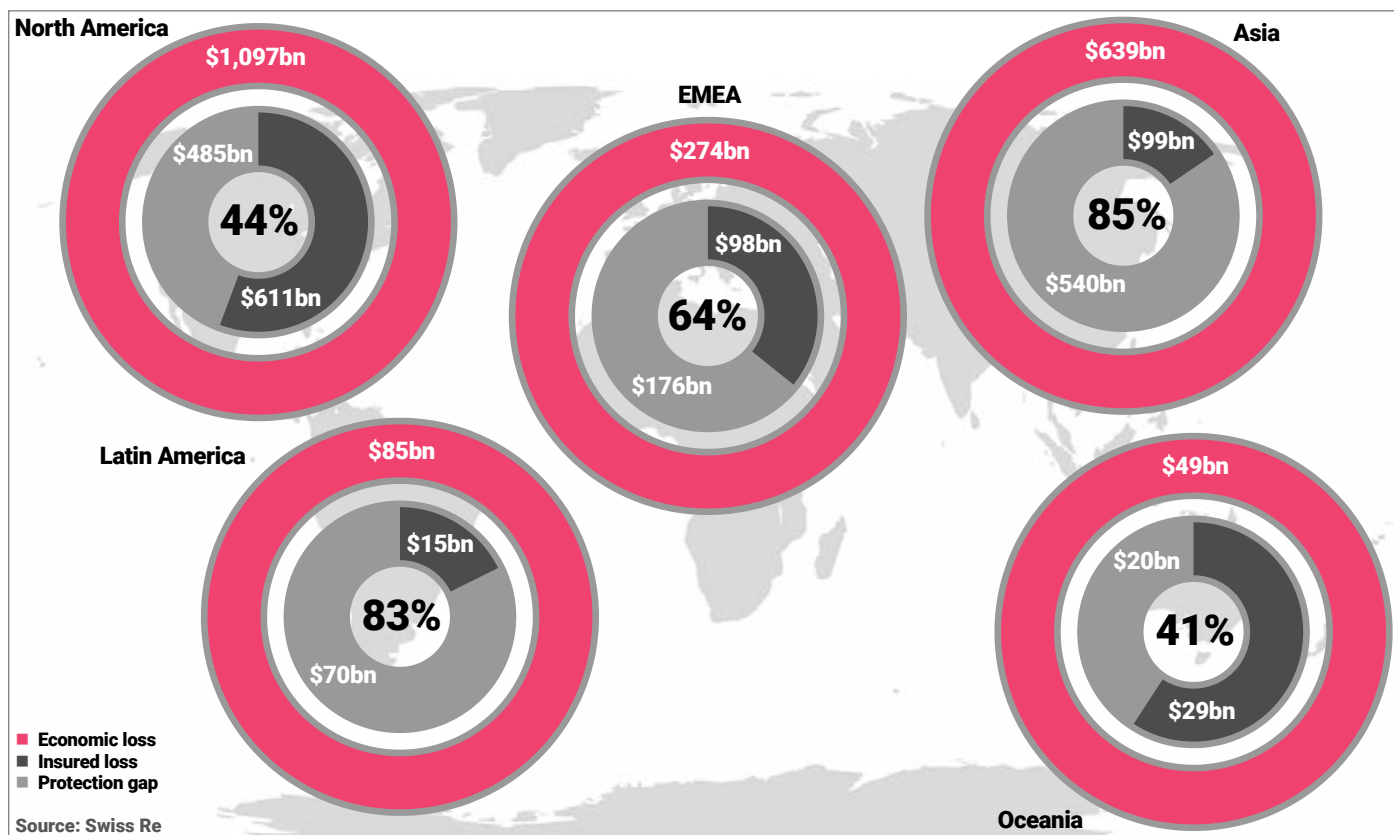
“If there could be an insurance contract, which is itself an agreement for pre-arranged funding, stipulating ‘if X, Y or Z happens’, then the quicker the world can move to alleviate suffering”

Ivo Menzinger
Swiss Re



Developing nations benefit most from narrowing the protection gap

Graphic: Economic losses from catastrophes, insured losses and the protection gap, 10-year totals, 2013 to 2022 (\$bn)



on how they can use risk transfer more systematically than they have done in the past, because what has been missing for them is advisory capacity on what the insurance industry can do for sovereigns and sub-sovereigns,” Menzinger says.

The SHS is currently developing programmes in 18 countries. If all of this work “comes to fruition” as planned, Menzinger says, about 80 million more people will be covered by insurance against extreme weather events for the first time.

There is increasing interest in the potential role of insurance in risk reduction for which the industry’s knowledge base on risk modelling is becoming ever more important, he continues. “Plain vanilla” risk transfer has evolved, he says, thanks to parametrics, a tool that is used, for example, by CCRIF SPC.

This was formed in 2007 as the Caribbean Catastrophe Risk Insurance

Facility – the first multi-country risk pool in the world – and was the first insurance instrument to successfully develop parametric policies backed by both traditional and capital markets.

However, a lack of data that could inform modelling climate risk in developing countries has not been the main hurdle to the IDF’s work, Menzinger says. “The issue has been much more about establishing demand because we can only act once a government has formally requested our help.”

Each applicant country must meet the eligibility criteria of the IDF, the UNDP and the BMZ.

Analytic tools

Once work begins, Menzinger stresses, they are soon made aware of how “super helpful” risk analytics tools, from the basic to the sophisticated, are. Often a developing country (for instance, Peru) lacks a database

of public assets, which is needed to establish the degree of vulnerability its infrastructure has to earthquakes, for example. Such information can be collected and recorded using technology as simple as an app on a mobile phone, he adds.

The next step after the IDF’s “country-by-country approach”, he says, will be to address the challenge of the “ex-post versus ex-ante” response to natural catastrophes. For this, the SHS wants to engage more with humanitarian aid organisations, to help them develop pre-funding for disaster relief.

Menzinger says: “Risk management knowledge, processes and tools could be used to change the way crisis financing is currently arranged. The IDF’s working groups are not only open to insurance companies but also to their public sector counterparts and the World Food Programme [WFP] and the Start Network, which comprises more than 80 humanitar-

“Greater financial protection and faster and more reliable disaster preparedness and response will help to cost-efficiently and effectively minimise and address loss and damage exacerbated by climate change”

Astrid Zwick
InsuResilience



ian agencies across five continents, are already part of the SHS.”

The SHS aims to have the concept for a pilot project on disaster risk financing in place by the end of this year. It is also committed to engaging in advocacy and making the case for insurance principles to play a role in ex-ante crisis funding.

The global figure for crisis risk financing trebled within a few years to \$30bn last year and appeals for this year are expected to reach \$50bn, Menzinger says. This is connected to climate risk, but also to conflict and other strains on the lives and livelihoods of people around the world.

Data from the Centre for Disaster Protection shows 55% of all crises can be predicted but less than 2% of crisis funding is pre-arranged. Moreover, it can take several months before financial aid reaches an afflicted country.

“If there could be an insurance contract, which is itself an agreement for pre-arranged funding, stipulating ‘if X, Y or Z happens’, then the quicker the world can move to alleviate suffering,” Menzinger says. “And if that contract had a parametric trigger element, which is particularly helpful for slow-onset events like drought, then there could be intervention before a crisis develops into a fully fledged disaster. For example, the trigger could be activated by a certain decline in rainfall and help the World Food Programme to receive funding faster.”

Global Shield

The SHS leads The Tripartite Programme, which brings it together with UNDP and BMZ in the climate risk financing space. This is working

to achieve the “Vision 2025” of the InsuResilience Global Partnership (IGP) – financial protection against climate and disaster risk for 500 million people annually by 2025.

The IGP was launched during Germany’s G20 presidency in 2017, as a joint G20 and V20 initiative. The V20 (Vulnerable 20 Group) is an alliance of the finance ministers of the 55 countries that are most vulnerable to climate change. In 2021, 24 implementing programmes were operating under the InsuResilience umbrella with 324 projects in 108 countries.

During its G7 presidency in 2022, Germany launched the Global Shield against Climate Risks, which works towards comprehensive and active climate risk management worldwide.

“Joint efforts under the IGP have meant 150 million poor and vulnerable people benefited from climate and disaster risk finance and insurance (CDRFI) solutions in 2021 alone,” Astrid Zwick, head of InsuResilience Secretariat, says.

“However, funding for disaster response and recovery is still mainly arranged ex-post. Thus, important time to save lives and livelihoods is lost and the cost of disasters and their impact increases. Moreover, climate-fuelled risk has driven up the cost of capital and unsustainable debt levels across climate vulnerable economies, which has contributed to worsening financial protection gaps,” she adds.

Therefore, it is vital to address climate impacts by “swiftly redesigning” existing structures, since “more and better” CDRFI can reduce the impact of disasters.

The Global Shield is designed to increase protection for poor and vulnerable people by substantially enhancing pre-arranged finance, insurance and social protection mechanisms against disasters.

Zwick says: “Greater financial protection and faster and more reliable disaster preparedness and response will help to cost-efficiently and effectively minimise and address loss and damage exacerbated by climate change. To achieve its objective, the Global Shield will close urgent protection gaps in countries by designing, funding and facilitating interventions.

“All interventions will be based on national ownership and will work to ensure more systematic, coherent and sustained financial protection by scaling up existing CDRFI programmes and preparing country-specific, needs-based CDRFI support packages, including the scaling up of smart premium and capital support to address affordability barriers.”

Disaster risk reduction

The Centre for Disaster Protection (CDP), unveiled to the G20 by the UK government in 2017, urges the insurance industry to broaden its definition of the protection gap beyond property and casualty coverage.

The 30 years of risk modelling that underpin the insurance industry’s analysis of catastrophic losses could also support climate risk finance, according to the CDP’s lead risk finance adviser, Jonathon Gascoigne.

“Intergovernmental Panel on Climate Change reports have highlighted in increasing detail the likely variations, mostly amplifications, of frequency and severity of extreme

events such as heatwaves, heavy precipitation and droughts. Climate change and its consequences are already with us and its influence needs to be assessed,” Gascoigne says.

Industry analysts understand the risks of associated impacts on society are also composed of changes in exposure, such as urbanisation, and vulnerability to hazards, such as poverty. These components can also change more rapidly than atmospheric averages.

Technology

Advances in technologies such as satellite remote sensing provide greater global information availability, especially in data-scarce regions. Disasters should therefore “not come as surprises”, Gascoigne says, and this allows communities, governments and humanitarian organisations to change how they plan and pay for such crises and protect lives and livelihoods.

“A key task of insurance is to extend the limits of insurability so disaster risk financing can work alongside and incentivise disaster risk reduction,” Gascoigne says.

In this way, slower-onset climate impacts – for which he points out insurance is less well suited – can also potentially be ameliorated, within limits of adaptation.

The re/insurance sector has provided both underwriting capacity and technical assistance to the establishment of sovereign risk pools such as CCRIF SPC, African Risk Capacity (ARC) and the Pacific Catastrophe Risk Insurance Company. Gallagher Re is lead reinsurance broker to all three pools.

Countries and perils that are less well studied by the industry, such as drought in sub-Saharan Africa, are seeing parametric insurance schemes established, linked to contingency planning for effective response.

“Rapid payout, along with crucial ‘last mile’ delivery, reduces exacerbation of negative coping strategies,



“A key task of insurance is to extend the limits of insurability so disaster risk financing can work alongside and incentivise disaster risk reduction”

Jonathon Gascoigne
Centre for Disaster Protection

such as people having to sell livestock or take children out of school,” Gascoigne says.

Humanitarian expansion of such climate risk insurance has been developed through innovations such as ARC Replica, where agencies including the Start Network and the WFP purchase matching policies to increase coverage.

For high-income economies with higher insurance penetration, the re/insurance industry defines the impacts of climate hazards largely in terms of physical assets, but the poorest populations often have fewer of such assets, while being hit the hardest.

One example of a helpful change to this definition Gascoigne points to is a recent project between broker WTW and Unicef. Their Child Cyclone Index captures the number of children exposed to tropical cyclones and identifies related relief needs. As with the risk pools, such projects geographically diversify re/insurers’ books of business.

There is also the challenge the humanitarian sector itself faces, Gascoigne adds, from ever-increasing needs for assistance from the impacts of climate change, conflict and food insecurity, for example, but with pressures on donor funding often leading to appeals being only 50% covered.

Paying for crises

The CDP has provided a series of [Risk Transfer 101 blogs](#), which set out what humanitarian organisations need to consider when taking a fresh look at how they pay for crises – including the opportunities and challenges in exploring the suitability of insurance instruments in these complex contexts.

For example, an analogy exists between the international portfolios of insurers and globally allocated emergency response funds. Broker Aon is working with the International Federation of Red Cross and Red Crescent Societies on an insurance mechanism to protect and enhance the capacity of its Disaster Response Emergency Fund.

Eleanor Hevey, associate director at the CDP, highlights efforts to “showcase but also codify” private sector responses to climate adaptation and resilience initiatives. For example, Marsh McLennan is joining forces with the Atlantic Council’s Arsht-Rockefeller Foundation Resilience Centre, the UN’s Race to Resilience team and the UN High-Level Climate Champions. Together, they aim to advance the re/insurance sector’s action on climate adaptation.

“There has been traction in how to measure and categorise efforts to mitigate climate change, but this is an attempt to do the same for adaptation and resilience,” Hevey says.

“It’s an example of how different groups and sectors are sharing information to ladder up together, rather than have a porridge of initiatives, so that we can all make a wider and more coherent contribution,” she adds. ■

A hard market brings responsibility

Buyers bemoaning the new hard market should spare a thought for those who need capacity most



Xinhua/Alamy Stock Photo

People cross a damaged bridge in Mulanje, Malawi, after Cyclone Freddy hit the south of the country in March

Much has been written about the 1/1 reinsurance renewal, where pricing hikes were not the only risk facing buyers. Insurers also faced an uphill struggle to find sufficient capacity to protect their underwriting books, as reinsurers reduced or withdrew their risk appetite, despite the premium on offer.

Add to this the fact there are higher returns to be made in the fixed income market owing to increased interest rates and reinsurance is no longer so attractive to investors.

The strain of this hard market is heaviest, however, on those who seek to protect the world's poor.

African Risk Capacity (ARC) creates parametric insurance solutions for natural disasters. ARC's mission is to use modern finance mechanisms,

such as risk pooling and risk transfer, to create pan-African climate response systems that enable African countries to meet the needs of people vulnerable to natural disasters.

"ARC originates unique African climate risks for placement in the global reinsurance markets. The risks we originate and underwrite are in excess of our capacity to retain, and therefore we depend on the global market for reinsurance capacity," ARC's chief executive, Lesley Ndlovu, says.

"We have not been spared from the hardening catastrophe reinsurance pricing, which has seen increases of 20% to 30% compared with last year. We simply cannot pass a price increase of this magnitude to our clients who are already struggling to afford insurance premiums," he adds.

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Lesley Ndlovu
African Risk Capacity

Attracting investors

ARC is managing the hardening cycle by increasing its risk retention and looking to tap into the insurance-linked securities market. Its underwriting risks are uncorrelated to financial market risks and should be attractive to investors.

Furthermore, ARC is the top-ranked insurance company for environmental, social and governance as rated by Sustainalytics and Ndlovu believes this will attract “impact-oriented” investors, which have a lower cost of capital.

“The re/insurance industry has successfully positioned itself as a major player in climate change mitigation and repeatedly made commitments to close the protection gap. However, this aspiration is not reflected in the reinsurance pricing charged to risk pools, which are key to protecting vulnerable communities all over the world,” Ndlovu says.

He continues: “The industry should not be aiming to generate sky-high returns on equity when providing reinsurance capacity to the risk pools – this should be part of the industry’s contribution to tackling the major challenges facing humanity.”

ARC comprises ARC Agency, a specialised agency of the African Union, which was founded in 2012, and ARC Insurance Company Ltd, a hybrid mutual insurer and the commercial affiliate of the group, which was founded in 2014.

ARC’s objective is to protect vulnerable communities in Africa by using parametric insurance, which pays claims very quickly and thereby makes financing available to rapidly launch relief operations.

Increased coverage

Historically, ARC provided insurance coverage against drought, starting with the first risk pool underwritten in 2014. In the past few years, in response to increasing losses from other perils, ARC has worked with the African countries to cover additional

“The industry should not be aiming to generate sky-high returns on equity when providing reinsurance capacity to the risk pools – this should be part of the industry’s contribution to tackling the major challenges facing humanity”

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African Risk Capacity



perils and provide more comprehensive coverage.

In 2020, ARC launched coverage for tropical cyclone for the south-west Indian Ocean, with Madagascar as the first client. The coverage was expanded to Mozambique in 2022 as part of the World Bank’s Global Risk Financing Facility.

In 2022, ARC launched Africa’s first outbreaks and epidemics cover, in Senegal, covering the risk of an outbreak of Ebola and meningitis.

This new epidemics product has garnered a lot of interest, Ndlovu says, following recent Ebola outbreaks in the Democratic Republic of Congo and Uganda.

In 2023, ARC is aiming to launch its flood insurance product with three pilot countries: Malawi, Mozambique and Madagascar. This product will be scaled across Africa, building on the lessons learned in these pilot countries.

On the margins of the 13th Session of the ARC Conference of the Parties (Cop13), the ARC Group hosted a panel discussion under the theme, “ARC@10: Lessons learned and per-

spectives”, following its anniversary in November 2022.

Given the escalating climate crisis and its impact on the continent, it was seen as fitting that ARC and its stakeholders reviewed its first decade of existence and took stock of the role the organisation has played in disaster risk financing.

Cop27 had recognised insurance as a critical tool for adaptation and in managing loss and damage from climate disasters and Ndlovu highlights the important role of parametric insurance in strengthening the African continent’s response.

Through their participation in ARC risk pools, Malawi, Madagascar and Mauritania, for example, learned how to define policy frameworks for a transformative approach to disaster management. ARC assisted these countries in preparedness planning, which has helped improve co-ordination between governments and their partners.

ARC aims to work in collaboration with other global finance initiatives, Ndlovu says, such as the Global Climate Fund and Global Environment Fund, to support its work. ■

Human rights and the environment create new liabilities



Malp/Alamy Stock Photo



The EU Corporate Sustainability Due Diligence Directive will introduce a mandatory human rights and environmental framework, writes Henning Schaloske from Clyde & Co

Sustainability issues are at the top of the corporate agenda for companies of all sizes and are a priority for their insurance partners, too. New EU rules expected to come into force in the coming few years are set to increase the responsibility on companies to ensure they and their suppliers are acting in a sustainable and responsible manner and open up a new range of liabilities and exposures that previously did not exist.

In recent months, stakeholders, shareholders, employees and regulatory bodies have been placing ever greater scrutiny on the environmental, social

and governance (ESG) performance of companies they interact with, invest in, work for and buy from.

Environmental and climate concerns are a particular priority for risk professionals and insurers, with biodiversity loss, climate action failure and extreme weather ranked as the three most potentially severe risks for the coming decade by the [World Economic Forum's Risk Report](#).

At the international level, firms are working to achieve the UN's sustainability goals, reduce their carbon footprint in line with net-zero targets and report on ESG commitments – both financial and non-financial – among other efforts. In Europe, certain governments have begun to introduce requirements to monitor ESG performance and now the EU is stepping up its oversight of companies' corporate sustainability due diligence.

Last week the European parliament's legal affairs committee voted to approve the draft [EU Corporate Sustainability Due Diligence Directive](#) (CSDDD), paving the way for lawmakers to negotiate the final shape of the directive.

The CSDDD will introduce a mandatory human rights and environmental due diligence framework, which will impose due diligence obligations on a company's own operations, its subsidiaries and its value chain – both direct and indirect.

Scope of the directive

While some EU member states already have laws and regulations that touch upon this area (the Modern Slavery Act in the UK, for example, and the recently enacted German Supply Chain Act) the CSDDD will have a wider scope and introduce corporate sustainability due diligence requirements throughout the supply chain for companies based in the EU and those that derive a certain proportion of their turnover from the EU.

The CSDDD initially will apply to all EU companies with more than 500 employees and more than €150m in annual turnover. Two years after introduction, it will be extended to apply to EU companies with 250 employees and annual turnover of €40m or more that operate in so-called "high-impact" sectors, which include textiles, agriculture and the extraction of wholesale minerals.

Crucially, the CSDDD also will apply to non-EU (third country-based) companies that have annual EU turnover of €150m and companies operating in "high-impact" sectors that derive €40m in turnover from the EU. Overall, the CSDDD is expected to apply to about 13,000 EU-based companies and some 4,000 based outside the EU.

The directive will impose a number of requirements on companies. First, they will need to undertake specific steps to prevent potential adverse impacts of their own operations and

in their value chain. Those impacts might include pollution or biodiversity loss or exploitation of workers or child labour, for example.

Second, they will need to identify potential adverse impacts and put in place steps to prevent, end or mitigate them. Next, they will have to consult stakeholders to develop and implement a prevention action plan and put in place timelines for action and indicators to measure improvement.

Finally, companies will need to seek contractual assurances from business partners they will comply with the company's code of conduct and action plan and seek assurances from partners they have measures to verify compliance.

Liability and insurance impact

The CSDDD represents a step change in terms of exposures stemming from corporate sustainability and opens up a new set of liabilities for companies and their directors and officers that did not previously exist.

As well as introducing fines for non-compliance, the CSDDD will create a liability for companies to ensure actors in their value chain are compliant too and it also will require directors and officers of companies to assume responsibility for ensuring corporate sustainability due diligence is part of their strategy and planning.

Article 8 of the CSDDD will require firms to neutralise or minimise any adverse impacts that occur by paying financial compensation to victims of environmental damage or human rights violations and require them to develop a corrective action plan.

Under the directive, EU member states will be required to create a civil liability regime for failure to comply with due diligence processes where adverse impacts that should have been identified, prevented, mitigated or stopped led to damage. These civil liability regimes will have the power to impose sanctions on companies that fail to comply, including turnover-based fines.

The directive will require directors to take into account the human rights, climate change and environmental consequences of decisions they take when acting in the best interests of their company

The CSDDD also introduces duties for the directors of EU companies that fall under its scope. Those duties will include setting up and overseeing the implementation of due diligence processes and ensuring corporate sustainability due diligence is integrated into the company's strategy.

Importantly, the directive will require directors to take into account the human rights, climate change and environmental consequences of decisions they take when acting in the best interests of their company.

It also will open the door to claims against firms whose suppliers or partners in the value chain breach corporate sustainability due diligence codes.

Historically, it has been rare for plaintiffs to successfully bring cases against companies whose suppliers have failed to comply with safety regulations resulting in damage and harm, for example. But under the CSDDD there is a clear obligation for companies to ensure due diligence is observed both up and down the supply chain. This obligation is largely without precedent and the directive, therefore, effectively creates liabilities where none may previously have existed. This will have an impact on general liability and directors' and officers' liability, among other lines.

It is also worth bearing in mind the CSDDD will cover financial services firms, meaning not only will insurers need to examine coverage for clients but their own operations and supply chains will also fall under the scope of the due diligence requirements.

Getting ready for CSDDD

The directive will introduce a new layer of scrutiny across the entire value chain and, as such, it is vital companies start their preparations

now. Knowing the supply chain has always been important, but the CSDDD will impose more explicit requirements on companies to ensure the third parties with which they interact are complying with due diligence processes. This means they must ensure suppliers are effectively and regularly screened.

The CSDDD also places a clear obligation on boards to set up and integrate sustainability due diligence into strategy and processes. Senior management teams need to ensure processes are in place – and robust – well ahead of 2030. This might mean, for example, creating internal responsibilities and delegating those effectively.

The directive aligns with the current trend of EU lawmakers to focus on sustainability and protection of consumers. As with other legislation insurers and their clients currently are readying themselves for, such as EU collective redress and non-financial disclosure requirements, the CSDDD puts the onus on firms to act in a responsible way or face consequences.

The CSDDD will now go to a full European parliament vote, expected by June 1. After that lawmakers will continue negotiations with member states on the final shape of the directive, with a deal expected by the end of the year. Once the directive has been agreed, member states will have two years to transpose it into national law.

In the meantime, firms likely to fall under the CSDDD's remit and their insurance partners will begin readying themselves for this new set of corporate sustainability due diligence requirements and the new set of liabilities and exposures it will bring. ■

Henning Schaloske is a partner at Clyde & Co



Insure Our Future

Making the polluters pay

With annual insured losses of more than \$100bn from natural catastrophes, re/insurers should take the bill to the culprits, says Insure Our Future

Re/insurers should sue fossil fuel firms for the losses they incur from natural catastrophes linked to climate change, Peter Bosshard and Lindsay Keenan, the global and European co-ordinators respectively of campaign network Insure Our Future, say.

Insure Our Future calls on re/insurers to stop underwriting new fossil fuel projects and to phase out their support for existing ones. It argues evidence of the direct impact of fossil fuels on climate change could not be clearer.

The UN's [Intergovernmental Panel on Climate Change](#) (IPCC) details the “unequivocal” role of humans in global warming and the [International Energy Agency](#) (IEA) describes the “magnitude” of fossil fuel subsidies. Both organisations say burning fossil fuels is undeniably one of the three main causes of global warming, along with deforestation and intensive farming.

Insured losses from natural disasters now exceed \$100bn every year. Add to that burden the liability costs of environmental damage from accidents such as oil spills and re/insurers are effectively being used to shield those Insure Our Future says are largely responsible for pollution and climate change.

The pattern of denying responsibility despite irrefutable evidence of the causes of global warming is similar, Bosshard says, to the old argument about nicotine. Just as re/insurers took legal action against tobacco firms, which could no longer deny nicotine makes cigarettes addictive and thus were deemed responsible for the illnesses and early deaths of smokers, they should also sue oil, gas and coal producers.

Unnatural catastrophes

“There is nothing ‘natural’ about catastrophes caused by the combustion

of oil, gas and coal and rather than transfer their increasing costs on to their premium payers, insurance companies should be among the leaders of the transition to net zero by making the fossil fuel producers pay up,” Bosshard says.

Reinsurers could also take legal action against the “carbon majors”, he adds, by bringing subrogation claims, just as car insurers do against parties responsible for road accidents.

Insure Our Future’s latest “scorecard”, published in October 2022, shows 13 re/insurance companies have placed restrictions on oil and gas and 41 on coal. Those numbers have since increased to 14 and 42.

“Our campaign has been largely successful at breaking down barriers, developing trust and not allowing stupidity to take place,” Keenan says. “When we meet re/insurers and have

the IPCC and IEA reports, there's no one in the room who can challenge the facts about climate change."

Those conversations are easier in Europe than in the US, where corporate culture is more "suspicious" of civil society non-governmental organisations, he adds. Nevertheless, investors in US re/insurers are increasingly paying attention and, in March, Chubb became the first US insurer to limit insuring oil and gas extraction. There are, however, "major gaps in the framework" of Chubb's new policy, he says, which will allow it to continue insuring the expansion of new fields, pipelines and infrastructure.

Keenan dismisses the argument made by Lloyd's and Zurich Insurance Group, among others, that they need to continue insuring oil and gas companies as part of the transition to net zero.

He says: "This has proven year after year to be a falsehood and that has been more obvious than ever in the past 12 months, when oil and gas companies have been price gouging and profit taking on an absolutely obscene scale. How much of that has been put into renewables? Barely a percentage of their capex, but they're spending significant amounts on new oil and gas projects."

Moral bankruptcy

This "moral bankruptcy" is made worse, he adds, by re/insurers that take the fossil fuel business given up by their "ethical" peers. "They should actively shun them and call out such practice because if it's allowed to continue then we will have 3°C or more of global warming and the hell on Earth that comes with that," Keenan says.

Insure Our Future is not saying it expects existing oil and gas operations to be shut down "overnight", Bosshard adds, but it wants there to be no more underwriting of new fossil fuel infrastructure, including liquefied natural gas terminals. Insurers should also restrict their coverage of oil and gas service companies such as Schlumberger, he says.



"Re/insurers can't expect taxpayers to pay for the growing costs of climate disasters and to subsidise their rates. They need to go after the polluters"

Peter Bosshard
Insure Our Future

There has been good progress by large re/insurers on the phasing down and then phasing out of coal – in the OECD member countries by 2030 and in the rest of the world by 2040 – but coal in treaty policies remains an issue. Swiss Re, Munich Re and Hannover Re are the "most prominent" treaty reinsurers and have made clear they will be enforcing coal exclusions, Keenan says, but others need to follow suit.

In its first environmental, social and governance (ESG) report, Lloyd's said coal, tar sands and Arctic projects would be excluded from the treaties of its managing general agents from January 2021, but later said this was a recommendation rather than mandatory, Keenan says. Lloyd's second ESG report "made no mention" of any of those commitments, even though in the meantime – and shortly before Cop26 in Glasgow – it joined the Net-Zero Insurance Alliance (NZIA).

The NZIA is part of the \$130trn coalition – the Glasgow Financial Alliance for Net Zero – of businesses collaborating to meet net zero targets.

In April the NZIA lost two of its founding members. Zurich says it wants to focus its resources on supporting its customers with their "transition", while Munich Re cites antitrust concerns associated with alliances among firms to tackle climate change.

Munich Re's reasoning shows, however, re/insurers can no longer "hide behind" the NZIA, which has so far moved too slowly in its collaboration to align their business models with the 1.5°C scenario, Bosshard says. "If they're saying they can't take direct action because of competitive pressures and can't take collective action because of antitrust laws," he adds, "that's a clear call for regulators to ensure early movers in the transition to net zero are not at a disadvantage."

Under pressure

The re/insurance industry was created to manage risk but, under pressure from the mounting impacts of climate change, its business model is now "stretching at the seams", he says.

There is also another type of competitive pressure re/insurers face. "The new generation understands the causes of climate change and, unless re/insurers lead the field on climate action, they will find it harder to compete for new talent with other sectors of the economy," Bosshard says.

Above all, re/insurance is becoming unaffordable or unavailable, especially to those who are particularly exposed to climate risk, Keenan says, and the public purse should not be the go-to solution.

He says: "The natural catastrophe losses of the past 10 years, in particular, have really shown the re/insurance industry needs to change, but public-private partnership – that new terminology they're using – basically means being happy to take profits on the good days but, when things get tight, expecting the public to step in.

"Re/insurers can't expect taxpayers to pay for the growing costs of climate disasters and to subsidise their rates. They need to go after the polluters." ■