

# Beyond Protection

Steering Towards a Resilient Net-Zero Future

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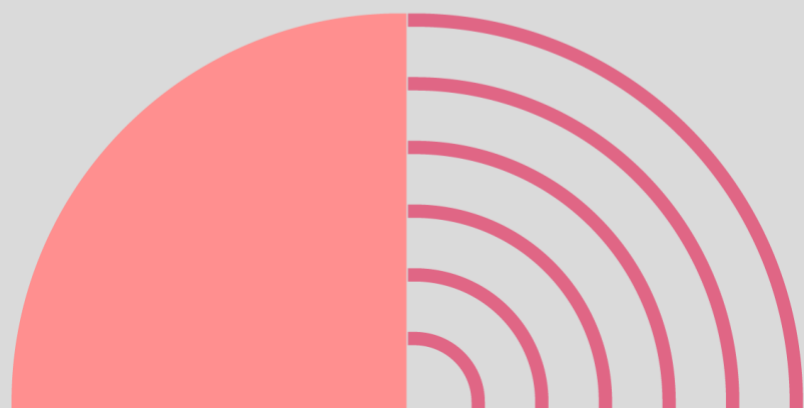
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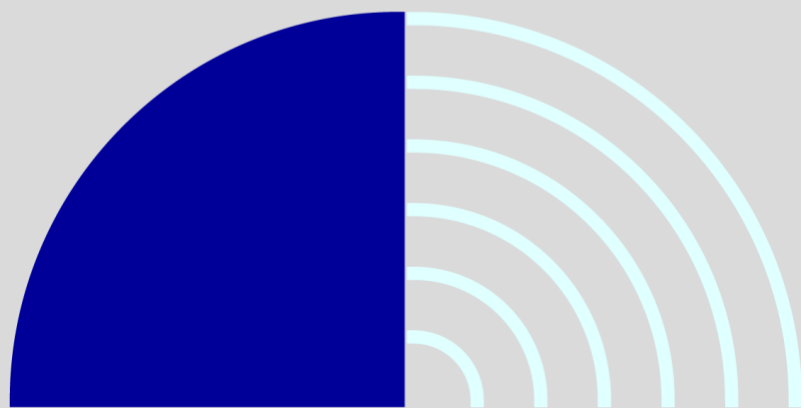
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## ***Acknowledgements***

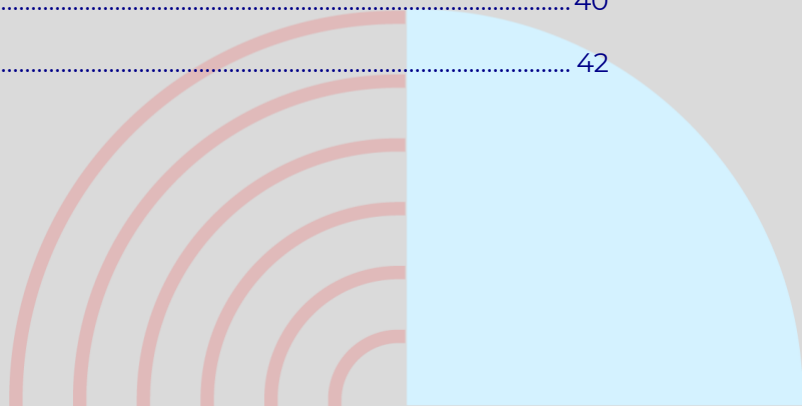
This paper has benefitted from discussions with GAIP partners during the drafting phase. We are deeply appreciative of the constructive and insightful feedback received from members of GAIP's Advisory Council and Board and their colleagues on the earlier draft.

The authors are also grateful for the support and guidance provided by other members of the GAIP team, including John Maroney, CEO, and Cindy Leow, Digital Communications Advisor.



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## *Foreword*



Supporting the narrowing of Asia's protection gaps is at the core of the Global Asia Insurance Partnership (GAIP), and protection gaps are widening due to the changing climate, which brings threats and greater uncertainty.

In our first paper on climate change, “Too Hot to Insure”, published in November 2023, we examined how the insurance sector, and its supervisors are considering climate change and the impact on pricing and underwriting, pointing out the increasing risk of hitting an insurability tipping point. Such a tipping point would significantly exacerbate existing protection gaps, leading to severe consequences for economic and social development and devastating impacts on families, businesses, and governments.

At GAIP, with the narrowing of Asia's protection gaps close to our heart, we started exploring what can be done to avoid the insurability tipping point, leveraging on the insurance industry's expertise.

This led to our second paper on climate change, *Beyond Protection: Steering Towards Net Zero*, in which we explore the various roles that the insurance sector can play beyond its traditional role of providing financial protection to help accelerate efforts towards the net zero goals and hence potentially reduce the risk of reaching this insurability tipping point.

We believe that despite the challenges, the insurance industry's vast reach, expertise and unique capabilities, have the potential to help drive the desired changes, with collaboration, commitment, and communication.

As we move towards a net-zero economy, managing climate change's physical and transition risks is crucial. The growing physical risks of climate change will not only threaten the operational stability of insurers but also influence the affordability and availability of insurance products for consumers. The valuation of assets, particularly in fossil fuel-dependent industries, is at risk if those assets become stranded assets.

These challenges highlight the imperative for the insurance industry to transcend traditional roles to adopt proactive and strategic risk mitigation measures in order to foster economic and societal resilience in the face of climate change and also support mitigation efforts within their own portfolios.

Providing financial protection while promoting risk mitigation strategies ensures that insurers are able to retain their risk capacity in the face of climate change while their customers continue to mitigate climate-related risk on their own portfolios.

An orderly transition to net zero, where economic incentives are aligned with goals to achieve net zero, is essential to avoid economic disruptions and financial instability. The related climate risk adaptation activities will impact insurer exposures as well as the affordability and availability of insurance coverage.

I would like to express my appreciation for the thorough exploration and discussion undertaken by the paper's authors, Ms Min Cheng, Deputy CEO, Ms Felicia Khoo, Director and Ms Yao Lei, Associate Director. I would also like to thank all those who provided feedback on earlier versions of the report, including many GAIP partners.

A handwritten signature in black ink that reads "John Maroney". The signature is written in a cursive style with a large, looping initial "J" and a long, sweeping underline.

John Maroney  
CEO, GAIP

## *Executive Summary*

Asia, accounting for more than half of the global population, faces unique vulnerabilities to climate change due to its dense population and diverse ecosystems. The region experiences a wide range of climate impacts, disproportionately affecting the poorest populations. This underscores the urgency of transitioning to net-zero emissions by 2050 and addressing regional challenges. The insurance industry, traditionally seen as a financial safety net, is poised to play a crucial role beyond protection, influencing behaviours and driving climate risk mitigation and adaptation.

Climate change introduces physical and transition risks, impacting the insurance industry's operational stability, product affordability, and availability. To address this, the industry can recalibrate risk assessments, underwriting, and investment strategies to manage these evolving challenges.

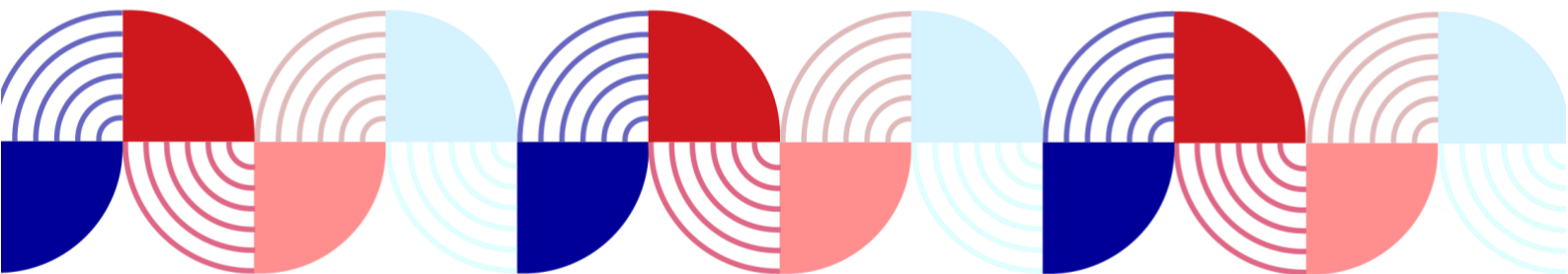
The insurance industry has the potential to transcend its traditional role, leveraging its expertise and influence to support Asia's transition to net zero. This includes acting as insurers, risk advisors, educators, influencers, investors, and wealth managers to drive sustainable behaviours, investments, and policies aligned with a net-zero vision. As an insurer, enhancing risk assessment tools and pricing strategies to accurately reflect climate risks can help to promote sustainable choices among policyholders. As a risk advisor, the insurance industry can leverage data and analytics and offer insights that enable effective climate risk mitigation. As an educator, the insurance industry can translate complex climate concepts into actionable knowledge, raising climate literacy and fostering an understanding that empowers informed decision-making. As an influencer, encouraging sustainable behaviours through incentives for sustainable choices and fostering policy changes, thereby shaping a broader commitment to build a resilient net-zero future. Finally, as an investor and a wealth manager, insurers can direct funds towards sustainable projects and green investments, underscoring their crucial role in financing the transition to a greener economy. Collectively, these multifaceted roles highlight the insurance industry's unique position to catalyse significant environmental and societal change, illustrating its integral contribution to global efforts in combating climate change and achieving net-zero emissions.

While the industry can significantly influence the transition to net zero, it faces regulatory barriers, scalability and development issues of data and risk modelling, low climate literacy, engagement barriers, and the need for a just transition. Overcoming these challenges requires collaborative efforts across sectors.

The insurance industry is pivotal in steering Asia towards a net-zero future by embracing roles beyond traditional risk management. Commitment, communication, and collaboration are key to leveraging the industry's vast reach and influence, ensuring economic and societal resilience in the face of climate change. With concerted efforts and strategic partnerships, the insurance industry can navigate the complexities of climate change, thereby reducing protection gaps and supporting sustainable development.



# Introduction



## *Introduction*

Asia, home to nearly 60% of the global population<sup>1</sup>, is the most densely populated region in the world with a rich diversity of ecosystems. This combination of high population density and ecological diversity makes the region particularly vulnerable to damages from climate change impacts, from the melting glaciers of the Himalayas to the typhoon-prone coasts of Southeast Asia. Climate-change-related losses are poised to disproportionately affect the poorest populations, concentrating on those who are most vulnerable and in sectors crucial to their livelihoods, such as agriculture. This highlights the urgency of the transition to net-zero emissions by 2050<sup>2</sup> and underscores the importance of addressing the unique regional challenges.

In Asia, while every nation faces the impacts and risks of climate change, the nature and extent of these impacts vary significantly between developed and developing countries. Developed countries, with more sophisticated infrastructure and ample resources, are dealing with urban heat islands, the threat of sea-level rise to coastal cities, and shifts in economic structures. On the other hand, developing countries are confronted with existential threats like the loss of livelihoods, large-scale population displacements, and heightened health risks, often with limited resources to mitigate, adapt or recover.

The insurance industry has traditionally been perceived as a financial safety net, providing compensation post-disaster. However, in the context of climate change, its role is no longer confined to this. The insurance industry is uniquely positioned not only to provide financial protection but also to influence, educate, and drive behaviours that mitigate climate risks. Through the assessment and pricing of risks, insurers<sup>3</sup> convey the potential economic costs of climate change, thereby influencing decisions by individuals, businesses, and governments.

This paper discusses the various roles that the insurance industry can play in helping to steer Asia towards net zero, as well as the challenges that the industry may face in playing those roles. It is worth noting that some players in the insurance industry have begun to engage in these roles, but such efforts may be sporadic or piecemeal. By linking the industry's unique capabilities to the specific challenges of climate change, we aim to

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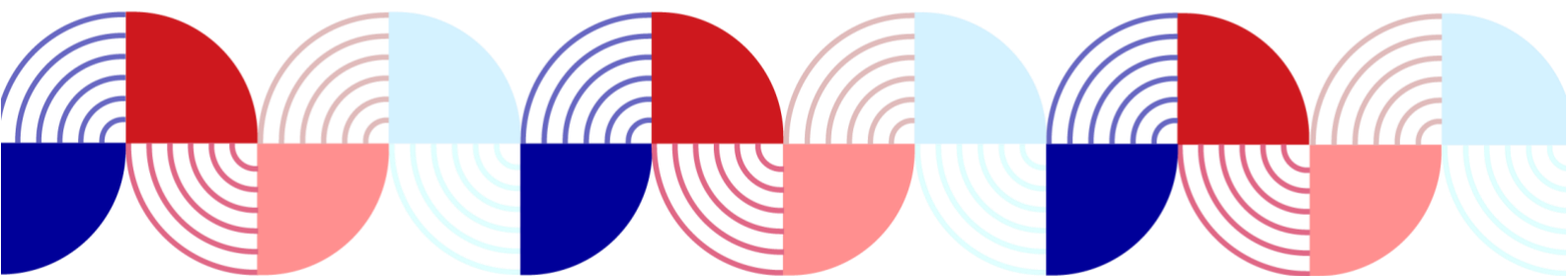
<sup>1</sup> [Worldometer. \(n.d.\). Asia population.](#)

<sup>2</sup> Pursuing net zero by 2050 aligns with the Paris Agreement's goal to limit global warming to well below 2, preferably to 1.5 degrees Celsius above pre-industrial levels, crucial for mitigating the worst impacts of climate change. [United Nations. \(n.d.\). Net-Zero Coalition.](#)

<sup>3</sup> Note that in this paper, "insurers" refer to insurers and reinsurers, and "insurance industry" refers to insurers, reinsurers and insurance intermediaries such as brokers.

encourage the insurance industry to embrace a more active and influential role in Asia's transition towards net zero, considering these roles with a structured, deliberate view. This paper aims to set the scene to encourage more discussions, increase awareness and ultimately, stimulate collaborative actions by the whole insurance industry, with support from the Global Asia Insurance Partnership (GAIP).

# **What Climate Change Means for the Insurance Industry**



# *What Climate Change Means for the Insurance Industry*

Climate change brings unprecedented and complex challenges that can be categorised into two primary types of risks – physical risks and transition risks. This section will briefly discuss the implications of these climate-change-related risks on the insurance industry<sup>4</sup>.

## **Physical Risks**

Physical risks can be defined as risks arising from increased damages and losses from physical phenomena associated with both climate-related trends (e.g. changing weather patterns, rising sea levels) and events (e.g. natural disasters, extreme weather<sup>5</sup>). Physical risks are often quantifiable and may be mitigated through risk-reduction measures or insurance coverage. The insurance industry stands at the forefront of addressing physical risks, offering financial protection for health, mortality, property, business interruption and other risks.

The increasing frequency and severity of extreme weather or natural catastrophe events—such as typhoons, floods, wildfires, and droughts—directly affect the industry by increasing risk exposure, leading to higher claims and losses. This surge in natural catastrophe events also shifts traditional risk patterns, making previous actuarial data and risk modelling approaches less reliable. For instance, homes in areas once considered low risk are now encountering unprecedented threats, requiring a re-evaluation of risk exposure and underwriting methods.

The growing physical risks of climate change will not only threaten the operational stability of insurers but also influence the affordability and availability of insurance products for consumers. Higher claims payment and volume for property and casualty insurance due to the increasing frequency and severity of events lead to higher premiums, creating affordability issues. At the same time, heightened risk perceptions may exceed the insurer's risk appetite, leading to withdrawals of coverages and availability issues. Both issues of availability and affordability would eventually lead to a widening of protection gaps.

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<sup>4</sup> This section covers a high-level summary of the implications of climate change on the insurance industry. A comprehensive review of the implications of climate change on the insurance industry is planned by GAIP to be conducted in the second half of 2024.

<sup>5</sup> Definition taken from [IAIS \(2021a\) report](#). International Association of Insurance Supervisors (IAIS) (2021a): Application paper on the supervision of climate-related risks in the insurance sector, May.

Physical risks from climate change also relate to the heightened frequency and severity of climate-related events such as heavy precipitation, heatwaves and air pollution. These incidents, while not classified as catastrophic or extreme events, can contribute to elevated health risks. Climate-related health issues are wide-ranging and include respiratory and cardiovascular diseases, heat-induced illnesses, as well as vector-borne infectious diseases<sup>6</sup>. In the United States, the health-related expenditures associated with climate change and fossil fuel pollution are estimated to exceed US\$820 billion annually<sup>7</sup>. This situation mirrors the challenges presented by extreme climate events – shifts in traditional risk patterns leading to challenges in risk modelling, quantification of the risks, and increased claims costs can potentially lead to affordability and availability issues.

In addition to the impact on the liabilities side of an insurer's balance sheets, physical risks also impact the assets side of the balance sheet. Physical risks from climate-induced events can devalue property and infrastructure assets that insurers and reinsurers hold on their asset portfolio. For instance, investments in coastal real estate may depreciate as the frequency of severe weather events increases, reflecting the direct impact of physical risks on asset values.

The changing risk landscape demands a recalibration of underwriting, pricing, valuation and investment or asset management practices. Traditional models based on historical data are becoming less reliable as the climate changes. Insurers and reinsurers might need to incorporate more sophisticated climate risk assessments and predictive modelling to manage their pricing and valuation accurately, as well as their investment mandates and asset management. Moreover, this evolving risk scenario may heighten disputes over claims and may lead to policy adjustments, underscoring the need for the industry to take action in this changing risk landscape.

## Transition Risks

Transition risks are defined as risks arising from disruptions and shifts associated with the transition to a low-carbon economy, which may affect the value of assets or the costs of doing business<sup>8</sup>. The transition, propelled by technological advancements, regulatory changes, and shifts in consumer and investor preferences, presents unprecedented challenges and opportunities for the well-established insurance industry.

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<sup>6</sup> GAIP, in collaboration with Nanyang Technological University (NTU) is currently studying the impact of climate change on mortality.

<sup>7</sup> Natural Resources Defense Council. (2021, May 20). Report: [Health costs from climate change and fossil fuel pollution tops \\$820 billion a year.](#)

<sup>8</sup> Ibid

Moreover, regulatory pressures are increasing, with calls for enhanced transparency in climate risk disclosure from governments and financial regulators. There is also a growing demand for innovative insurance products that aid in climate risk mitigation and adaptation, potentially guiding the insurance industry into new risk markets.

On the liabilities front, the transition to net zero can introduce new risks that insurers may need to account for or price in as part of existing coverages provided, or adopt different approaches to existing risks covered. For example, greater requirements for climate disclosures may lead to litigation for failing to disclose climate-related risks for the insurers' clients. Insurers may thus need to relook at the coverages they provide for carbon-intensive industries during the transition, especially with new regulations like carbon taxes. These transition risks necessitate insurers and reinsurers to adopt a more proactive stance in revising current insurance solutions and crafting new ones that capture the opportunities offered by the global shift towards a more sustainable economy.

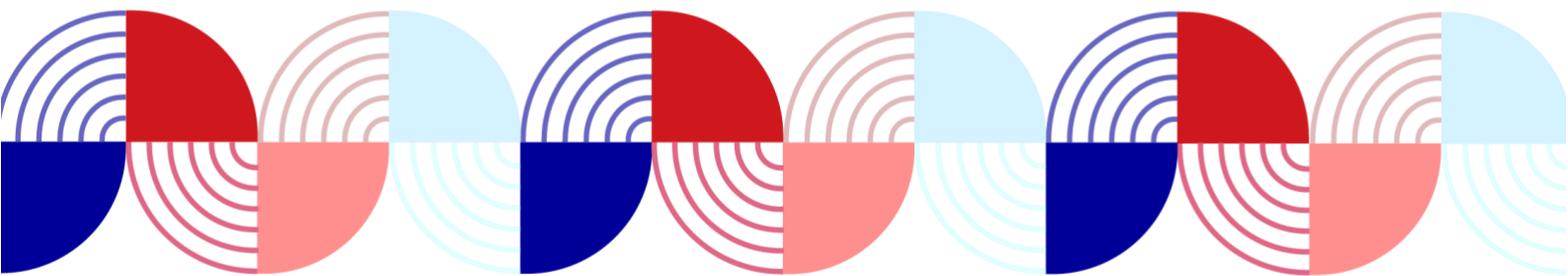
Transition risks also affect the insurer's asset portfolio indirectly, as shifts towards a low-carbon economy can affect the valuation of assets in industries vulnerable to the transition, such as those heavily reliant on fossil fuels, which may eventually become stranded assets. Assets relating to sectors reliant on fossil fuels will become less attractive, whilst assets relating to sectors that will benefit from use of sustainable energy sources will become more attractive. Investment strategies thus need to adapt to this transition, particularly for life insurers, given the long-tail need for its asset-liability management purposes.

## **Overall**

Climate change presents significant challenges to the insurance industry that span across all fundamental areas of risk management elements, impacting assets, liabilities, underwriting and pricing practices, and investment strategies.

These encompassing challenges highlight the potential of the insurance industry to transcend their traditional roles, adopting proactive and strategic measures to foster economic and societal resilience in the face of climate change impacts, and also support mitigation efforts on the impacts of climate change on their own portfolios.

# **The Multifaceted Roles of the Insurance Industry**





## *The Multifaceted Roles of the Insurance Industry*

With an enduring legacy spanning over 330 years, the insurance industry remains a cornerstone of global financial stability, offering a safety net and financial protection against unforeseen adversities for individuals, businesses, and economies worldwide. Historically, insurers operated on a straightforward model: individuals and businesses paid premiums and received financial compensation for specific losses or damages. However, the escalating challenges of climate change are redefining and expanding this traditional role. This traditional model, built on predictability and statistical analyses of past events, now faces significant uncertainties due to the increasing unpredictability of climate change-related events. This is especially true in Asia's diverse and dynamic context.

These changes present opportunities for the insurance industry to break out of their existing traditional roles and provide enhanced support for their policyholders. The impacts of climate change range from individual health concerns to broader economic ramifications. In response, the insurance industry should leverage its unique position to address these challenges from multiple angles. They can expand on traditional insurer roles to develop innovative, tailored solutions to better address climate-related risks. In addition, by serving as risk advisors, educators, influencers, investors, and wealth managers, the insurance industry can play a pivotal role in driving sustainable behaviours and investments more aligned with a net-zero vision. Equipped with the necessary tools, expertise, and influence, the insurance industry is well-placed to proactively address climate-change-related risks.

In this section, we will delve into the various roles the insurance industry can play in the face of climate change. By better understanding each role, we hope to highlight the industry's potential to shape a resilient and sustainable future for Asia and address the impact of climate change on their investment portfolios.

### **As an Insurer**

As previously noted, the escalating physical risks associated with climate change will heighten insurers' risk exposures. In 2022 alone, Asia experienced 81 climate-change related hazard events, resulting in over US\$36 billion in economic damages<sup>9</sup>.

To effectively assess and manage the elevated risk exposure, the insurance industry can enhance its tools and models and incorporate these costs into pricing and underwriting

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<sup>9</sup> [World Meteorological Organization. \(2023\). Climate change impacts increase in Asia.](#)

strategies. This may involve the development of advanced data analytics, satellite imagery utilisation, and climate modelling techniques. Some players in the insurance industry have already begun implementing such risk assessment capabilities. For example, Aon's Climate Service, *Climanomics*, provides scientific analysis of the impact of climate change on natural perils. This includes scenario-based analysis with outputs of expected loss and projections of future decades up to 2100<sup>10</sup>.

By pricing these risks appropriately, **the insurance industry can send a clear signal about the economic costs of climate change.** For instance, properties in flood-prone areas might attract higher premiums for home insurance, influencing decisions about property development or individual housing choices. Such premium increases can be seen in the United States, where home insurance premiums have increased 21% from May 2022 to 2023<sup>11</sup>, and where climate change has been cited as one of the main contributing factors. The accurate reflection of climate risk into pricing not only reflects the tangible risks faced, but also serves as a deterrent, guiding societies toward more sustainable choices. However, this adjustment may lead to affordability and availability implications, emphasising the need to find a delicate balance between accurate risk pricing and maintaining affordability and availability of insurance coverage.

In Asia, where rapid urbanisation meets diverse topographies, the challenge of risk pricing becomes even more intricate. Coastal cities like Mumbai or Bangkok face threats from rising sea levels, while regions like central China or the Philippines grapple with the dual challenges of typhoons and droughts. Accurate risk pricing in such a varied landscape requires a blend of global expertise and local insights.

Further, with its blend of booming economies and agricultural landscapes, Asia presents a unique challenge for the insurance industry. In cities such as Singapore or Hong Kong, insurance products may revolve around business continuity in the face of climate events. Simultaneously, in the vast rural expanses of countries like India or Myanmar, the emphasis is on safeguarding livelihoods against the uncertainties of nature. At this pivotal juncture in the climate change narrative, it is more crucial than ever that the insurance industry innovates in its role as a provider of financial safety nets. By driving innovation in solutions to provide coverage for climate risks, the insurance industry plays a crucial role in the broader ecosystem of climate action. In Asia's diverse landscape, the insurance industry can balance commercial interests with societal needs, and craft a vision for a resilient future

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<sup>10</sup> [Aon. \(n.d.\). Climate risk.](#)

<sup>11</sup> [PR Newswire. \(2023\). Home insurance prices up 21% as homeowners are left to deal with climate change. turbulent market.](#)

where both the skyscraper in the bustling city and the humble hut in the rural countryside stand protected against the challenges of a changing climate.

Recognising the unique challenges climate change poses, many insurers have started to push the boundaries of traditional insurance products. These solutions include providing coverage for the unique protection needs directly related to climate change or sustainability, and steps to increasing insurance penetration within vulnerable populations, providing more immediate financial support in the face of catastrophe events.

### *Sustainability-related insurance products*

Several insurance companies have introduced solutions to help their customers address the unique challenges and risks arising from decarbonisation:

- Marsh & McLennan's Carbon Capture and Storage Insurance<sup>12</sup>, was designed to mitigate risks associated with carbon dioxide leakage from commercial-scale carbon capture and storage (CCS) facilities. This pioneering product showcases how insurers can support technologies critical for achieving net-zero emissions.
- AIG, in partnership with Liberty Speciality Markets and Marsh, launched an insurance and reinsurance facility specifically for green and blue hydrogen energy projects. This first-in-market facility, unique in its focus, offers up to \$300 million in coverage per risk for the new and existing green and blue hydrogen energy projects worldwide<sup>13</sup>.
- Chubb's Green Building Restoration Insurance<sup>14</sup> in Canada covers additional costs clients incur rebuilding the property to a more environmentally friendly standard after a loss, encouraging more sustainable construction practices.
- The Malaysian Solar Energy Shortfall Insurance (SESI), a pioneering parametric insurance product developed by Etiqa with support from Swiss Re, is designed to safeguard against insufficient sunlight. As the first of its kind, it provides solar plant investors with a more predictable financial outlook by offering compensation for sunlight deficits, thereby promoting growth in an essential sector.<sup>15</sup>

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<sup>12</sup> [Marsh. \(n.d.\). Carbon capture storage insurance.](#)

<sup>13</sup> [Marsh. \(2022, August 22\). Marsh launches world's first insurance facility for green and blue hydrogen project risks.](#)

<sup>14</sup> [Chubb. \(n.d.\). Green building.](#)

<sup>15</sup> [Swiss Re. \(2023\). Parametric insurance to accelerate solar investment.](#)

The insurance industry, in playing its traditional role as a provider of financial protection, will also have the potential to drive for more investments into sustainable or green infrastructure and projects. By providing the risk assessment and insurance coverage for such projects, they can provide an added layer of comfort to potential investors and/or funders. For example, Swiss Re, Aon and International Finance Corporation (IFC) collaborated to develop an innovative earthquake insurance solution<sup>16</sup> for a hydroelectric power station in Nepal. This hydroelectric power project is expected to greatly boost Nepal's renewable energy production, but progress was severely hindered by the 2015 Nepal earthquakes, which also resulted in a reluctance of insurers to provide traditional earthquake cover in the location of the dam, which in turn affected the investment potential. By having a parametric (index-based) coverage in place, the needs of the sponsors and financiers for the project were met, which enabled the project to move forward.

### *Parametric Insurance*

Unlike conventional models, where compensation is based on actual losses, parametric insurance triggers payouts based on specific conditions, such as wind speed or rainfall level. The conditions and pay-out amounts are predefined to ensure immediate compensation after disasters. This model is particularly beneficial in developing Asian countries, where quick financial assistance after a disaster can significantly impact recovery. The importance of such mechanisms is underscored by the growing frequency and severity of climate-change related events, which pose disproportionately increased risks to vulnerable populations. As these climate-change-related events become more common, they exacerbate the vulnerabilities of communities with limited financial resilience. Parametric insurance offers a proactive and efficient means of providing swift financial support post-disaster, enabling quicker recovery and stabilisation instead of the prolonged financial strain that typically follows such disasters.

An example in Asia is the parametric typhoon insurance<sup>17</sup> in the Philippines, developed by Aon in close cooperation with the client AboitizPower, a leading power utility with an extensive transmission and distribution network in a region that is prone to natural disasters. When Typhoon Rai hit the Philippines in December 2021, AboitizPower's parametric insurance was triggered, and the claims payment was made within 30 days (and within 10 days of the programme being finalised), providing the insured with quick access to liquidity when it was most needed, but also allowing them to focus efforts in

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<sup>16</sup> [Artemis. \(2023\). Swiss Re, CorSo, and Aon deliver parametric cover to Nepal renewable energy project.](#)

<sup>17</sup> [Aon. \(n.d.\). Addressing severe weather risk with parametric insurance solutions.](#)

restoring power supply to affected customers as quickly as possible. This rapid response underscores the value of parametric insurance in providing critical and timely financial support in the aftermath of climate-related disasters.

Another example is the R4 Rural Resilience Initiative. Launched by the World Food Programme and Oxfam America, the initiative provides payouts to vulnerable rural families in the event of climate-related shocks, thereby increasing their food and income security. To date, the product has distributed US\$452,000 in payouts and benefitted over 395,000 households. Parametric solutions are thus a good mechanism to promote sustainable agriculture and provide protection for the vulnerable who are most susceptible to the physical and economic impacts of climate change.

### *Microinsurance*

Microinsurance provides low-income individuals and families with protection against specific risks in exchange for regular premium payments proportionate to the likelihood and cost of the risks involved<sup>18</sup>. Among all socioeconomic groups, low-income individuals are most vulnerable to shocks but are yet the least protected group of impacted stakeholders. According to a report by the Asian Development Bank<sup>19</sup>, around 155 million people were living in extreme poverty in developing Asia. These affordable, small-scale policies can help to cover a wide range of risks, including illness, accidental injury, death, and property or crop loss. In the context of escalating risks due to climate change, such policies are crucial in reducing the financial impact of climate adversities for vulnerable populations.

One example of a microinsurance product is the Philippines Crop Insurance Corporation (PCIC), which provides protection to agricultural producers in the Philippines, particularly subsistence farmers against loss of crops and non-crop agricultural assets due to natural calamities<sup>20</sup>. When risks associated with climate change increase, protection gaps correspondingly widen. It is thus important to focus on innovation in the microinsurance space to ensure the most vulnerable, who need coverage the most, are protected.

## **As Risk Advisors**

At its core, risk management is a systematic approach to navigating the uncertainties that permeate our world. It involves a meticulous process of identifying, assessing, and prioritising potential threats, followed by coordinated strategies to minimise or control their

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<sup>18</sup> [World Bank. \(2011\). Micro-insurance business models.](#)

<sup>19</sup> [Statista. \(2023\). Income distribution in developing Asia.](#)

<sup>20</sup> [Milliman. \(2021\). Case study: Philippine Crop Insurance Corporation \(PCIC\).](#)

adverse effects. While this discipline has traditionally been associated with financial risks, the escalating challenges of climate change have significantly broadened its scope. Today, risk management stands at the intersection of finance, environment, and societal well-being.

With its deep-rooted expertise in risk management, the insurance industry can lead the way in navigating this evolving domain. Armed with vast reservoirs of data, cutting-edge analytical capabilities, and a global network of experts, the insurance industry can leverage its uniquely positioned role to advise its clients on better managing their climate-related risks. For instance, WTW's global climate modelling tool, Climate Diagnostic, uses advanced data and analytics to analyse changes in acute hazards like extreme wind and floods, as well as chronic stress factors like sea-level rise and heat stress under multiple combinations of short and long-term climate scenarios and time horizons. The modelling shows how those changes can impact specific properties and identify sites that drive overall portfolio loss, enabling clients to prioritise risk mitigation and further treatment. Such tools can help organisations develop a robust risk management response to growing climate physical risks and meet climate-risk disclosure requirements in the process<sup>21</sup>.

The bedrock of effective risk management is accurate identification. In the context of climate change, this means pinpointing areas, communities, industries, and assets most vulnerable to climate-induced events. The insurance industry is harnessing a suite of advanced tools to achieve this. Satellite imagery offers a bird's-eye view of geographical vulnerabilities, AI-driven predictive models forecast potential climate scenarios, and big data analytics provide insights into patterns and trends. From coastal towns grappling with the realities of sea-level rise, agricultural belts facing erratic rainfall, or urban centres increasingly susceptible to heatwaves, the precision with which risks can be identified sets the stage for many subsequent actions.

Once risks are identified, the next challenge is quantification—we may know that a region is flood-prone, but how severe is that risk? The potential economic impacts of prolonged droughts on a country's agriculture sector or the human cost of recurring heatwaves in densely populated cities will also need to be accurately quantified. Insurers are pioneering methodologies to answer these pressing questions. By attaching tangible metrics to what often seems abstract, they provide governments, businesses, and individuals with a clearer picture of what is at stake.

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<sup>21</sup> [Insurance Business Mag. \(2021\). WTW reveals new climate modelling tool.](#)

With a clear understanding of the risks, the focus naturally shifts to mitigation. Here, the insurance industry can play a critical advisory role. Drawing from their vast knowledge base, insurers and their intermediaries can provide actionable insights to various stakeholders. This includes advising on infrastructural changes for businesses, such as building sea walls, guiding farmers towards adopting more sustainable agricultural practices and engaging with businesses to enhance workplace safety. One example of this can be seen in Tower Insurance's (New Zealand) rating system. The rating system categorises homes based on their flood or fire risk into red (high risk), amber (medium risk), or green (low risk) categories, influencing insurance premiums accordingly. This initiative aims to enhance homeowners' understanding of their property's risk of floods or earthquakes, encouraging risk mitigation efforts and ensuring continued coverage. Tower's approach is expected to reduce premium costs for about 90% of its customers. Similarly, in the United States, the COVER Act<sup>22</sup> offers farmers savings on crop insurance bills for adopting cover crops. On the life and health side, an insurer providing group medical coverage to a company in the construction industry could potentially work with the company on risk mitigation or preventive measures when it comes to health risks relating to extreme temperatures that their workforce may be exposed to, especially in light of climate change impacts. By providing the appropriate risk advisory insights and tools, insurers can play a pivotal role in promoting sustainability and resilience against climate challenges.

The insurance industry's engagement in risk management, especially in the context of climate change, underscores a critical evolution in its traditional role. By harnessing their expertise in identifying, quantifying, and mitigating risks, insurers are not just providers of financial protection but also key facilitators of resilience and sustainability. This dual role enhances their contribution to societal well-being, offering a blueprint for how industries can adapt to and mitigate the impacts of climate change. As the insurance industry continues to refine its approaches to climate risk management, the work will increasingly become indispensable in guiding clients towards more sustainable practices, thereby ensuring both environmental and economic resilience. This complementary function of providing financial protection while promoting risk mitigation strategies ensures that insurers are able to retain their risk capacity in the face of climate change while their customers continue to mitigate climate-related risk on their own portfolios.

## **As Educators**

In the context of our changing climate landscape, another role that the insurance industry can take on is that of an educator. Amidst the noise of misinformation and the high stakes

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<sup>22</sup> [Natural Resources Defense Council \(NRDC\). \(2023\). COVER Act modernizes crop insurance and reduces risk for farmers.](#)

of climate-related decisions, the insurance industry can be a source of credible information and guidance. This unique position is anchored in the industry's comprehensive strengths: profound expertise in risk assessment, and a comprehensive understanding of both global and local trends, which can help to enhance climate literacy by clarifying the complexities surrounding climate change.

The insurance industry is uniquely equipped to translate abstract climate concepts into tangible insights. For a homeowner perplexed by the increasing frequency of floods, an insurance agent can help explain the link between deforestation and changing flood patterns. For a business grappling with supply chain disruptions, they can highlight the economic ramifications of rising sea levels and changing weather patterns. For an individual concerned about the health implications of climate change, life and health insurers could offer guidance on preventive measures and preparedness practices to mitigate the health effects of rising temperatures. While the risk related to climate change might not be directly within the purview of the life and health insurance companies, they can still play a role in disseminating information and raising awareness. This translation of complex information bridges the knowledge gap, fostering a deeper understanding and appreciation of climate dynamics. Recognising the transformative power of informed decision-making, the insurance industry has spearheaded educational initiatives:

- Workshops tailored for businesses delve into topics like supply chain resilience in a warming world or the importance of sustainable sourcing. For instance, Zurich Insurance, through their Zurich Resilience Solutions Services, hosted a series of webinars that educate clients on topics ranging from climate change resilience to sustainable procurement and supply chains<sup>23</sup>.
- Webinars for homeowners might focus on best practices for property protection against extreme weather events, from cyclone-resistant construction methods to water conservation techniques. FM Global, a global commercial property insurer, exemplifies this approach by offering both in-person and online training sessions that empower their client partners. These educational resources are designed to assist risk managers, engineers, and various client personnel in effectively managing property risks and preventing losses<sup>24</sup>.
- Community engagement sessions could revolve around disaster preparedness, equipping residents with the skills and knowledge to respond effectively to

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<sup>23</sup> [Zurich. \(n.d.\). Zurich Resilience Solutions.](#)

<sup>24</sup> [FM Global. \(n.d.\). Client learning solutions.](#)



emergencies. For example, Allianz Australia has partnered with Disaster Relief Australia (DRA) to help vulnerable communities prepare for disaster events. The sessions combine local knowledge with DRA's significant disaster management capability to explore fire and flood threats, challenges, and risks to the community. Through these sessions, local residents have the opportunity to identify areas of risk of flooding and fire and explore ways in which communities can build resilience and help reduce the impact of future disaster events. Additionally, the Allianz Disaster Recovery Team would provide general advice on insurance, including what to look for when purchasing a policy, simple explanations of key terminology and what customers can expect from their insurer in the aftermath of a fire or flood event<sup>25</sup>.

- AIG has developed Natural Catastrophes Checklists<sup>26</sup> – bulletins designed to highlight key actions clients can take to address hazards within their business, and a sample checklist to provide guidance and heighten awareness of structural and location-related risks.

These initiatives not only raise awareness but also aim to foster a culture of preparedness, transforming enhanced climate literacy into actionable climate strategies.

The enduring challenges posed by climate change are poised to shape our future, underscoring the need for long-term strategic responses. In recognition of this reality, some insurers are establishing partnerships with academic institutions to expand their educational outreach. These collaborations aim to embed climate risk education into the academic curriculum, equipping future leaders with a comprehensive understanding of the challenges and opportunities that await. Moreover, by sponsoring research initiatives, the insurance industry is stimulating innovation and motivating the brightest minds to develop solutions that ensure resilience in the face of climate change. Examples of such partnerships include:

- The Global Asia Insurance Partnership's academic partnership with the Nanyang Technological University ("NTU"), that drives research studies into key and emerging risks, such as the impact of climate change on mortality and the impact of rising sea levels on urban centres in Southeast Asia.

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<sup>25</sup> [Allianz Australia. \(2023\). Allianz Australia partners with Disaster Relief Australia.](#)

<sup>26</sup> [American International Group, Inc. \(n.d.\). Catastrophe preparedness.](#)

- Prudential Assurance Company Singapore's two-year research partnership with NTU's Earth Observatory of Singapore (EOS), to review historical air quality records related to atmospheric pollutants, along with health data<sup>27</sup>.
- The "Ping An Aspiration Plan", launched by Ping An Insurance Group of China in August 2003, is a long-term educational public welfare project aimed at encouraging students nationwide to explore new concepts and theories conducive to the healthy socio-economic development of Chinese society. This year, the winning team's low-carbon economy is one of the three key topics<sup>28</sup>.

Through targeted workshops, webinars, and community engagement, the insurance industry can build a strong foundation for enhancing climate literacy and awareness, effectively narrowing the gap between complex environmental concepts and the public's comprehension. Their commitment to education and empowerment is further reinforced by the strategic utilisation of their extensive networks and resources, aimed at promoting actionable responses to environmental challenges. Reflecting on the insurers' role as an educator, efforts to improve climate literacy and cultivate a culture of preparedness and sustainability are crucial for navigating the challenges posed by a changing climate.

## As Influencers

The insurance industry, with its blend of financial clout, data-driven insights, and deep-rooted expertise, is well positioned to shape behaviours, decisions, and strategies across a spectrum of stakeholders, from individuals and businesses to policymakers and governments.

One of the most tangible manifestations of an insurer's influence is evident in their pricing models. The economic structures they devise, from premium calculations to policy benefits, have the power to nudge stakeholders towards more sustainable choices.

This unique influence the insurance industry has on its customers' behaviours is observed in the Life and Health space through wellness programmes offered by Life and Health insurers<sup>29</sup>. By tying healthy lifestyle behaviours, such as a certain number of steps taken a day, to the policyholders' insurance premiums or benefits, these programmes have influenced the lifestyle choices of their policyholders towards healthier living.

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<sup>27</sup> The review estimates health impacts of exposure to air pollutants in terms of premature deaths due to diseases, including cardiovascular diseases such as stroke, chronic obstructive pulmonary disease and ischemic heart disease, lower respiratory infections and lung cancer.

<sup>28</sup> [Ping An Insurance. \(n.d.\). 励志计划简介 \[Introduction to the Aspiration Plan\].](#)

<sup>29</sup> Such examples of wellness programmes are the Vitality programme available with AIA in Asia Pacific and John Hancock in the United States, or the Manulife MOVE programme offered in Asia by Manulife.

On the climate front, a reduced premium for eco-friendly homes can tilt the balance in favour of the sustainable choice of installing solar panels. Higher payouts could also be given to homeowners who build back ecologically after the loss of the house. On motor insurance policies, policyholders could be offered special rebates if they have purchased low-emission or electric vehicles<sup>30</sup>. Similarly, businesses, when offered incentives for adopting sustainable practices, might expedite their transition to greener supply chains or energy-efficient infrastructures. These strategies that consider climate transitions, subtle yet powerful, can catalyse shifts ranging from adopting renewable energy sources to enhancing disaster preparedness in regions vulnerable to climate-induced events. In this regard, while these strategies may not bring about a short-term reduction in risk cost for the insurance industry, they can potentially make a significant impact on the net-zero or climate transitions of various relevant sectors and economies, thereby driving long-term benefits.

Beyond their interactions with individuals and businesses, the insurance industry may also find themselves in influential advisory roles in policy circles. Their expertise makes them invaluable consultants for governments formulating strategies for climate resilience. Whether it is offering insights on building regulations in typhoon-prone areas, advising on disaster response blueprints, or shaping insurance mandates for vulnerable sectors, the voice of the insurance industry can be meaningful. Yet, the role of the insurer as an influencer in the Asian context is intricate, given its diversity across cultures, economic, and geographic landscapes. In developed nations like Japan or South Korea, the emphasis might be on promoting avant-garde sustainable technologies or sophisticated risk mitigation strategies. In contrast, in developing regions like parts of Southeast Asia, the focus might pivot towards grassroots awareness campaigns or community-based resilience initiatives. A balanced approach, one that is both adaptable and sensitive, is thus necessary.

## **As Investors**

The insurance industry, with its vast capital reserves, ranks among the globe's major institutional investors. This means that insurers can have a significant influence in the global economic arena. According to the Financial Stability Board's 2023 Global Monitoring Report on Non-bank Financial Intermediation, the total assets under management of the insurance industry globally amount to US\$36 trillion<sup>31</sup>. This significant amount managed by

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<sup>30</sup> [Examples were found from a study by Wharton University of Pennsylvania: Wharton University of Pennsylvania. \(2021\). Driving decarbonization through the insurance sector.](#)

<sup>31</sup> [Financial Stability Board. \(2023\). Monitoring dataset 2023.](#)

the insurance industry makes them pivotal players in the shift towards a sustainable future, especially in the context of climate change. Insurers' investment decisions have the potential to drive substantial economic shifts, making them key contributors to the global transition to a low-carbon economy.

The role of insurers as investors is particularly crucial considering the financial requirements for a radical transformation across various sectors, including energy, transportation, and agriculture, to achieve a net-zero future. Estimates of the average annual investment required to achieve the net-zero goals range between US\$3.5 trillion and US\$9.2 trillion from 2023 to 2050. Yet, there is a significant funding shortfall. Even with the record-high investment of US\$1.7 trillion in 2023, this amount is still less than half of the most conservative estimates of the required investment.

*Table 1: Cost Estimates for Achieving Net Zero by 2050*

Average annual investment to 2050 (\$trillion)	Source	Scenario, scope or estimation method
3.5	Network for Greening the Financial System	Total investment in 1.5°C scenario
4.1	Boston Consulting Group	Total investment, drawn from a range of estimates
4.4	International Renewable Energy Agency	Energy investment
3.5 – 5.1	BloombergNEF	Range of investment depending on technology path
4.5	International Energy Agency	Energy-related investments
9.2	McKinsey	Broad view investments on the demand side

Source from World Economic Forum<sup>32</sup>

Insurers are increasingly aligning their portfolios with a climate-aware ethos, distancing from assets or sectors that are incongruent with sustainability goals. Initiatives such as the UN-convened Net Zero Asset Owner Alliance (NZAOA) are a form of keeping insurers accountable towards their commitments to transition investment portfolios to net-zero greenhouse gas emissions by 2050<sup>33</sup>. In addition to this, insurers can go one step further and consider investing in renewable energy, green infrastructure, and technologies that

<sup>32</sup> [World Economic Forum. \(2023\). Costing the earth: How to make green transition work.](#)

<sup>33</sup> Current insurers on the NZAOA are AEGON Ltd., Ageas, Allianz SE, Aviva plc, AXA, CNP Assurances, Co-operators, Credit Agricole Assurance, Generali Group – Assicurazioni Generali S.p.A, Intesa Sanpaolo Vita Insurance Group, MAPFRE S.A, Munich Reinsurance Company, QBE Group, SCOR SE, Sompo Holdings Inc., Swiss Reinsurance Company Limited, Unipol Group, UNIQA Insurance Group AG, VidaCaixa S.A.U de Seguros y Reaseguros, and Zurich Insurance Group.

mitigate carbon emissions. For instance, SCOR has developed a unique real estate business model based on buying brown buildings in core locations to retrofit them, following the highest environmental and energy-efficient standards before selling them to externalise the value created. Over the last decade, SCOR has also built a material bucket of infrastructure debt and real estate debt, financing the transition to a low-carbon economy<sup>34</sup>.

Asia, responsible for half of the world's carbon emissions and heavily dependent on fossil fuels, is currently not on track to meet its 2030 climate goals. According to Southeast Asia's Green Economy 2023 Report<sup>35</sup>, Southeast Asia alone requires over US\$1.5 trillion in investment to attain its goal of cutting emissions by one-third by 2030. This is in stark contrast to the paltry US\$5.2 billion in green capital flows recorded in 2022, emphasising the large investment gap that needs to be bridged to meet these crucial targets. In 2022, the total investable assets from both life and non-life insurers reached an estimated US\$10 trillion<sup>36</sup> in Asia - 15% of these investable assets equate to the green investment gap for Southeast Asia. While the insurance industry may not be able to bridge the gap alone, it can play a significant role by supporting the transition towards renewables. For illustration, the same report points out that with US\$2 trillion in new investment, Southeast Asia can ensure over a quarter of energy comes from renewables, achieving 100% access to electricity, and creating over 5 million new jobs.

Further, as institutional investors, the insurance industry can play a more active role in promoting innovative financial instruments, such as green bonds, catastrophe bonds, and resilience bonds. These tools serve a dual purpose: they mobilise capital for eco-friendly projects and simultaneously distribute and manage the risks associated with climate change. One example of this is Zurich Insurance's impact investment portfolio of US\$6.3 billion, which includes green bonds as well as social and sustainability bonds. Their impact portfolio has helped to avoid 3.2 million metric tons of CO2-equivalent emissions<sup>37</sup>.

In summary, the insurance industry, with substantial investable assets, is well positioned to invest in and influence the transition to net-zero. By redirecting investments to environmentally sustainable projects and other innovative financial products for climate mitigation and adaptation, the insurance industry can contribute to the global transition towards a net-zero future, reinforcing its importance beyond the traditional role.

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<sup>34</sup> [SCOR. \(2020\). Climate Report 2020.](#)

<sup>35</sup> [Bain & Company, Temasek, GenZero, & Amazon Web Services. \(2023\). Southeast Asia's Green Economy 2023 Report: Cracking the Code. Singapore Economic Development Board \(EDB\).](#)

<sup>36</sup> [Financial Stability Board. \(2023\). Monitoring dataset 2023.](#)

<sup>37</sup> [Zurich Insurance Group. \(n.d.\). Impact investment.](#)

## As Wealth Managers

Beyond its conventional protection responsibilities, the insurance industry is increasingly stepping into the realm of wealth management. This is especially true in Asia, where the life insurance industry in Asia is dominated by savings and investment products<sup>38</sup>. With the world grappling with the complexities of climate change, the role of insurers as wealth managers could really make a difference by guiding individuals toward sustainable financial growth.

The intersection of insurance and wealth management is not coincidental. The insurance industry possesses a deep understanding of risk derived from years of data analysis and market observations. This expertise, when applied to wealth management, allows for the creation of financial strategies that are both resilient to market volatility and aligned with long-term growth objectives.

In the contemporary financial landscape, wealth creation is no longer solely about returns. There is a growing emphasis on sustainability and ethical investments. As wealth managers, insurers and its intermediaries are uniquely positioned to guide customers toward investment opportunities that not only promise returns but also contribute positively to environmental and societal goals. From green bonds to impact investments, the focus is on building portfolios that reflect the values and aspirations of the modern investor.

By integrating sustainability factors into portfolio offerings, the insurance industry can influence through selection, as well as engaging with investee companies to improve their climate performance. Some insurers have now launched sustainable investment-linked products (ILPs). For example, in 2021, Prudential Singapore launched two such ILP funds: PRULink Global Climate Equity Fund to address environmental challenges presented by global climate change and PRULink Global Impact ESG Equity Fund to improve the quality of and access to basic life essentials, reduce inequality, and mitigate the effects of climate change<sup>39</sup>. In 2022, AIA Singapore launched the AIA Sustainable Multi-Thematic Fund. The sustainability fund was made available to its customers through AIA's ILP offerings<sup>40</sup>. Another example is the Allianz Green Bond Fund. The fund invests at least 85% of its assets in green bonds<sup>41</sup>.

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<sup>38</sup> [Reinsurance Group of America. \(2018\). The diverse markets of Asia: The growth engine for today's life insurers.](#)

<sup>39</sup> [Prudential. \(2022\). ESG Report 2022. Prudential.](#)

<sup>40</sup> [AIA Singapore. \(2022\). AIA is the first to bring a bespoke Sustainable Thematic Fund from Robeco to the Singapore ILP market.](#)

<sup>41</sup> [Allianz Global Investors. \(n.d.\). Allianz Green Bond.](#)

## Putting it all together

As we delve deeper into the multifaceted roles of the insurance industry in the context of climate change, it becomes increasingly clear that the insurance industry can transcend their traditional role as a provider of financial protection. The insurance industry can unlock opportunities by taking on these roles. Table 1 illustrates the various roles that insurers can play to facilitate a smoother transition to net zero.

Table 2: Summary of roles that insurers can play in the transition towards net zero

Transition Requirement / Insurance Industry Role	<b>Decarbonising Energy</b> <i>From fossil fuels to renewable energy sources</i>	<b>Green Infrastructure</b> <i>Cities and transport systems with minimal emissions</i>	<b>Sustainable Agriculture</b> <i>Farming practices that are productive and environmentally friendly</i>
Insurer / Reinsurer Role	Provide coverage for renewable energy projects.	Insure sustainable buildings and systems.  Insure green infrastructure projects.	Offer agricultural insurance for eco-friendly farming.
	Provide tailored solutions to meet the needs of those affected by the transition.	Provide more flexible and adaptable timelines for coverage for green infrastructure.	Provide protection to vulnerable low-income individuals against loss of crops and non-crop agricultural assets.
Risk Advisor Role	Assess and advise on the mitigation of risks of renewable projects.  Assess and advise fossil fuel companies to encourage transition to renewable energy.	Guide on climate-resilient construction.  Advise on green infrastructure projects.	Assess and advise on mitigating agricultural climate risks.
Educator Role	Educate on the benefits of renewable energy and transition plans.	Educate on sustainable urban development.  Educate on the importance of investing in green infrastructure.	Educate on sustainable farming techniques.

Influencer Role	Promote transition to renewable energy by fossil-fuel companies. Advocate for policies promoting renewable energy.	Promote eco-friendly urban planning and construction.	Advocate for eco-friendly farming policies.
Investor Role	Invest in renewable energy and infrastructure.	Invest in green infrastructure projects.	Invest in sustainable agriculture projects.
Wealth Manager Role	Offer renewable energy investment options to customers.	Advise on investing in green infrastructure.	Offer investment options in sustainable agriculture.

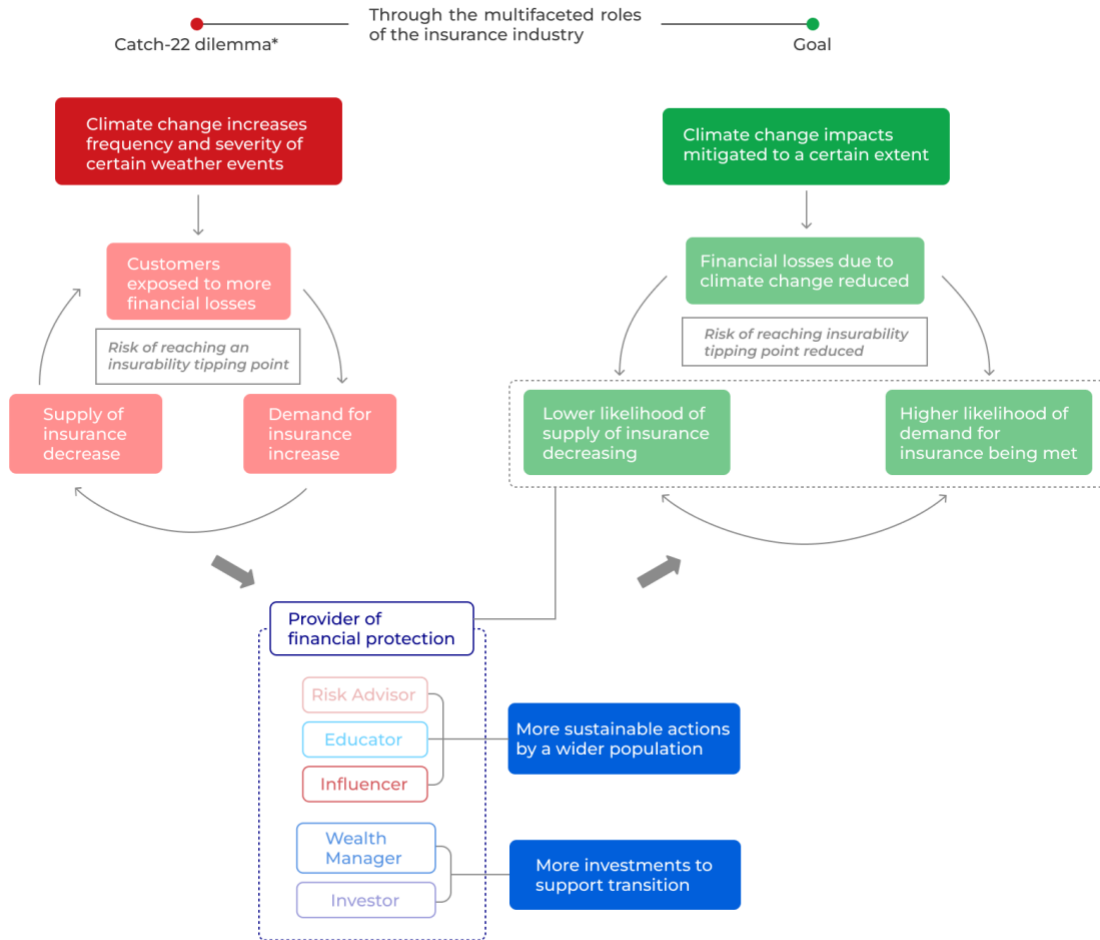
According to the latest 2023 Global Annual to Decadal Climate Update by the World Meteorological Organization (WMO)<sup>42</sup>, the world is at risk of surpassing the 1.5°C target set by the Paris Agreement. There is an estimated 66% likelihood that global temperatures will exceed this crucial threshold within the next five years, highlighting the critical need for swift and significant reductions in greenhouse gas (GHG) emissions to stay on track with climate objectives. Yet, the pace of decarbonisation is currently inadequate. PWC's 15<sup>th</sup> Net Zero Economy Index<sup>43</sup> reveals that to keep global warming within 1.5°C by 2050, Asia Pacific economies need to achieve an ambitious annual decarbonisation rate of 17.2%. This is six times the current decarbonisation rate of 2.8%, underscoring the urgency for change and rapid action.

The insurance industry, with its vast reach and significant influence, has the potential to expedite transformative change in the face of a climate-driven paradigm shift. In Asia, the industry caters to a vast number of clients, ranging from multinational corporations to individual policyholders, offering a unique platform for instigating widespread action. When insurance companies embrace more proactive roles in combating climate change, they create a virtuous cycle of progress towards a more sustainable and resilient future.

<sup>42</sup> [World Meteorological Organization. \(2023\). Global temperatures set to reach new records in the next five years.](#)

<sup>43</sup> [PricewaterhouseCoopers. \(2023\). PwC Net Zero Economy Index 2023.](#)



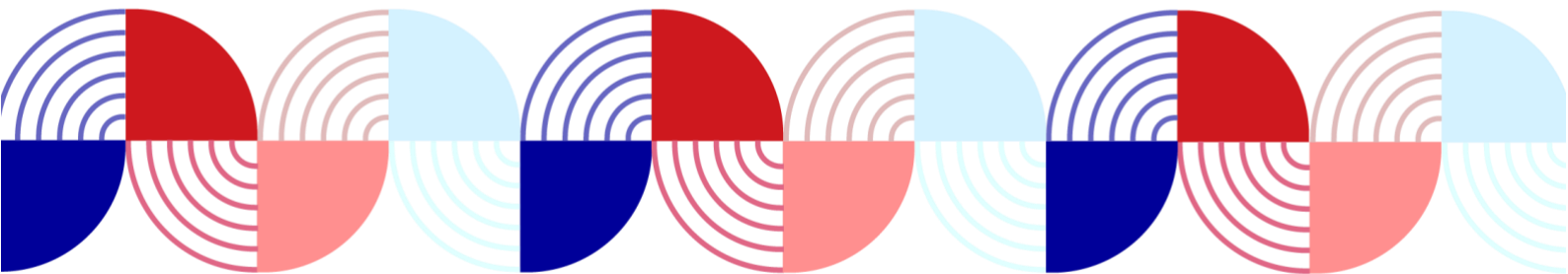


\*Refer to our "Too Hot To Insure" Policy Paper, Chart 1, P53

By taking on the roles of risk advisor, educator, and influencer, the insurance industry can leverage its reach to drive more sustainable, risk-reducing actions by its customers, be they individuals or businesses. In the roles of investor and wealth manager, insurers can make a substantial impact by facilitating more investments into green infrastructure, renewable energy, and transitions, thereby also leading to risk reduction. These risk reductions, in return, can preserve or even bolster the capacity of insurers and reinsurers to manage the impact of climate change more effectively. Maintaining or enhancing this capacity is crucial for the industry's ability to continue offering products that are both affordable and accessible, avoiding the risk of reaching the insurability tipping point for climate-related risk<sup>44</sup>. This would help the insurance industry enhance its traditional role by increasing insurance penetration and risk financing, thereby reducing protection gaps.

<sup>44</sup> [Global Asia Insurance Partnership. \(2023\).](#)

# Challenges



## *Challenges*

While the insurance industry has the potential to significantly drive tangible positive change on the journey to net zero by playing various roles, there are many challenges to effectively taking on those roles. To manage these challenges, significant collaborative efforts are required across the private and public sectors.

### **Regulatory and Policy Barriers**

Navigating the regulatory landscape poses a challenge for insurers in the creation of more innovative products and enhancing tools and modelling. Insurers are often subject to stringent regulations that may not align with the innovative approaches necessary for climate change mitigation and adaptation. For instance, regulations regarding capital requirements, risk assessments, and investment allocations may limit insurers' capacity to finance or insure certain green initiatives or innovative climate-related products.

The speed at which regulations adapt to climate change is also a concern. As the insurance industry innovates in response to climate change, it may outpace the development of relevant policies and frameworks. This mismatch can create uncertainties and potential legal risks for insurers. Furthermore, governments need to provide clearer guidance and incentives to support the insurance industry's transition towards sustainable practices. Without regulatory support, insurers may face challenges aligning their climate change initiatives with existing legal and operational frameworks. Countries such as Singapore have started to look towards providing this guidance. For example, the Monetary Authority of Singapore (MAS) issued a set of consultation papers proposing guidelines on transition planning in Q4 2023, aiming to enable effective climate change mitigation and adaptation measures for financial institutions, including insurers<sup>45</sup>.

Additionally, many insurers operate in multiple countries, and the regulatory disparities across various Asian countries can complicate the provision of consistent, cross-border solutions. This challenge continues to intensify with the increased implementation of regulatory guidelines for climate-related emissions reporting from various countries. To effectively address this, the standardisation of reporting standards across countries is crucial. For instance, standards such as the International Sustainability Standards Board and the EU Corporate Sustainability Reporting Directive can help to develop a standardised/interoperable set of reporting standards, enabling insurers to develop products that are implementable across all countries.

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<sup>45</sup> [Monetary Authority of Singapore. \(2023\). Consultation paper on guidelines on transition planning for insurers.](#)

Another potential challenge is political risk – this can present material uncertainty for climate policies, which may undermine current net-zero transition efforts. This uncertainty calls for a proactive and agile response from the insurance industry, who can navigate these changes while continuing to develop products and strategies that align with both current and future regulatory environments.

## **Scalability and Development of Data and Risk Modelling**

While some insurers have invested in more advanced data and analytics tools to help clients address climate-related risks, such research and development are generally limited to larger insurers with global expertise. Developing these advanced models requires significant resources and expertise, which may not be readily available within all insurance companies, particularly smaller insurers or those in developing regions. Despite this, there have been efforts to study the use of machine learning in risk models and collect the data required for such studies. However, these efforts are typically done in silos, resulting in a multitude of different approaches, even for a single risk factor.

Risk assessments are further complicated by the variability of climate impacts across different geographical regions. For example, in Asia, the risks range from rising sea levels in coastal cities to severe droughts in inland areas. This diversity requires region-specific data and models, which can be challenging to develop and maintain. Additionally, there is a need for real-time data to effectively respond to rapidly changing climate conditions, which pose logistical and technological challenges.

Lastly, new technologies from the net-zero transition introduce a new layer of complexity to the already challenging task of risk assessment. There is a need for the insurance industry to understand these new technologies and be able to evaluate and price for the relevant insurance coverages. However, this will take time. Innovations such as renewable energy, carbon capture and storage, and green infrastructure, for instance, all come with their unique risk profiles that differ from those of traditional industries. This transition period is marked by a lack of historical data on these new technologies, making it more difficult for insurers to price the risks associated with them appropriately. This requires insurers to invest in research and collaborate across industries to develop comprehensive, adaptive pricing models that can accurately reflect the new realities of a transitioning world.

## **Low Climate Literacy**

Low climate literacy represents a significant challenge for the insurance industry to play a more substantial role in addressing climate change. At its core, climate literacy involves

understanding human impacts on the climate, including the knowledge of how daily activities contribute to climate change and what steps can be taken to mitigate these effects.

The Allianz Climate Literacy Survey<sup>46</sup> highlights a concerning gap in public awareness, revealing that only 50% of respondents are aware of the increased threat of fatal damages if temperatures rise above 1.5°C. Furthermore, a mere 31% of respondents realise that a drastic reduction in emissions is necessary to combat climate change. This lack of understanding and awareness among the general public and businesses about the severity of climate change and the urgent need for action hampers the insurance industry's efforts to promote and implement sustainable practices and policies.

## **Engagement Barriers**

Engaging effectively with a diverse range of stakeholders can present a significant challenge for the insurance industry in Asia, especially if they are to adopt the role of an influencer to help shape behaviours, decisions, and strategies. In a region marked by varied cultures, economic conditions, and levels of climate change awareness, creating tailored engagement strategies for different groups requires deep local knowledge and cultural sensitivity. This holds true for all stakeholders, from policymakers in developed urban centres to rural communities in developing countries.

Building trust is also a challenge, especially in areas where people are sceptical of insurers. To achieve this, insurers need to communicate transparently and consistently and show genuine commitment to community interests. Engaging with policymakers and governments involves navigating complex political landscapes and advocating for supportive climate policies, which requires a nuanced understanding of regulatory intricacies.

Collaboration across sectors is necessary to play different roles effectively. This involves not only industry peers but also NGOs, environmental groups, businesses, and international bodies. Establishing common objectives with aligned strategies and action plans with these diverse entities can be challenging and may require making compromises. Managing these collaborations to ensure they remain effective adds another layer of complexity.

## **Investing in the “Just Transition” to Net Zero**

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<sup>46</sup> [Allianz. \(2023\). Allianz Climate Literacy Survey 2023.](#)

As we navigate the complexities of the net-zero transition, a key trend emerging is the strategic shift in financial investments away from the fossil fuel sector. However, this shift brings to the forefront concerns about a “just transition” to net zero. As we continue to invest away from fossil fuels, it is imperative to consider the socio-economic implications of reducing investments in fossil fuels. This is particularly so for communities and workers who have been reliant on this sector for generations, particularly in emerging economies. A “just” plan for ensuring a smooth transition to net zero needs to take into account the existing inequalities between different countries, as well as different social groups. While a “just transition” may not always be one of the top considerations for investors, an MSCI study<sup>47</sup> using data from January 2014–July 2020 highlights that investments prioritising social aspects – i.e. with high social (S) scores - can lead to better returns. This approach underscores the added financial value of integrating social considerations into climate investments for a holistic transition.

## Reputation Risk

Insurers can invest in assets and provide investment options for their customers that not only promise competitive returns but also contribute positively to environmental and societal goals, such as through green bonds and making impact investments.

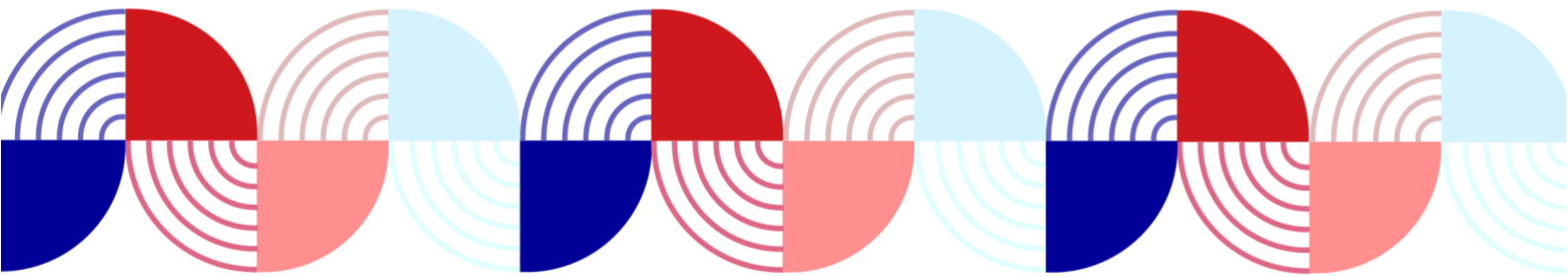
However, improper disclosures, misleading product disclosures, or mismanagement of climate-related risks relating to these investments can lead to potential litigation and reputation risk. Insurers could be accused of greenwashing if their environmental commitments are perceived as superficial or not backed by tangible actions, resulting in legal charges or an increase in claims.

To effectively reduce this risk, insurers need to engage with sustainability strategy-setting processes and strengthen and expand the data governance and controls around all of their organisation’s climate-related reporting and information-sharing.

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<sup>47</sup> Mendiratta, R., Varsani, H. D., & Giese, G. (2021). [How ESG Affected Corporate Credit Risk and Performance](#). Journal of Impact and ESG Investing, 2(2), Winter 2021. MSCI.

## Conclusion



## *Conclusion*

Transitioning to a net-zero emissions future requires various interconnected requirements, such as climate mitigation and adaptation, sustainable agriculture, conservation, innovative technologies, and behavioural changes. These requirements are critical to the global effort to mitigate climate change, reduce carbon emissions, enhance resilience, and promote environmental sustainability.

The insurance industry can play a vital role in supporting and accelerating these imperative requirements. As an insurer, risk advisor, educator, influencer, investor, and wealth manager, the insurance industry can not only manage risks but also promote sustainable practices, foster resilience, and encourage responsible behaviours that are essential for the transition to net zero.

However, there are challenges with the insurance industry fully embracing these non-traditional roles. Overcoming these challenges will require significant time, effort, investment, resources, research and expertise. It can be seen as an overly daunting task to achieve the transition to net zero. However, by breaking it down into more manageable pieces, with the right support from governments, Non-Government-Organizations (NGOs), multilateral development banks, and organisations such as the Global Asia Insurance Partnership (GAIP), the insurance industry can effectively play all these different roles concurrently.

As the insurance industry continues to work towards net zero, three 'C's come to mind – commitment, communication, and collaboration:

- *Commitment:* The insurance industry can demonstrate a proactive commitment by prioritising the immediate need for increased sustainability and resilience amidst climate-related risks and taking action to contribute to the net zero transition. By integrating environmental objectives into every level of corporate strategies, insurers can ensure that considerations of the environment take part in shaping core business decisions, including central business aspects like pricing and underwriting.
- *Communication:* Central to transforming awareness into action is effective communication. It is imperative for insurance companies to openly articulate their commitments to sustainability, sharing both the strides made and the obstacles encountered already or waiting to be encountered.



- *Collaboration:* Achieving net zero is a complex task that necessitates widespread collaboration to combat climate change effectively. Via collaboration amongst a diverse range of partners, including governments, NGOs, businesses, local communities, and other sectors, the insurance industry can facilitate a rich exchange of knowledge, co-create sustainable solutions, and harmonise risk assessment and management methodologies.

As next steps, GAIP, in collaboration with Nanyang Technological University (NTU) will be looking into a comprehensive review of the implications of climate change on the insurance industry. In addition, GAIP will look to embark on studies of cross-sectional initiatives where the insurance industry can play these different roles collaboratively both within the industry and with other industries to achieve greater resilience and sustainability in the face of climate change for Asia.

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