

# INSURING A LOW-CARBON FUTURE

A practical guide for insurers on managing  
climate-related risks and opportunities

Based on interviews with 14 proactive insurers, this report explores how climate awareness is being integrated into underwriting, investment, and group-wide risk management practices. In addition to exploring common barriers, this report also presents a practical framework of eight building blocks relevant for insurers introducing and developing climate strategies. | September 2019

**ShareAction»**

ASSET OWNERS/  
DISCLOSURE PROJECT

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# ACKNOWLEDGEMENTS

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We would further like to thank the panel of experts (Alisa Dolgova, Bronwyn Claire, Cynthia McHale, Jonathan Clarke, Peter Bosshard, and Stephanie Morton) who gave their time to provide guidance on the development of the methodology for this work.

Report written and produced by Peter Uhlenbruch of ShareAction.  
Graphic design by Chris Benfield

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## ABOUT AODP AND SHAREACTION

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AODP, a ShareAction project, assesses, ranks, and engages the world's largest institutional investors on their approach to responsible investment. Through its public rankings and research, AODP provides much-needed transparency for beneficiaries, clients, investors, and stakeholders, while its engagement programme aims to drive positive behavioural change from investors. AODP's mission is to leverage the global financial system to tackle key global issues, with a focus on climate change, human rights, and biodiversity.

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# LIST OF INTERVIEWEES

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NAME	HEADQUARTERS
Aegon	Netherlands
Ageas	Belgium
Aviva	United Kingdom
ASR Nederland	Netherlands
CNP Assurances	France
Folksam	Sweden
Generali	Italy
Legal & General	United Kingdom
MS&AD	Japan
Munich Re	Germany
NN Group	Netherlands
Prudential PLC	United Kingdom
SCOR	France
Zurich	Switzerland

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In its roles as risk managers, insurers and investors—responsible for over USD 30 trillion of global assets under management—the insurance industry has a vital role to play in ensuring the transition to low-carbon, climate-resilient and sustainable communities and economies. Last year, the Intergovernmental Panel on Climate Change (IPCC) warned that limiting global warming to 1.5°C would require rapid and far-reaching transitions in land, energy, industry, buildings, transport and cities. Achieving this will partly depend on how the insurance industry responds to this complex and escalating challenge.

Meanwhile, the upcoming IPCC special report on the ocean and cryosphere will offer the latest insights on the impacts of climate change. The health and integrity of the ocean, for example, is critical to providing oxygen, food and other resources; absorbing carbon emissions and heat; and building coastal resilience.

UN Environment's Principles for Sustainable Insurance (PSI) were launched in 2012 to serve as a global framework for the insurance industry to address environmental, social, and governance (ESG) risks and opportunities. The PSI has since become the largest collaborative initiative between the UN and the global insurance industry.

The climate crisis requires a more complete, ambitious, collaborative and urgent response from the insurance industry across its risk management, insurance and investment activities. Last year, the PSI convened a group of leading insurers to pilot the recommendations of the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD). This year, the PSI produced the first ESG guide for non-life insurance business to tackle the risks posed by the most pressing global sustainability challenges—from climate change and ecosystem degradation, to pollution and human rights violations. Equally, the PSI is now addressing key sustainability challenges in the life and health insurance business, including climate change risks.

Going forward, the PSI will be working together with insurers, regulators, governments and key stakeholders

to deliver sustainable insurance roadmaps in different markets. These roadmaps will harness the insurance industry's triple role as risk managers, insurers and investors for climate change adaptation and mitigation and the wider sustainable development agenda.

This is why this latest guide from ShareAction/AODP is timely. Building on its TCFD-aligned assessment of the global insurance industry, this guide comprehensively explores how some of the world's most proactive insurers are strategically responding to climate change risks and opportunities. Supported by over 60 practical case studies, insurers of all sizes and from all business lines and regions are encouraged to learn and draw inspiration from the journeys and experiences of their peers.

Critically, this guide highlights how insurers can leverage their climate expertise and networks in driving impactful collaborative initiatives with customers, vulnerable communities and policymakers to help solve the climate crisis now, not tomorrow or the day after. Time is non-renewable.

With urgent, ambitious and collaborative action and decisive leadership, it is still possible to prevent irreversible, catastrophic climate change. If successful, the prize of a sustainable future is immense.



*Butch Bacani*

Butch Bacani  
Programme Leader  
UN Environment's Principles for  
Sustainable Insurance Initiative





Figure 1: Timeline of recent ShareAction/AODP reports

This report explores how 14 insurers from nine countries are proactively responding to climate-related issues across their investment, underwriting, and group-wide risk management practices. In addition to comprehensively surveying the current leading practice landscape, this report also explores common barriers faced by insurers in making progress on managing climate-related issues and presents a framework of practical building blocks relevant for insurers at early stages of introducing and developing climate strategies.

Our key findings are drawn from 14 in-depth interviews with insurers recognised for their progress in managing climate-related issues and based on a questionnaire developed with a small panel of industry experts (see Appendix 2). The respondents vary significantly by size, location, and business mix (covering general, life, and reinsurance).

The breadth of responses reveals a rich variety of innovative and creative approaches insurers are undertaking to promote climate awareness across their operations.

Our key findings are presented across four main sections:

1. Current leading practice landscape
2. Common barriers
3. Eight key building blocks for other insurers
4. Recommendations for key stakeholders

This report will be of interest to all stakeholders who have an interest in how the insurance industry is responding to climate change. It sits within a series of reports ShareAction/AODP has and will be publishing on climate-related risks in capital markets. This leading practice guide is a follow up to ShareAction/AODP's first leading practice guide, [Winning Climate Strategies](#)<sup>1</sup>, published in 2018.

## SURVEYING THE LEADING PRACTICE LANDSCAPE

This section explores the current leading practice landscape as practically demonstrated by 14 insurers recognised for taking a proactive response in managing climate-related issues across their underwriting, investment, and group-wide risk management practices. The following eight key

## LEADING PRACTICE LANDSCAPE SURVEY

# PROACTIVE INSURERS ARE TAKING STEPS TOWARD

1. Developing climate-supportive products and services
2. Raising climate risk awareness among customers and communities
3. Taking a holistic approach to climate risk management
4. Exploring climate risks facing life and health
5. Integrating climate science into risk models
6. Building climate into investment strategies
7. Driving collaboration on key climate issues
8. Using TCFD to their advantage

Figure 2: Key findings from leading practice landscape survey

findings are drawn from in-depth qualitative interviews. Our research and analysis find that even proactive insurers are at early stages of their climate strategy journeys with only a select few having already strategically integrated climate-awareness across all departments and business lines.

## KEY FINDINGS



### Key finding 1: Developing climate-supportive products and services

- Many respondents are developing a new generation of climate-supportive products and services. Some are incorporating eco-labelling while others are developing products intended to create climate-aligned behavioural change from their customers.
- Some are incorporating circularity into their claims processing by utilising repaired items and undertaking part repairs where possible.



### Key finding 2: Raising climate risk awareness among customers and communities

- Insurers are educating customers and wider communities on how to prevent damage from climate-driven events and protect against life and health impacts.



### Key finding 3: Taking a holistic approach to climate risk management

- Nearly all respondents have established some form of cross-functional initiative that focuses on climate issues, though many are at early stages.
- Many respondents are already sharing climate risk knowledge across the balance sheet, most commonly using physical risk expertise from the underwriting side to better understand similar risks on the investment side.
- The most advanced respondents are developing group-wide climate policies, fossil-fuel policies, and scenario analysis work.



### Key finding 4: Exploring climate risks facing life and health

- While many proactive insurers with life and health businesses are already responding to climate-

→ “Many respondents are escalating climate in their company engagement in a range of innovative ways across both listed equity and debt.”

related risks in their investment portfolios, only the most advanced are strategically focusing on better understanding these risks for their underwriting portfolios.



#### Key finding 5: Integrating climate science into risk models

- Proactive respondents are upgrading their internal risk models or challenging their service providers to integrate forward-looking climate science and scenarios.



#### Key finding 6: Building climate into investment strategies

- Advanced respondents are publicly committing to align their investments with the goals of the Paris Agreement and to setting Science Based Targets for investors.
- Many respondents are escalating climate in their company engagement in a range of innovative ways across both listed equity and debt.
- Larger insurers with asset management businesses are building a new generation of climate themed

investment products open to outside investors.

- Advanced respondents are starting to scale their low-carbon investments across asset classes, in some cases over six per cent of their general accounts.
- Some respondents are innovating to better understand climate risk in sovereign fixed income and incorporating multiple 2-degree scenarios into their scenario analysis work.



#### Key finding 7: Driving collaboration on key climate issues

- Proactive respondents are collaborating with peers and wider stakeholders on a range of climate-relevant themes including public policy, green investment opportunities, developing new tools and methodologies, and education programmes on climate risks.



#### Key finding 8: Using TCFD to their advantage

- Many respondents have used the [Taskforce for Climate-related Financial Disclosures](#) (TCFD) Framework to develop their strategic climate

## COMMON BARRIERS

# COMMON BARRIERS FACING INSURERS

1. Issues around climate-related data
2. Weak demand for climate-supportive insurance products and services
3. Capital requirements yet to directly reflect climate risk
4. Shortage of investable clean infrastructure opportunities
5. Inconsistent climate progress within and between regions
6. Lack of pressure from insurers' investors on climate issues
7. Misaligned time horizons

Figure 3: Common barriers facing insurers

responses, while more advanced insurers are already publishing TCFD-aligned reports and incorporating the Framework into their company engagement.

### EXPLORING COMMON BARRIERS

This section explores seven barriers commonly faced by respondents in making progress on managing climate-related issues. These barriers are relevant for all insurers interested in how to best manage climate-related risks and opportunities.

-  **Barrier 1: Issues around climate-related data**
- Climate-data generally suffers from quality, availability, and frequency issues.
  - There appears to be less climate-data for the underwriting side than for the investment side.
  - For underwriting, there appears to be less climate-data for life and health than for general portfolios.
  - Data for natural disasters and weather trends is largely based on observed data and does not yet fully capture forward-looking projections based on the latest climate science.



**Barrier 2: Weak demand for climate-friendly insurance products and services**

- Weak consumer demand for recently developed climate-supportive products and services have led some respondents to strengthen efforts in educating consumers on climate risks.



**Barrier 3: Capital requirements yet to directly reflect climate risk**

- Some respondents subject to the capital requirements required under Solvency II in Europe noted the current configuration does not incentivise long-term investments aligned with a low-carbon transition.



**Barrier 4: Shortage of investable clean infrastructure opportunities**

- A perceived shortage of clean infrastructure investment opportunities, including in emerging markets, has prompted some respondents to respond by engaging with policymakers.

→ “The urgency of the climate crisis requires all insurers to start taking immediate action and to recognise that data, tools, and methodologies will evolve over time.”



#### **Barrier 5: Inconsistent climate progress within and between regions**

- Varied progress on climate issues both across and within global regions was noted by respondents active in multiple countries as a challenge.



#### **Barrier 6: Lack of pressure from insurers' investors on climate issues**

- Some respondents noted a lack of pressure from their own investors on climate issues. They felt that engagement from their investors would help drive internal progress.



#### **Barrier 7: Misaligned time horizons**

- Insurers tend to undertake risk assessments between 1-3 years while the full impacts of climate change are expected to unfold over longer time periods.

Based on recommendations from our respondents, this final section offers a practical framework of eight simple, cost-effective, and impactful building blocks relevant for insurers at early stages of their climate strategy journeys.



#### **Building block 1: Start the journey now – don't wait for the perfect tools**

- The urgency of the climate crises requires all insurers to start taking immediate action and to recognise that data, tools, and methodologies will evolve over time.
- Insurers are encouraged to view their climate responses as a journey that is expected to intensify and become more sophisticated over time.



#### **Building block 2: Consider climate change from a risk perspective**

- Insurers are encouraged to perceive and respond to climate change as any with other material risk, such as cyber risk, where the industry has already taken strong action.

### **EIGHT KEY BUILDING BLOCKS FOR INSURERS AT EARLY STAGES**

## EIGHT KEY BUILDING BLOCKS

# EIGHT KEY BUILDING BLOCKS

1. Start the journey now - don't wait for the perfect tools
2. Consider climate change from a risk perspective
3. Start using TCFD
4. Gain support from senior decision-makers
5. Build a cross-functional climate working group
6. Communicate climate awareness throughout the company
7. Join collaborative initiatives
8. Start challenging risk model providers

Figure 4: Eight key building blocks for insurers at early stages



### Building block 3: Start using TCFD

- The TCFD Framework helps stimulate internal dialogue and connected thinking on climate issues both within and across departments, while helping prepare for public reporting.



### Building block 4: Gain support from senior decision-makers

- Gaining support from senior decision-makers (including at senior management and board levels) is critical for making progress on managing climate issues.
- Bringing in internal and external expertise on climate risks is helpful in gaining buy-in from senior decision-makers.



### Building block 5: Build a cross-functional climate working group

- Cross-functional climate oriented initiatives (including working groups, taskforces, and committees) help connect departments and key decision-makers on how best to respond to climate issues.



### Building block 6: Communicate climate awareness throughout the company

- Existing frameworks such as TCFD and the Sustainable Development Goals (SDGs) are helpful in communicating climate-awareness throughout the organisation.
- Appointing climate ambassadors at each organisational level helps to communicate climate issues in the most effective and appropriate way.



### Building block 7: Join collaborative initiatives

- Joining a climate-related collaborative initiative helps provide access to latest information while building a valuable network.



### Building block 8: Start challenging risk model providers

- Challenge third-party risk model providers to ensure they are adequately capturing forward-looking climate science and scenarios.
- Annually back-test risk models to ensure climate risks are sufficiently integrated.

This guide reveals a variety of innovative and creative approaches insurers are taking to manage climate-related risks and opportunities. However, only the most advanced have developed group-wide formal climate policies that also signal ambition to align their business with the goals of the Paris Agreement. Promisingly, nearly all respondents have developed a cross-functional initiative around climate change, signalling that the industry is starting to progress toward formulating more sophisticated and holistic strategic responses to climate change.

A new generation of innovative climate-supportive products and services is being developed by proactive insurers, despite nascent consumer demand. This has prompted some insurers to increase their efforts in educating customers and wider stakeholders on climate risk by offering valuable advice in the areas of climate-related mitigation and adaptation.

As a sector, the insurance industry remains far away from meeting the goals of the Paris Agreement, with on average less than one per cent of proprietary investments allocated to climate-supportive opportunities, and over 60 per cent of insurers providing insufficient climate-related disclosure.<sup>2</sup> Some have shown it is possible to scale low-carbon opportunities by allocating over six per cent of their general accounts. Most insurers are also escalating climate in their company engagement, not just in listed equity but also in corporate bonds, which should inspire other investors such as pension funds to become more active in engaging across both listed equity and debt portfolios.

Some insurers have responded to the challenge of integrating forward-looking climate science into their risk models by upgrading their internal models or challenging external service providers. And while climate-related data and methodologies are improving for general insurance portfolios, far less information is available in the areas of life and health, where many insurers are heavily exposed and more research is needed.

Insurers are already collaborating on a range of climate themes with a variety of stakeholders, though we see potential for stronger collaboration with policymakers on topics such as higher carbon prices, removing fossil fuel subsidies, and mandatory TCFD-aligned disclosure from companies.

Advanced insurers have embraced TCFD not just as a helpful tool in driving internal discussions and actions on climate issues within and across departments, but also as a company engagement tool and for improving public disclosure. With mandatory TCFD-aligned disclosure requirements becoming more likely across regions in the coming years, our framework of building blocks embraces the TCFD Framework as a valuable entry point for insurers to start their climate strategy journeys. However, all insurers are cautioned to remember that the end goal of their climate strategies should not simply be better disclosure, but a rapid decarbonisation of the global real economy.

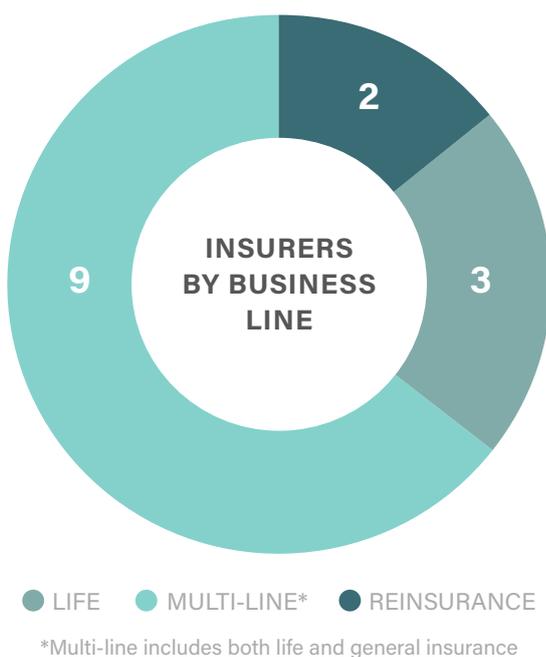
To truly catalyse change in the insurance industry, supporting measures like the following need to be taken (as outlined in figure 5).

STAKEHOLDER	RECOMMENDATIONS
<b>Insurers</b>	<ul style="list-style-type: none"> <li>• Challenge policymakers on carbon pricing, fossil-fuel subsidies, and mandatory TCFD-aligned disclosure.</li> <li>• Invest more resources into understanding climate risks facing life and health.</li> <li>• Challenge third-party risk model providers on integration of forward-looking climate science and scenarios.</li> <li>• Consider impact, as well as risk.</li> </ul>
<b>Investors</b>	<ul style="list-style-type: none"> <li>• Challenge insurers to develop more robust and holistic climate policies.</li> </ul>
<b>Policymakers</b>	<ul style="list-style-type: none"> <li>• Review capital requirements to ensure insurers are incentivized to invest in the low-carbon transition.</li> <li>• Support the introduction of higher carbon prices and phase out fossil fuel subsidies.</li> <li>• Make TCFD-reporting mandatory for investors and corporates.</li> </ul>
<b>Customers</b>	<ul style="list-style-type: none"> <li>• Challenge insurers on how climate awareness is integrated into products and services, claims processing, and climate risk education programs.</li> </ul>

Figure 5: Recommendations for key stakeholders

→ “The insurers interviewed also varied markedly by size with proprietary investment portfolios ranging between less than USD\$50 billion and over USD\$500 billion.”

We held in-depth interviews with 14 insurers across general, life, and reinsurance business lines over the period May to July 2019:



The insurers were selected on account of taking a proactive stance on managing climate-related risks and opportunities. Of the 32 insurers invited to participate, interviews were ultimately undertaken with 14 (see p.4 for the full list). Most of the respondents are headquartered within Europe, except for one based in Japan.

The insurers interviewed also varied markedly by size with proprietary investment portfolios ranging between less than USD\$50 billion and over USD\$500 billion.

The interviews followed a semi-structured format around nine core questions (see Appendix 2) developed in early 2019 in consultation with a small panel of industry experts.

### LIMITATIONS

This research is subject to the following limitations.

- There may be insurers with leading climate strategies beyond the scope of those considered for this report.

Figure 6: Insurers by business line

### INSURERS BY LOCATION

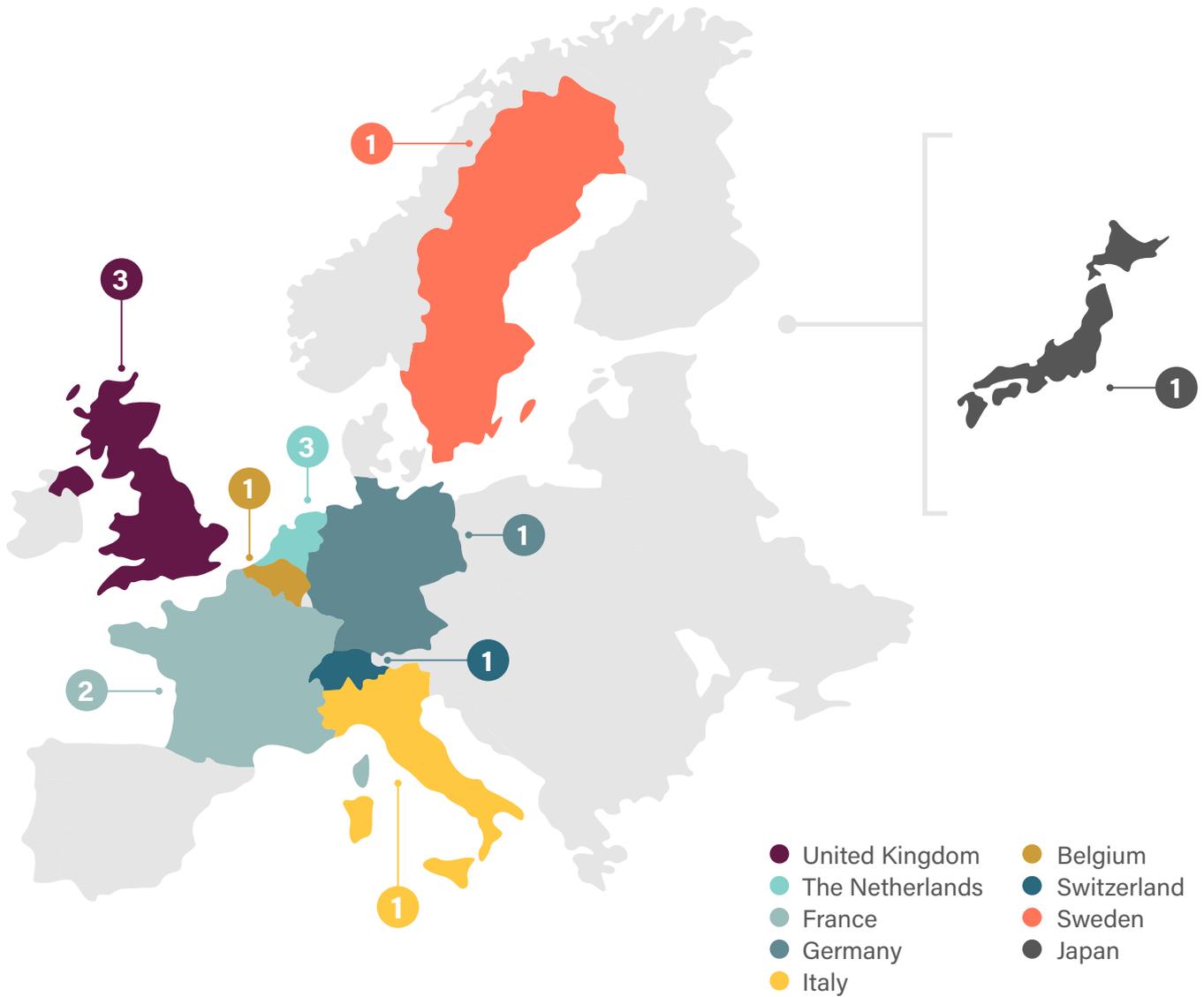


Figure 7: Insurers by location

- This report does not reflect the leading climate strategies of the 18 insurers invited to participate, who were unable or unwilling to do so.
- The semi-structured format of the interviews allowed respondents to focus on the key areas relevant to their organisation, which also means that varying amounts of time were spent on topics between insurers.

### INSURERS BY SIZE

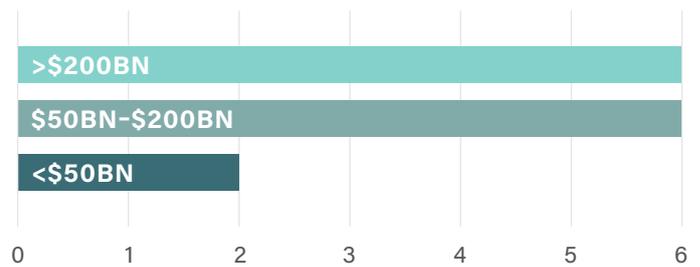


Figure 8: Insurers by size\* (proprietary AUM, USD)  
\*based on proprietary investments

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## INTRODUCTION TO THE INSURANCE INDUSTRY

Insurance companies play an important role in investment systems by enabling individuals and companies to transfer risk in exchange for making regular payments (known as premiums). Customers can gain protection against a specific risk (such as property damage, personal illness, or death) by taking out policies that entitle them to submit a claim in the case of a qualifying circumstance. In turn, insurers can cede portions of their own risk exposure to reinsurance companies who can pool and diversify risks at scale. The three main insurance categories are general, life, and reinsurance, as outlined in further detail in Figure 9 (right).

Both insurers and reinsurers strategically invest their policyholders' premiums to ensure enough capital is available to pay out claims when they occur and that the interest rate risk (duration) of liabilities is matched with that of assets. This process is known as asset-liability matching (ALM). Globally, around \$30 trillion of assets are invested in financial markets on behalf of policy-holders.<sup>4</sup> General insurers (who cover assets

such as property and vehicles) normally provide yearly contracts and subsequently tend to invest over short periods (1-3 years) to ensure sufficient liquid capital is available to pay out sudden claims.<sup>5</sup> Life insurers, on the other hand, often have policies covering up to 30 years and therefore tend to invest over a longer term.<sup>6</sup>

As agents of transferring and pooling risk in the global economy insurers have become experts in risk developing not only comprehensive databases, but sophisticated risk-models to help assess, predict, and price all risks for which coverage is offered. Some insurers build their own internal risk-models while others use external models sourced from third-party vendors. Since insurers are exposed to risks both across their liabilities (claims) and assets (invested premiums) insurers have generally implemented 'enterprise risk management', a company-wide approach that seeks to holistically integrate continuous risk assessment across all departments and practices.

### OVERVIEW OF INSURANCE BUSINESS LINES

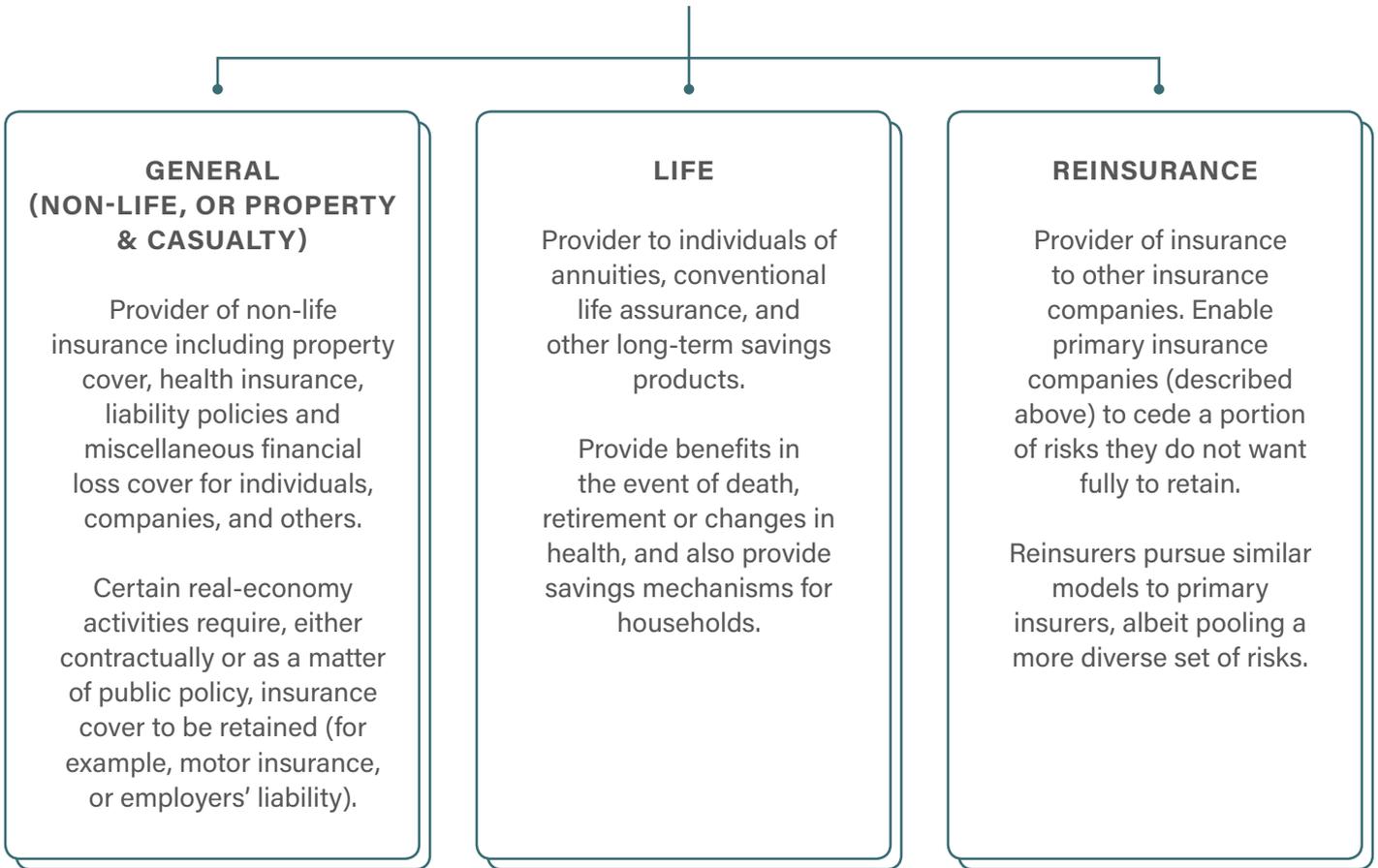


Figure 9: Overview of insurance business lines

Source: (Bank of England, 2015)<sup>3</sup>

### INVESTMENT HORIZONS

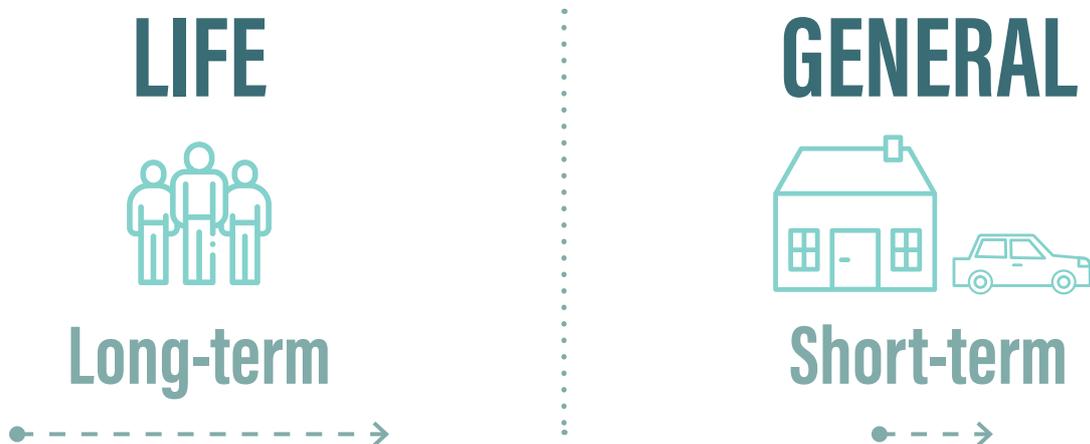


Figure 10: Investment horizons for life and general insurers

Source: (Geneva Association, 2019)<sup>7</sup>

## HOW CLIMATE CHANGE AFFECTS THE INSURANCE INDUSTRY

Climate change presents a myriad of complex, dynamic, and compounding challenges for the insurance industry that may not only be financially material, but potentially existential. As recently as 2017, the CEO of one of the world's largest insurers warned that a global warming outcome of four degrees or higher could render the world "uninsurable".<sup>8</sup> Alarmingly, recent research suggests that we are currently on track for 3.9 degrees of human-driven global warming by the end of the century.<sup>9</sup>

The UK's insurance regulator has identified climate change as a financial risk distinct from other such risks based on four distinct elements that "present unique challenges and require a strategic approach",<sup>10</sup> as outlined in figure 11.

Climate change presents a triad of physical, transition, and liability risks to the insurance industry, as outlined in figure 12.

Furthermore, how these risks are expected to manifest for insurers varies across the liability and asset sides of the balance sheet (figure 13).

### FOUR DISTINCT FEATURES OF CLIMATE CHANGE

#### FAR-REACHING IN BREADTH AND MAGNITUDE

The financial risks from physical and transition risk factors are relevant to multiple lines of business, sectors, and geographies. Their full impact on the financial system may therefore be larger than for other types of risks, and is potentially non-linear, correlated and irreversible.

#### UNCERTAIN AND EXTENDED TIME HORIZONS

The time horizons over which financial risks may be realised are uncertain, and their full impact may crystallise outside of many current business planning horizons. Using past data may not be a good predictor of future risks.

#### FORSEEABLE NATURE

While the exact outcome is uncertain, there is a high degree of certainty that financial risks from some combination of physical and transition risk factors will occur.

#### DEPENDENCY ON SHORT-TERM ACTIONS

The magnitude of future impact will, at least in part, be determined by the actions taken today. This includes actions by governments, firms, and a range of other actors.

Figure 11: Four distinct features of climate change as a financial risk

Source: Source (Bank of England, 2019)<sup>11</sup>

## GENERAL CLIMATE RISKS FACING INSURERS



Figure 12: General climate risks facing insurers

Source: Source (Bank of England, 2019)<sup>12</sup>

## GENERAL CLIMATE RISKS FACING INSURERS ACROSS THE BALANCE SHEET

	INVESTMENT (ASSET SIDE)	UNDERWRITING (LIABILITY SIDE)
<b>PHYSICAL RISKS</b>	Risks arising from impacts of physical climate events and trends on assets, firms, and sectors, affecting profitability and cost of business, leading to impacts on financial assets and portfolios.	<p><b>Pricing risks:</b> From changing risk profiles to insured assets and property (non-life), changing mortality profiles and demographic trends (life and health).</p> <p><b>Claims risk:</b> From confluence of unexpected extreme weather events. <b>Strategic/Market risks:</b> From changing market dynamics (ie, uninsurability of property)</p>
<b>TRANSITION RISKS</b>	Risks arising from market, policy, technological, and social changes, affecting profitability and cost of business of firms and sectors leading to impacts on financial assets and portfolios.	<p><b>Strategic/Market risks:</b> From contraction of market demand in certain sectors (such as fossil fuels or marine transport).</p> <p><b>Strategic/Market risks:</b> from market trends, technological innovation, and policy changes related to climate change (ie, carbon pricing, energy efficiency regulations) affecting products and services demanded by consumers.</p>
<b>LIABILITY RISKS</b>	<b>Litigation risks</b> (ie, class action) relating to the consideration of climate change in investment decision-making, or inadequate disclosure of climate risks.	<b>Liability risks</b> arising from insurers liable on basis of insurance provided (ie, tort or negligence claims) or from Directors & Officers policies.

Figure 13: Climate risks facing insurers across the balance sheet

Source: IAIS/SIF Issues Paper<sup>13</sup>

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→ “Life insurers and reinsurers are also exposed to climate-related physical risks through related impacts on mortality and morbidity, which are only now starting to be considered more rigorously.”

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#### **UNDERWRITING CLIMATE RISKS: GENERAL VS LIFE BUSINESS LINES**

That climate-related physical risks on the underwriting side tend to be better understood by general insurers than by life insurers is unsurprising in light of the \$138 billion of insured losses<sup>14</sup> resulting from climate-driven natural disasters in 2017. However, life insurers and reinsurers are also exposed to climate-related physical risks through related impacts on mortality and morbidity, which are only now starting to be considered more rigorously.

#### **INVESTMENT CLIMATE RISKS: GENERAL VS LIFE BUSINESS LINES**

As life insurers and reinsurers tend to invest over a much longer-term than general insurers, life insurers are more heavily exposed in their investment portfolios to physical and transition risks as they manifest more fully over time. However, even general insurers, with shorter investment periods are vulnerable to transition risks, especially in the case of a ‘too sudden too late’ policy response from

policymakers, as explored by the PRI in their ‘inevitable policy response’ research programme.<sup>15</sup>

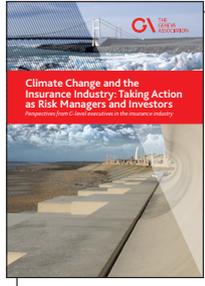
#### **KEY RECENT REPORTS ON CLIMATE CHANGE AND THE INSURANCE INDUSTRY**

Figure 14 reveals the growing field of research into the intersection between the insurance industry and climate change. Although interest in this field is expanding, recent research by ShareAction/AODP found that over 60 per cent of the world’s largest 80 insurers provide insufficient disclosure on how climate risks are managed across their underwriting and investment portfolios.<sup>16</sup>

KEY CLIMATE-RELATED PUBLICATIONS

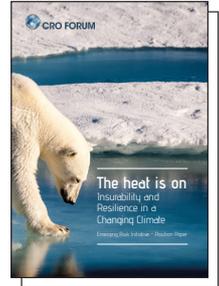
► JANUARY 2018

Climate change and the insurance industry: Taking action as risk managers and investors  
 – Geneva Association<sup>17</sup>



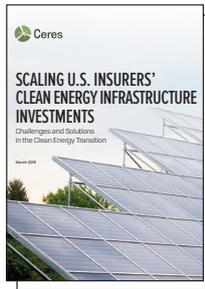
► JANUARY 2019

The heat is on: Insurance and resilience in changing climate  
 – CRO Forum<sup>22</sup>



► MARCH 2018

Scaling U.S. insurers' clean energy infrastructure investments: challenges and solutions in the clean energy transition – Ceres<sup>18</sup>



► FEBRUARY 2019

Physical risk framework: Understanding the impacts of climate change on real estate lending and investment portfolios  
 – ClimateWise<sup>23</sup>



► MAY 2018

Got in covered: Insurance in a changing climate  
 – ShareAction/AODP<sup>19</sup>



Transition risk framework: Managing the impacts of the low carbon transition on infrastructure investments – ClimateWise<sup>24</sup>



► JULY 2018

Issues paper on climate change and risks to the insurance sector  
 – International Association of International Supervisors (IAIS) / Sustainable Insurance Forum (SIF)<sup>20</sup>



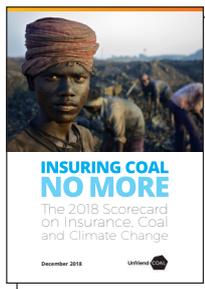
► APRIL 2019

Enhancing banks' and insurers' approaches to managing the financial risks from climate change  
 – Bank of England/ Prudential Regulation Authority<sup>25</sup>



► DECEMBER 2018

Insuring coal no more: The 2018 scorecard on insurance, coal and climate change – Unfriend Coal<sup>21</sup>



► MAY 2019

A framework for assessing financial impacts of physical climate change: a practitioner's aide for the general insurance sector – Bank of England/ Prudential Regulation Authority<sup>26</sup>

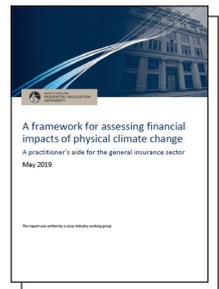


Figure 14: Key climate-related publications relating to insurance sector (last 18 months)

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## BACKGROUND

This section explores the leading practice landscape as demonstrated by 14 insurers recognised for taking proactive approaches to managing climate-related risks and opportunities across their underwriting, investment, and holistic risk management practices. The following eight key findings are drawn from our qualitative interviews and are supported by a comprehensive range of relevant supporting case studies.

## KEY FINDINGS

Proactive insurers are taking steps toward:



### FINDING 1

Developing climate-friendly products and services



### FINDING 2

Educating customers and communities on climate risk



### FINDING 3

Taking a holistic approach to climate risk management



### FINDING 4

Exploring climate risks facing life and health



### FINDING 5

Integrating climate science into risk models



### FINDING 6

Building climate into investment strategies



### FINDING 7

Driving industry partnerships and collaboration on key climate issues



### FINDING 8

Using TCFD to their advantage

## KEY FINDINGS

The following eight key findings explore the variety of ways insurers are responding to managing climate-related risks and opportunities. Our analysis finds that many insurers are still at early stages of their climate strategy journeys with only the most advanced having strategically integrated climate-awareness across all departments and business lines.

Even the most advanced respondents reflected on how much work lies ahead in ensuring their strategic responses remain robust, as well as the challenges involved in integrating forward-looking climate science into their risk management practices. However, the following examples of leading practice demonstrate how proactive companies in the industry are indeed starting to make progress in managing these complex challenges.



### KEY FINDING 1: DEVELOPING CLIMATE-SUPPORTIVE PRODUCTS AND SERVICES

Many general insurers discussed how their range of insurance products and services are evolving to respond to climate-related risks and opportunities. As outlined in case study 1.1, some insurers are designing products and services to encourage carbon-efficient product choices and behaviours by consumers. The intention of shifting consumer behaviour also highlights how the concept of 'impact' is starting to become embedded in product and service development. Other relevant emerging trends include eco-labelled products, developing innovative products to help introduce renewable energy technologies into new markets, and exploring customer demand for climate-aligned financial products.

## CASE STUDY 1.1: DEVELOPING PRODUCTS AIMED AT MITIGATING CLIMATE CHANGE



Ageas currently offers low-carbon insurance coverage options (such as bicycle coverage) and are developing services to help mitigate climate change by encouraging a change in consumer behaviour in favour of more carbon-efficient lifestyles.



Aegon are currently working with Cambridge University on a survey-based pilot project to better understand how to unlock the ESG preferences of their retail clients. Recognising the responsibility they have as a financial institution to educate their clients on financially material sustainability-related topics, Aegon hopes that this initial scoping exercise could ultimately result in unlocking stronger demand from retail clients for more climate-aligned financial products.

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ASR Nederland offers new mortgage loan clients an optional retrofit loan, which can be fully financed by their savings on energy costs. Existing mortgage clients are offered an energy consult, starting with the worst energy labels to help turn their home into the best energy label.

## Folksam

Folksam offers home and car insurance products that are certified according to Good Environmental Choice (owned and operated by the Swedish Society for Nature Conservation). Achieving the certification requires satisfying a range of criteria including working with reuse and environmentally friendly repairs, notifying policyholders about sustainable lifestyles and energy efficiency, and including negative selection in asset management. To date, over 1.3 million eco-labelled insurance policies have been issued by Folksam.



As part of its new Climate Change Strategy, Generali has recently committed to increasing its premiums from social and green products by 7%-9% by the end of 2021. By collecting information over a three year period, Generali has formulated its own internal definition for social or green products, which continues to evolve, and is based on the concept of prevention and mitigation. For example, green products (such as electric and hybrid cars) are only classified as green when the insurance product is successful in incentivising clients to purchase more climate-friendly assets (such as through offering premium discounts).



To help the industry drive the transition to a zero-carbon economy, Munich Re has established a 'Green Technology Solutions' unit dedicated to rolling out innovative insurance solutions, with a focus on helping new climate-friendly technologies break into the market. Some examples include a non-cancellable performance guarantee for 25 years for park operators and manufactures of photovoltaic modules, wind energy yield cover (that insures the availability and performance of turbines, as well as the wind resource) and performance cover for batteries (or energy storage, covering exceeding repair costs and replacement value of battery modules).

#### Case Study 1.1 (Continued)

Some insurers are starting to embed the concept of circularity into their claims processing by undertaking part repairs where possible and compensating

customers with repaired items instead of new items, as explored in case study 1.2

### CASE STUDY 1.2: INCORPORATING CIRCULARITY INTO CLAIMS PROCESSING

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ASR Nederland has incorporated the concept of circularity for P&C insurance into its claim-related repairs by attempting, where possible, to repair in a sustainable way (by repairing single items or undertaking part repairs) and making use of their sustainable network (including sustainable mechanics, for example).

### Folksam

In its claims processing, Folksam and its business partner GIAB have developed a method for re-using damaged products in the first instance and recycling them in the second instance. All damaged products that qualify for compensation (including glasses, furniture and mobile phones) are reused via reconditioning, repair, and resale. Through this process, around 90% of collected goods gain an extended service life. Since 2015, this circular strategy has saved around 3.7 tonnes of waste while also reducing costs and saving over 4,000 tonnes of CO2 emissions.



### KEY FINDING 2: RAISING CLIMATE RISK AWARENESS AMONG CUSTOMERS AND COMMUNITIES

Recognising the wider social value of their climate-related knowledge and expertise, our interviews revealed a range of initiatives designed to raise

awareness of climate-related risks not only among customers but the wider public. Case study 2.1 explores how such initiatives help build climate resilience among customers and communities against climate-driven extreme weather events. Some insurers noted that while such initiatives are likely to result in financial benefits (via a potential reduction in future

claims), they are also driven by other motivations such as being a good long-term business partner or having a wider responsibility to equipping vulnerable communities with potentially life-saving education and prevention advice. In some cases, insurers are also starting to share their expertise on certain low-carbon technologies to help stimulate the development of wider renewable energy markets. The examples

outlined in case studies 2.1 and 2.2 reflect how insurers are educating customers and communities on mitigation (efforts to prevent climate change) and adaptation (efforts to build resilience in adapting to climate-related impacts).

## CASE STUDY 2.1: EDUCATING CUSTOMERS AND COMMUNITIES ON CLIMATE-RELATED WEATHER EVENTS

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ASR Nederland has incorporated climate risk prevention into its initial risk assessment processes. For example, prospective clients for property coverage receive a visit from a risk assessor who advises on what steps could be taken to prevent climate-related damage.

## Folksam

Recognising that its customers are already affected by climate change, Folksam works in several ways to encourage damage prevention by their customers. On their website, Folksam offers advice for homeowners on how they can climate-proof their homes (for example, by building green roofs and improving drainage). In the case of extreme weather events, Folksam sends SMS messages to its customers to prevent injuries. By educating its customers on climate risk prevention, Folksam contributes to safer customers, reduced resource use, lower claims costs and ultimately lower premiums. Folksam is also encouraging debate with Swedish municipalities around their preparedness to deal with climate effects.



Recognising the increasing number of countries, companies and clients embracing sustainable energy generation, Generali started considering the renewable energy sector in its product offer among the full set of

insurance services/solutions. Given the complexity of the renewable energy market, with technologies and KPIs less developed than in traditional energy markets, Generali aims to better understand the drivers behind successful renewable energy examples and to ultimately cascade its in-house expertise and insights through to its clients to help stimulate the renewable energy sector development across both advanced and emerging economies.

## MS&AD

INSURANCE GROUP

MS&AD has collaborated with the University of Tokyo and Shibaura Institute of Technology to undertake the 'Large-scale Assessment of Flood Risk Due to Climate Change (LaRC-Flood™)' and publish a 'Map of Forecasted Flood Frequency Change due to Climate Change' as part of this project. Since flood risk is a major risk throughout Asia, the model is also available to the public. InterRisk Research and Consulting, MS&AD's group company, also provides services on how to use the data. MS&AD has also developed a weather information alert service for corporate policyholders, which sends out alert e-mails when forecasts for precipitation, wind speed and snowfall exceed predetermined thresholds at monitored locations as requested by the customer.

## Munich RE



Munich Re has developed a large risk tool of natural hazard assessment, called the NATHAN Risk Suite. This tool is available to clients and allows for the risk assessment of natural hazards from all around the world at both portfolio and specific location levels. While the database behind NATHAN has been based

on historical data, Munich Re is currently working on upgrading the database to incorporate forward-looking projections and climate-related scenarios. Munich Re also collects detailed data on both insured and uninsured losses stemming from natural disasters. This database is called NatCatSERVICE and the results are shared with the wider public.



Recognising that floods incur the highest impact of economic, social, and humanitarian losses relative

to other natural disasters since 2013 Zurich has built the 'Zurich Flood Resilience Alliance', a multi-sector partnership that focuses on finding practical ways to help communities strengthen their resilience to floods globally. The first phase of the program focused on reaching out to 225,000 beneficiaries across 9 countries, while the second phase aims to support the generation of USD\$1 billion in additional funding into pre-event resilience (recognizing that each USD \$1 invested saves USD \$5 in future losses). The initiative shares best-practice community programs in resilience-building, compiles best practices, and advocates for further investment from public and private funders.

#### Case Study 2.1 (Continued)

Our interviews revealed that on the underwriting side, insurers are generally more aware and responsive to climate-related physical risks for their general portfolios than their life and health portfolios. However, as case study 2.2 illustrates, some insurers are starting

to respond by actively educating both customers and communities on health and life risks presented by climate change, from pollution to the spread of vector-borne diseases.

### CASE STUDY 2.2: EDUCATING CUSTOMERS AND COMMUNITIES ON CLIMATE-RELATED LIFE AND HEALTH IMPACTS



Aviva Poland has supported the installation of 300 air monitors in local communities and near schools and enabled customers as well as the general public to access up to date information about air pollution on their smartphones. Customers who use the app are entitled to a premium discount on their life insurance policies, which has resulted in a significant uptake in life products in these areas. Aviva is exploring similar initiatives in other regions.



### PRUDENTIAL

Prudential has recently launched a new digital health app, called Pulse, which uses artificial Intelligence-powered self-help tools and real-time information to provide holistic health management to Asian consumers. Recognising that climate change may be driving an increase in cases of dengue fever in Malaysia, the app also functions as a dengue GPS locator, allowing users to know when they are entering high-risk zones. The app also helps users identify early symptoms and offers preventative measures.



### KEY FINDING 3: TAKING A HOLISTIC APPROACH TO CLIMATE RISK MANAGEMENT

Insurers have been criticised for their "cognitive dissonance" concerning how they have considered and responded to climate risks separately across their balance sheets.<sup>27</sup> However, our interviews uncovered a range of initiatives and examples whereby insurers are

pursuing connected thinking and responses to climate-related issues across departments and portfolios. Nearly all respondents referred to having developed some kind of cross-functional initiative (including committees, working groups, and taskforces) focusing on climate-related issues, though most remain at early stages. The two examples explored in case study 3.1 reflect some of the most sophisticated cross-functional initiatives identified throughout the interviews.

### CASE STUDY 3.1: DEVELOPING CROSS-FUNCTIONAL CLIMATE INITIATIVES



Aegon have established a Climate Change Working Group (CCWG) as the primary body responsible for assessing and monitoring climate-related issues within the company. The working group comprises members from different functional areas across the company including investment portfolio risk management, operational and underwriting risk management, investment analysis, investor relations and reporting, group strategy and sustainability, public affairs, and responsible investment. To ensure it provides most value, the group is working to set clear responsibilities, accountabilities and mandates for each member. Aegon also recognises the educational value of a cross-functional working group, where members are able to learn from other departments. Where knowledge gaps exist, external expertise speakers are brought in to share their insights; for example, in July 2019 the group hosted an educational workshop on the science of climate change, scenario analysis, and understanding climate risk from an investment and insurance perspective.



Zurich convenes a cross-functional and multi-disciplinary group to conduct an annual group-wide assessment of climate-related risks using their proprietary Total Risk Profiling (TPR) approach. Involving subject matter experts from different business areas, this annual assessment involves using both internal and external information to evaluate specific climate risk impacts. The assessment includes both physical and transition risk pathways, which are considered in combination, and also identifies specific actions to be taken across the group and by different business areas. This combined governance and risk management approach ensures climate risk is managed in a consistent fashion to other risks Zurich is exposed to.

While some insurers have developed climate policies that just cover their investment portfolios, only the most advanced have already developed ambitious,

sophisticated and inter-connected climate policies that holistically cover all key departments and businesses, as outlined in case study 3.2.

### CASE STUDY 3.2: DEVELOPING GROUP-WIDE CLIMATE POLICIES



Zurich has developed a holistic group-wide climate policy that comprises seven strategic pillars designed to provide the tools, ideas, and plans to respond as needed to climate change across both liability and asset sides. The policy is designed to allow a different priority mix each year moving forward to respond to both climate mitigation and adaptation as well as the manifestation of both physical and transition risks. To help guide their response, their macroeconomic team reviews a range of climate scenarios (from IPCC and IEA) to construct

a dashboard that is updated annually, which assesses global progress against a range of scenarios (1.5-2 degree outcome) from a rapid low-carbon transition to a business as usual scenario (with 4-6 degree outcome). The seven pillars cover working with clients and stakeholders, developing new insurance and risk management solutions, integrating climate risks into its investment strategies, minimizing the environmental impact of their own operations, advocating for low-carbon aligned public policies, and implementing the TCFD Framework. Zurich is also the first insurer to commit to set targets in the framework of the UN Global Compact Business Ambition Pledge that aims at limiting anthropogenic global warming to 1.5 degrees above pre-industrial levels.

Similarly, while some respondents are undertaking forward-looking climate scenario analysis (in line with the TCFD recommendations) for their investment portfolios, only the most advanced have developed group-wide approaches, as explored in case study 3.3.

### CASE STUDY 3.3: UNDERTAKING GROUP-WIDE CLIMATE SCENARIO ANALYSIS



Aviva has developed a climate Value at Risk (VaR) methodology that seeks to provide a holistic forward-looking view of climate-related transition and physical risks across the whole group (covering both underwriting and investment portfolios). The methodology was developed in conjunction with the UNEP FI investor pilot project, Carbon Delta, and Elseware, to enable measurement of the potential business impacts of future climate-related risks and opportunities in each of the IPCC scenarios (1.5, 2, 3, and 4 degrees) and in aggregate. Part of

this process involved working with external natural catastrophe modelling vendors to recondition the models to consider how outputs might change under different forward-looking climate scenarios. Aviva also developed their own in-house assessment for insurance liabilities as well as for assets not covered by external data providers, such as sovereign debt (see case study 6.6). The assessment under each scenario found the impact on liabilities is more limited than on investment returns. Aviva anticipates this approach will continue to evolve and improve in light of new research and data becoming available as well as emerging best practices over the coming years.

Another area where insurers are developing group-wide policies is around fossil fuels. As outlined in case study 3.4, insurers are already publishing formal policies on the treatment of fossil fuels (mainly covering thermal coal, but in some cases also oil sands and pipelines) across both investment and underwriting portfolios. More sophisticated policies include time-

bound phase-out strategies with clear processes for eliminating exposure across listed equity and debt investments, as well as underwriting contracts. However, among the fossil fuel policies adopted by insurers across the industry there remain considerable gaps and loopholes.<sup>28</sup>

### CASE STUDY 3.4: DEVELOPING GROUP-WIDE FOSSIL FUEL POLICIES



In 2018, Generali published its coal policy outlining its ambition to divest its €2 billion exposure to the coal sector by phasing out equity assets by April 2019 and bond investments by bringing them to maturity and considering the possibility of divesting them before maturity. Generali has published its exposure to coal across both its underwriting (0.1% of non-

life premiums) and investment (0.02% of general account) portfolios. For coal-dependent companies where Generali is involved both as an underwriter and investor, Generali undertakes robust engagement in line with a 'just transition' (see case study 6.5 for further details).



In May 2019, NN Group released its Statement on Coal which outlines time-bound phase-out plans from thermal coal for both its investment and underwriting

portfolios. For its general account assets, NN has committed to reducing its investment exposure to thermal coal to between 0-5% by 2030. On the underwriting side, NN will apply exclusionary criteria of 30% revenues from thermal coal mining (or thermal coal for power generation) which will also phase down to 5% by 2030. In parallel, NN Group's asset manager will intensify its engagement on the low-carbon transition with power generation companies (see case study 6.5). This coal policy builds on NN's previous commitments to exclude oil sands from its investment portfolio.



Zurich has published a fossil fuel policy that generally excludes underwriting or investing in companies with a greater than 30% exposure to thermal coal, oil sands, or oil shales. Engagement to drive change is core in this policy. Where Zurich has existing exposure to these companies, it has committed to a 2 year dialogue period with the aim to drive a deeper conversation regarding their credible mid to long-term transition plans.

#### Case study 3.4 (Continued)

Beyond formal group-wide climate policies and risk assessment approaches, our interviews revealed a range of examples where insurers are already connecting departments on climate-related issues. The most common approach, as explored in case

study 3.5, involves leveraging physical risk expertise from the underwriting side to better understand similar risks on the investment side, particularly for property and infrastructure.

#### CASE STUDY 3.5: APPLYING CLIMATE EXPERTISE ACROSS THE BALANCE SHEET



Aviva has started exploring how it can better leverage its physical risk expertise from its property insurance book to consider their physical risk exposure across its investments in property and real estate, as well as loans linked to real estate. By considering their physical risk exposure on both asset and liability sides, Aviva seeks to develop a more coherent and cohesive view of risk and to better understand its concentrations.



To help meet its strategic objective of engaging with stakeholders around a 'just transition' (see case study 6.5 for further details), Generali created an internal working group comprising individuals from underwriting, investment, and head office departments to pool its technical expertise of coal companies.



INSURANCE GROUP

MS&AD's Corporate Planning department works closely with InterRisk Research and Consulting, MS&AD's group company, to disseminate understanding of ESG issues across group underwriting and investment departments. InterRisk's intelligence and experience supports the enhancement of MS&AD's ESG activities.



On the risk side, Munich Re already applies its global knowledge of physical risks from the corporate underwriting side to better understand, assess, and manage the physical risks in its investment portfolio, particularly for direct alternative investments. On the opportunities side, Munich Re has for some years run a program called RENT (Renewable Energy New Technology) for its investment portfolio, which has focused on accelerating investments in renewable energy opportunities. The positive experience of the program motivated Munich Re to widen the approach

to other investment segments. Applying in-house competence from its underwriting business like e.g. engineering, geological, weather/climate-related expertise has helped Munich Re to develop its due diligence process for its infrastructure investments, which has since been further developed into an 'Infrastructure Risk Profiler' also available to external clients.



To share internal expertise around the theme of offshore wind, in the last two years NN Group has brought together experts from the underwriting and investment sides to share knowledge and learn from each other.

Case study 3.5 (Continued)

#### **KEY FINDING 4: EXPLORING CLIMATE RISKS FACING LIFE AND HEALTH**

Our interviews revealed there is better quality climate-data availability for general insurance portfolios as



SCOR's investment team works with their colleagues in P&C to assess the physical risk exposure in its investment portfolio for real assets such as real estate and infrastructure. SCOR has also partnered with the French Federation of Insurance to leverage this knowledge and develop a simple model to help other insurers in France understand physical risk exposures in their own investment portfolios (see case study 7.1). When assessing ESG criteria, SCOR also uses the same data providers on investments and business to ensure views on the asset side are consistent with the liability side. Key climate-related information is also shared between departments to ensure they are moving in the same direction.

compared to life and health portfolios (as already noted in key finding 2). Some have responded by proactively trying to improve their understanding of how climate change may impact their life and health insurance businesses, as explored in case study 4.1.

#### **CASE STUDY 4.1: EXPLORING CLIMATE RISKS FACING LIFE AND HEALTH**



Recognising that climate change may pose more significant risks for its life insurance book than its general insurance book, Aviva has begun to explore in more detail the potential impacts of climate change for its life business. Following a comprehensive literature review, Aviva is considering how different climate scenarios may impact its life insurance and retirement businesses, which provide cover up to 30 years. By elevating climate change as a priority topic within its in-house longevity research unit, Aviva is researching how various climate scenarios may impact mortality expectations. In addition to investigating the implications of physical risks, Aviva is also considering how transition risks

could impact mortality rates. For example, pollution levels may vary between low-carbon transition scenarios depending on which renewable energy sources feature in the energy mix.



## KEY FINDING 5: INTEGRATING CLIMATE SCIENCE INTO RISK MODELS

To help assess and price risks such as natural catastrophe risk or economic risk, insurers use risk modelling software (either developed in-house or licensed from third-party vendors) that tend to rely on observed data.<sup>29</sup> Unlike other risks, climate risk has no historical precedent and remains subject to uncertainty

as to how, when, and to what degree climate risks will manifest. As such, insurers face a substantial challenge in merging risk models that have been based on historical data with forward-looking climate science. Some insurers, however, are taking innovative steps toward integrating climate science into their risk models whether through upgrading in-house models or challenging third-party providers, as explored in case study 5.1.

### CASE STUDY 5.1: INTEGRATING CLIMATE SCIENCE INTO RISK MODELS

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In 2018, ASR Nederland conducted a pilot with Ortec Finance to integrate top-down climate scenario analysis into its long-term economic models, which underpin its annual strategic asset allocation optimization under Solvency II. The same economic models are also being used by the enterprise risk department for medium and long-term planning. The integration of these global warming scenarios (ranging between 1.5 and 4-degree outcomes) help ASR Nederland to make better investment decisions for allocations to asset classes, regions, and sectors, thereby constructing a more resilient investment portfolio. The pilot also helps position ASR Nederland to better identify climate-related risks and opportunities across its business lines.



Munich Re's climate modelling experts in corporate underwriting work with a number of forward-looking qualitative climate scenarios, such as the IPCC's 2.6, 4.5, and 8.5 Representative Concentration Pathways (RCPs), which are included in their modelling.

## MS&AD

INSURANCE GROUP

MS&AD is in the process of introducing some climate-change elements into its stress test analysis, which typically has been based on historical data. By introducing more forward-looking assumptions around extreme weather events (such as their intensification and acceleration), MS&AD hopes to be able to better consider climate change-related impacts over the long term. MS&AD is also currently cooperating with third-party risk modelling vendors to develop more sophisticated disaster-risk models around windstorm and flood risk by integrating MS&AD's historical data with the vendor's modelling expertise.



NN Group pro-actively assesses the (potential) risks its portfolio is exposed to. For example, for non-life insurance, NN requested their risk model providers to incorporate the Royal Netherlands Meteorological Institute precipitation forecast on the belief that rainfall will change as time progresses. Furthermore, although flood is not a covered peril in the Netherlands, NN assessed this risk and the potential impact to its portfolio. This is done to ensure NN is on top of any emerging trends and their corresponding results and (potential) impact on the NN portfolio. Furthermore, third-party model providers are being challenged by this to continuously develop and improve their meteorological models.



## KEY FINDING 6: BUILDING CLIMATE INTO INVESTMENT STRATEGIES

Recognising the exposure of their investment portfolios to climate-related physical, transition, and liability risks, respondents have taken a variety of measures

to integrate climate awareness into their investment practices. At a high level, some have committed to aligning their investment portfolios with the goals of the Paris Agreement and committing to [Science-Based Targets](#) for investors, as explored in case study 6.1.

### CASE STUDY 6.1: DEVELOPING HOLISTIC PARIS-ALIGNED INVESTMENT STRATEGIES

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ASR Nederland has committed to aligning its investment portfolio with the goals of the Paris Agreement, and since 2016 has included climate change and the energy transition as a theme in its investment policy. ASR Nederland is extending its top-down climate scenario analysis (see case study 5.1) with scenario analysis at an asset level (leveraging local data) in 2019, which will be combined to set up Science-Based Targets by 2021 that will be included in its implementation of the TCFD Framework. ASR Nederland has also committed to undertaking carbon footprinting (including Scope 3) of its entire (> 95%) investment portfolio by 2021.



Legal & General has publicly supported the aim of the Paris Agreement and committed in 2019 to setting emission-reduction targets to align its own investment portfolio with a well below 2-degree pathway. To develop these targets Legal & General will complete a granular sector assessment of the transition and review the largest stock-specific contributors to their carbon footprint in combination with forward-looking climate scenario analysis. They have agreed on a number of coal exclusions that will go into their Investment Management Agreements (see case study 6.4) and additional governance around proposed higher carbon investments.

Many insurers with asset management businesses have developed investment products that integrate climate-related risks and opportunities. As explored

in case study 6.2, some of these products are not only applied to insurers' proprietary investments but are available to outside investors such as pension funds.

### CASE STUDY 6.2: BUILDING AND PROMOTING CLIMATE-THEMED INVESTMENT PRODUCTS



Aegon Asset Management has recently launched a fixed income strategy in the US which factors in climate-related elements. The 'Sustainable Fixed Income Strategy' invests in issuers that contribute to, and may benefit from, the long-term sustainability of the global economy, environment, and society. This strategy applies a proprietary research framework that identifies opportunities within corporate credit,

structured securities, and sovereign bonds across a range of sustainability themes including climate change, eco solutions, resource efficiency, health and well-being, inclusion, and sustainable growth. This strategy has a strong focus on issuers' products that are aligned with the low-carbon transition.



To further integrate climate-related elements into their equity portfolios, in 2018, CNP Assurances developed two new model portfolios in collaboration with La Banque Postale Asset Management (LBPAM) and

Mirova (Natixis Investment Managers) that are heavily weighted in companies that contribute to the energy and environmental transition. These products follow a best-in-class strategy as not to exclude any sectors from the real economy.



Legal & General's asset management business, LGIM, has developed a Future World product range that provides investment offerings in every asset class (equity, bonds, real assets and multi-assets) and strategy (active and index-tracking funds). Climate change is the most prominent theme incorporated across the range, both from a risk perspective and in terms of investing in low-carbon solutions. In addition to considering long-term themes and a strong focus on ESG scoring, active engagement on climate issues is a distinctive feature of these products (see case study 6.5). Having already investing £450 million of its own insurance assets into the Future World product range, Legal & General Group has evidenced its support for these products within LGIM thereby promoting them further to outside investors. Legal & General recognizes this product range is relevant for other investors looking for a 'one-stop-shop' solution to integrating climate considerations into their portfolios.



NN Group's in-house asset management company, NN Investment Partners (NN IP), has developed a green bond fund, the NN (L) Euro Green Bond Fund, which has rapidly grown into one of the world's largest open-ended green bond funds. This fund has also established a dialogue with corporate and sovereign bond issuers on how to best structure green bonds. In 2018, NN IP also launched the NN (L) European Sustainable Infrastructure Debt Fund, which finances five core sectors (social infrastructure, transport, energy assets, utilities, and digital infrastructure) with a focus on promoting increased efficiency, improved resilience, and reduced carbon intensity



## PRUDENTIAL

In 2018, Prudential's UK and Europe investments and savings business, M&GPrudential, launched two new retail funds that both employ a structured approach to ESG and invest in companies aligned with the UN's Sustainable Development Goals. The M&G Positive Impact Fund aims to deliver both environmental and social impact alongside financial returns by focusing on investment credentials, intention, and impact. The fund invests in companies focused on areas including climate action, pollution reduction, circular economy, health and wellbeing, education and innovation, and working conditions. Prudential is also seeking to introduce a similar range of products for its Asian business.

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### Case study 6.2: Building and promoting climate-themed investment products (Continued)

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Our interviews also reveal how some insurers are proactively and strategically increasing their low-carbon aligned investments, which in some cases represent over six per cent of their proprietary investments. Research from ShareAction/AODP in 2018 revealed that on average, insurers invest less than 1 per cent in low-carbon investments.<sup>30</sup> Case study 6.3 explores how some insurers are starting to scale their low-carbon investments across a range of asset classes.

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## CASE STUDY 6.3: STRATEGICALLY INCREASING LOW-CARBON INVESTMENTS



Ageas has integrated climate awareness into its real estate portfolio by developing green buildings (that adhere to the highest efficiency standards in Europe) and also investing in parking facilities, which feature electric vehicle charging options as well as air purification systems.



CNP Assurances has committed to investing €5 billion in investments aligned with the Energy and Ecological Transition by 2021, which include green infrastructure, green bonds, energy-efficient buildings and forests. To date, these investments have totalled €3.1 billion. In addition, CNP Assurances has committed to reducing the footprint of its €12 billion direct equity portfolio by 47% by 2021, as well as the GHG emissions linked to energy consumption of its directly held property assets (representing over €13 billion) by 40% between 2006 and 2021.

## Folksam

In 2018, Folksam achieved its target of investing SEK 25 billion (€2.4 billion) in green bonds, representing 6% of its general account, and making it one of the world's largest private investors in green bonds. For all its green bond investments Folksam requires that they must satisfy the Green Bond Principles (which aim to improve transparency and reporting), to which it is also a signatory. In early 2019, Folksam also reduced the number of companies in its foreign equity portfolio from 1,300 to 500 while also reducing the carbon footprint of the SEK 80 billion portfolio by 20%. In addition, the weight of the energy sector was reduced by half to reduce climate risk exposure (which included removing companies with a greater than 10% exposure to oil sands or 30% exposure to thermal coal). Reducing the portfolio also allows Folksam to consider more active engagement on the green transition, and other issues, with the remaining constituents.



As part of its revised Climate Change Strategy, Generali has recently upgraded its initial commitment of €3.5 billion in green and sustainable investments by 2020 to €4.5 billion by 2021, which will be made mainly in bonds and infrastructure.



SCOR has strategically invested over 6% of its general account in low carbon aligned solutions, mainly comprising green direct real estate. The reinsurer operates a business model in which properties (mainly located in Paris) are purchased, updated to adhere to high-quality environmental standards such as HQE or BREEAM, and are eventually sold at a premium after a period of 5 to 7 years on average. SCOR also actively invests in green bonds, infrastructure debt to finance the low-carbon transition, and real estate debt to finance green buildings. SCOR also invests in insurance-linked-securities, which contribute to the financing of reconstruction after natural catastrophes, thereby improving the resilience of communities and societies



**ZURICH**

Zurich is supporting to the transition to a low carbon economy by committing to invest up to USD\$5 billion in impact investments with a corresponding target to annually avoid 5 million tonnes of carbon emissions and benefitting 5 million people. The impact investing target is across a range of sustainability themes but allows a strong climate angle. Committing to an impact investing target has also forced Zurich to measure that impact and deep dive into how that can be done and to help steer their impact across asset classes. From a climate perspective, Zurich is actively investing in green bonds, green infrastructure debt, green buildings, and impact private equity vehicles.

Some insurers are starting to take bolder actions to hold their asset managers to account on how they integrate climate-related factors into their investment decisions. Case study 6.4 explores how some

insurers are upgrading their Investment Management Agreements (IMAs) and developing climate-relevant performance targets.

#### CASE STUDY 6.4: HOLDING ASSET MANAGERS TO ACCOUNT ON CLIMATE INTEGRATION

## Folksam

Folksam is in the process of defining and setting sustainability targets, which will incorporate climate-related elements that will apply for all asset classes. The sustainability targets will sit alongside the existing return on investment targets for asset management.

Our interviews also reveal how insurers are strategically elevating climate factors in their company engagement practices, both across listed equity and debt. Case study 6.5 explores voting approaches to both traditional and climate-related shareholder resolutions, the growing role of collaborative initiatives



Legal & General intends to further hold its external managers to account on climate-related issues by embedding a focus on climate risk in their Investment Management Agreements (IMA's) that group businesses have with LGIM and other external fund managers. The updated IMAs will include applying exclusions to companies exposed to thermal coal, and applying constraints on stocks excluded from the LGIM Future World product range (see case study 6.2).

such as [Climate Action 100+](#), strategic targeting of high-carbon sectors, and emerging themes such as the 'just transition' (a concept that considers how workers and communities are supported in a low-carbon transition where fossil fuel-dependent industries are replaced by more sustainable alternatives).

#### CASE STUDY 6.5: ELEVATING CLIMATE IN COMPANY ENGAGEMENT



For engagement with companies involved with their new sustainable fixed income strategy (see case study 6.2), Aegon wants to focus on the opportunities rather than risk management (such as disclosure). By focusing on increasing underlying business lines and products that are inherently sustainable and aligned with the low-carbon transition, Aegon's corporate debt engagement strategy aims to strategically increase the number and quality of low-carbon aligned products and solutions available in the real economy. This engagement strategy recognises that most of the carbon footprint produced by companies come from the use of their actual products.



Aviva has recently updated its voting policy, which expects companies to begin reporting climate risks, strategy, policies, and performance against the TCFD recommendations (including stress testing of business models and assets against a range of climate scenarios). Aviva will also begin voting against the annual report and accounts of companies in high impact sectors who are making insufficient progress in providing such disclosures. Recently, Aviva also brought back the voting rights for the passive book for its policyholders, to allow for stronger engagement and help signal to other investors that targeted climate-related engagement is possible for passive

portfolios. Aviva is also considering how to extend its engagement program to include sovereign issuers, where Aviva has a large exposure, and who play a vital role in helping achieve the goals of the Paris Agreement.

## Folksam

Over the last two years, Folksam asked questions about the TCFD and climate-related risks and opportunities to the CEOs of around 50 companies in Sweden at their Annual General Meetings. Asking a similar question over consecutive years allows Folksam to either applaud progress made or push back on a lack of advancement. Folksam follows up the AGM questions for subsequent information while maintaining an ongoing dialogue with selected companies. Folksam also files climate-related resolutions and is the lead investor for one Finnish Company as part of the Climate Action 100+ initiative in addition to undertaking an active engagement program for the steel and cement sector. Folksam also shares climate-related engagement best practice with peers from Norway, Denmark, and Sweden through the Nordic Engagement Cooperation.



One of the three pillars of Generali's [Climate Change Strategy](#) centres on robust company engagement for a 'just transition' across a selection of six coal companies in coal-dependent countries (across Eastern Europe) yet to develop a transition plan. Companies are selected where Generali is involved both as an underwriter and investor. Harnessing the technical expertise of a cross-departmental working group (see case study 3.5), Generali meets a selection of companies to better understand their transition plans toward a low-carbon economy and encourage stronger progress. Following a first-step detailed questionnaire, Generali meets the companies (often Generali's Chair meets the companies' CEOs in person) to better understand areas including emissions KPI's, how the plant works, future plans and strategy, and forecasts of expenses and capital expenditures. The engagement program

focuses on energy mix, emissions reduction and protection for workers and communities, and where transition commitments have been made, progress is periodically assessed. In some cases, where progress is unsatisfactory, Generali has decided to close its exposure.



Legal & General's asset management business, LGIM, has developed a unique engagement program called the 'Climate Impact Pledge, which aims to address climate change and help companies transition to a low-carbon economy. This program has strategically targeted a selection of companies across six sectors (oil and gas, mining, electric utilities, autos, food retail, and financials) which are then scored over 170 indicators (compatible with the TCFD Framework) and then contacted to discuss improvements with constructive feedback based on current disclosures. Some requests come with a 12-month limit to publicly demonstrate tangible action with failure to comply resulting in voting against the chair of the board across the entire equity holdings of LGIM and ultimately divesting from the Future World Fund product range and the Group's own investment portfolio (see case study 6.2). Legal & General also engages via collaborative platforms such as through IIGCC and PRI networks, and through Climate Action 100+.



NN Group's asset management company NN Investment Partners (NN IP) has recently updated its voting policy to bring a stronger emphasis on climate change. For example, votes are cast against the re-election of board members for companies in carbon-intensive sectors that do not disclose their carbon emissions. Furthermore, NN IP asked company boards at several AGMs to commit to the Climate Action 100+ program (of which NN IP is also a participant). NN IP has also made a point of engaging on climate-related issues across both listed equity and corporate debt. In general, NN IP follows an 'engagement-led divestment

approach' and undertakes sector-specific engagement programs. For example, 20 power utility companies were engaged with over a three-year-period to 2018 and NN IP is currently engaging with companies in the oil and gas sector.



SCOR is currently exploring bond engagement platforms as a potential channel for discussing with

issuers how to make their businesses more resilient. Recognising the substantial financing that insurers provide as large purchasers of corporate bonds, SCOR believes that collaborative engagement on the debt side could help encourage businesses to evolve in line with a low-carbon transition.

#### Case study 6.5 (Continued)

Some insurers are innovating in the climate risk management of their investment portfolios by focusing on previously neglected asset classes such

as sovereign bonds, and using strategic composites of 2-degree climate scenarios, as explored in case study 6.6.

### CASE STUDY 6.6: INNOVATING IN THE CLIMATE RISK ASSESSMENT OF THEIR INVESTMENT PORTFOLIO



To improve its monitoring of sovereign risk, where Aviva has a large exposure, Aviva has used the Notre-Dame University's Notre Dame-Global Adaptation Index (ND-GAIN) to measure its sovereign holdings exposure to climate-related risks and opportunities. Aviva combines ND-GAIN scores, which measures a country's vulnerability to climate change and its readiness, with its in-house view to develop an assessment of what climate-related impacts would be on different sovereigns under different scenarios. This initiative helps Aviva to consider climate risks more holistically across its investment portfolio.



For three years, CNP Assurances has been comparing its objectives and engagements against a range of 2-degree scenarios, recognizing that trajectories differ between sectors and activities. Progress is tracked and reported against scenarios such as those provided by the IEA, WEO, or France's national scenario, depending on the objective or activity (including thermal coal exclusions, GHG emissions reductions, and various low-carbon aligned investment approaches). This approach allows CNP Assurances to determine which scenarios and sectors are best aligned for each of their engagements.



#### KEY FINDING 7: DRIVING COLLABORATION ON KEY CLIMATE ISSUES

Nearly all insurers noted the importance of collaborative initiatives in their strategic climate responses. Case study 7.1 explores how insurers are collaborating on climate-related issues across a wide range of themes (public policy, unlocking

clean infrastructure investments, and next-generation climate methodologies) and stakeholders (insurers, academics, development banks, policymakers, and financial regulators).

## CASE STUDY 7.1: DRIVING INDUSTRY PARTNERSHIPS AND COLLABORATION ON KEY CLIMATE ISSUES



Aegon plays an active role in the climate-related public policy debate in the Netherlands, recognising that as a major corporation they have a responsibility to contribute towards supporting climate-aligned public policies. Aegon also uses its involvement in Dutch financial institution collaborative initiatives, such as DUFAS (Dutch Fund and Asset Management Association), to contribute to a single powerful voice in the Netherlands on the financial sector's response to climate change and how it can support the objectives of the recent Dutch climate agreement ('klimaatakkoord').



MS&AD is a founding member of the Japan Climate Initiative, which allows Japanese non-state actors tackling climate change to comprehensively network, pursue a wide range of activities in Japan, and disseminate information both within the network and internationally. In 2018, MS&AD also held a symposium on climate change and the Sustainable Development Goals that brought together intellectuals and specialists to share their insights on these topics.



To help promote investment in renewable energies in Africa, Munich Re is working with the European Investment Bank (EIB) and the African Trade Insurance Agency (ATI) under the umbrella of the African Energy Guarantee Facility (AEGF). The AEGF offers protection against credit and political risks (offering insurance capacity of US\$1.4bn) in order to facilitate private investment in the context of the UN Sustainable Energy for All (SE4All) initiative. Munich Re and its subsidiary Sustainable Finance Risk Consulting (sfr consulting) hereby act as an agent and follow European Union standards in environmental and social (E&S) insurance risk analysis.



In 2018, NN Group committed to helping Dutch municipalities make their public-use real estate (such as schools and town halls) more carbon efficient. Together with BNG Bank (a Dutch bank for the public sector) and Bewust Investeren BV, NN Group developed a special financing proposition to make community real estate more sustainable. This initiative intends to measure progress against impact KPIs, to be developed in partnership with Dutch academic institutions, and linked to the SDGs. NN is also actively involved in financial market collaborative led by the Dutch Central Bank, whereby they have shared their experience around implementing the TCFD Framework with financial peers.



### PRUDENTIAL

Leveraging its understanding of climate-related risk from its UK asset management business, Prudential is taking a proactive role in helping share its awareness of financial-related climate risks with investors and regulators in South-east Asia. Prudential has participated in roundtables led by the Monetary Authority of Singapore (MAS) to help raise awareness of climate risk in the region and promote ESG integration in investment strategies. Prudential is also an active member of the Sustainable Development Investment Partnership (SDIP), which as one of its goals strives to encourage governments across South-East Asia to help unlock clean infrastructure projects for emerging markets.



SCOR is co-chairing a Geneva Association working group on Extreme Events and Climate Risk focusing on how to push forward modelling capabilities in terms of both climate and transition risks by gathering academics, modellers, investors, and other related stakeholders. SCOR is also active on an EIOPA (the European Insurance and Occupational Pension Authority) working group around climate risk and is steering a workshop by the French Federation of

Insurance Companies (FFA) on how to better consider climate risk in investment portfolios. As part of the FFA workshop, SCOR invited a colleague from its P&C modelling to explain physical risk, how their own assessment was conducted, and how they developed a simplified model to help French insurance peers assess their own physical risk exposures. SCOR is also a member of the Technical Expert Group on Sustainable Finance and participates on the EFRAG Lab project task force on climate-related reporting.



Zurich recognizes that in the insurance sector, Science-Based Targets do not yet exist for either underwriting or investment portfolios. However, Zurich is playing an active role in developing an industry methodology for measuring the carbon footprint of liabilities and investments to enable the setting of such targets.

#### Case study 7.1 (Continued)



#### KEY FINDING 8: USING TCFD TO THEIR ADVANTAGE

Nearly all interview participants noted the important role the TCFD Framework played in helping develop the climate strategies featured throughout this report. Some of the cross-functional initiatives explored in case study 3.1 were developed in response to the TCFD Framework. A common response around the

utility of the TCFD Framework was that it helped develop holistic thinking on climate-related issues by stimulating discussions across departments and business lines. Some insurers have taken a step further by integrating the Framework into company engagement (as explored in case study 6.5), while others have already published TCFD-aligned disclosure (see figure 15).

#### TCFD-ALIGNED DISCLOSURE FROM SELECTED RESPONDENTS

<b>Aegon</b>	<a href="#">TCFD section in 2018 Responsible Investment report</a>
<b>Aviva</b>	<a href="#">2018 Climate-related financial disclosure report</a>
<b>CNP Assurances</b>	<a href="#">TCFD integrated into 2018 Sustainable Investment Report</a>
<b>Folksam</b>	<a href="#">TCFD integrated into 2018 Climate report</a>
<b>Legal &amp; General</b>	<a href="#">TCFD report 2018</a>
<b>NN Group</b>	<a href="#">TCFD section in 2018 Annual Review</a>
<b>SCOR</b>	<a href="#">TCFD integrated in 2018 ESG Report on Investments</a>
<b>Zurich</b>	<a href="#">TCFD-aligned disclosure via dedicated webpage</a>

Figure 15: TCFD-aligned disclosure from selected respondents

Some of the respondents noted their involvement in a [pilot working group led by the UNEP FI](#) on developing the next-generation of climate-related analytical tools for the underwriting side to help inform implementation of the TCFD Framework. However, some insurers

emphasised that while TCFD is valuable in improving climate-related disclosure, it should be considered as a step toward rapidly decarbonising the real economy and not an end in itself.

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## BACKGROUND

This section explores seven barriers commonly faced by our respondents in managing climate-related issues. These barriers are relevant for all insurers interested in how to best manage climate-related risks and opportunities.

### COMMON BARRIERS

-  **Common Barrier 1**  
Issues around climate-related data
-  **Common Barrier 2**  
Weak demand for climate-supportive insurance products and services
-  **Common Barrier 3**  
Capital requirements yet to directly reflect climate risk
-  **Common Barrier 4**  
Shortage of investable clean infrastructure opportunities
-  **Common Barrier 5**  
Inconsistent climate progress within and between regions
-  **Common Barrier 6**  
Lack of pressure from insurers' investors on climate issues
-  **Common Barrier 7**  
Misaligned time horizons



## **COMMON BARRIER 1: ISSUES AROUND CLIMATE-RELATED DATA**

Concerns around climate-related data, metrics, and methodologies emerged as one of the most common barriers facing insurers, as outlined in the table below.

### **COMMON DATA-RELATED BARRIERS FACED BY INSURERS**

**Lack of climate-related data and footprinting methodologies for underwriting portfolios.**

**Lack of methodologies and metrics around tracking impact.**

**General climate-related data issues around quality, availability, and frequency.**

**Lack of climate-related data on physical risks (especially at local levels).**

**Issues in integrating forward-looking climate scenarios with risk models based on historical data.**

**ESG ratings often backward looking.**

**Lack of climate-related data linked to life and health businesses.**

**Challenges around making natural catastrophe data decision-useful for investors.**

Many respondents noted there is less climate-related data available for underwriting portfolios as compared to investment portfolios. Some have responded by participating in collaborative initiatives, such as [UNEP FI's pilot working group for insurers](#), which seeks to develop a new generation of climate-related data tools relevant for underwriting. Furthermore, within data-availability for underwriting, respondents also noted that there is less climate-related data available for life and health portfolios, as compared to general portfolios. This has prompted some insurers to increase their efforts to address this gap (as outlined in case study 4.1).

Another significant barrier pertaining to climate-data relates to the challenges in integrating forward-looking climate science with risk models that have tended to rely on historical data. One respondent noted that this challenge essentially involves the merging of two categorically different sciences (risk forecasting based on observed data and forward-looking climate science). Some respondents have responded by taking proactive steps toward upgrading their existing models or challenging third-party vendors (as explored in case study 5.1).



### **COMMON BARRIER 2: WEAK DEMAND FOR CLIMATE-FRIENDLY INSURANCE PRODUCTS AND SERVICES**

Nascent consumer demand for new products and services designed to support the low-carbon transition was also identified as a barrier by respondents, often attributed to a lack of awareness from consumers about climate risk. This has prompted some respondents to escalate their education efforts around climate risk as explored in case studies 2.1 and 2.2. However, many respondents expect demand for such products to increase over the coming years and continue to innovate in developing a new range of climate-friendly insurance products and services, as explored in case study 1.1.



### **COMMON BARRIER 3: CAPITAL REQUIREMENTS YET TO DIRECTLY REFLECT CLIMATE RISK**

Some respondents subject to the capital requirements required under Solvency II in Europe noted that the current configuration does not incentivise investments in long-term opportunities aligned with a low-carbon transition. Notably, lesser capital charges for explicitly "sustainable" real assets, such as sustainable infrastructure projects, could serve as an additional incentive for the facilitation of capital allocation towards such projects, which could facilitate the attainment of the Paris Agreement. However, as explored in case study 6.3, this has not deterred some insurers from significantly increasing their holdings in low-carbon aligned investments.



### **COMMON BARRIER 4: SHORTAGE OF INVESTABLE CLEAN INFRASTRUCTURE OPPORTUNITIES**

Some respondents actively seeking more investments in low-carbon infrastructure noted a shortage of investable opportunities, particularly in emerging markets. Some have responded by actively engaging with policymakers, including in emerging markets, to take further steps toward helping develop a larger pipeline of investable opportunities (as explored in case study 7.1).



### **COMMON BARRIER 5: INCONSISTENT CLIMATE PROGRESS WITHIN AND BETWEEN REGIONS**

Some respondents with multi-national operations noted inconsistent progress on climate issues between global regions such as Europe, Asia, and North America as a challenge in making further progress. One respondent noted that even within regions, such as Asia, progress on climate varied widely between countries. Some have responded by helping raise awareness around climate risk in selected countries (see case study 7.1).



### **COMMON BARRIER 6: LACK OF PRESSURE FROM INSURERS' INVESTORS ON CLIMATE ISSUES**

A lack of pressure from insurers own investors on climate issues was also cited by some respondents as a barrier in helping them make progress in their climate

strategies. Some respondents noted that increased pressure from their investors would help provide a stronger internal mandate to drive progress on managing climate-related risks and opportunities.



#### **COMMON BARRIER 7: MISALIGNED TIME HORIZONS**

A misalignment between risk assessment periods (typically 1-3 years) and the longer time horizons over

which climate risks are expected to manifest more fully was also cited as a barrier by respondents, especially those with general insurance businesses. Some respondents have responded by taking proactive steps to integrate forward-looking climate science into their risk models, as explored in case study 5.1.

#### **OTHER BARRIERS FACED BY INSURERS**

**Complexity of topic**

**Focus on divestment of fossil fuels instead of engagement**

**Sustainability still considered as 'niche' topic by many insurers**

**Many insurers are waiting for rest of industry to move forward**

**Current stock prices are yet to reflect climate risks**

**Ecosystem around the green economy is yet to be developed**

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# EIGHT KEY BUILDING BLOCKS FOR INSURERS AT EARLY STAGES

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## BACKGROUND

This final section presents a framework of eight building blocks based on advice from our respondents for other insurers at earlier stages of their climate strategy journeys. In our interviews, we asked respondents to draw from their own experiences a range of practical, cost-effective, and impactful steps relevant for their peers. From the broad range of recommendations we received, we formulated the following framework.

## KEY FINDINGS

-  **BUILDING BLOCK 1**  
Start the journey now – don't wait for the perfect tools
-  **BUILDING BLOCK 2**  
Consider climate change from a risk perspective
-  **BUILDING BLOCK 3**  
Start using TCFD

-  **BUILDING BLOCK 4**  
Get support from senior decision-makers
-  **BUILDING BLOCK 5**  
Build a cross-functional climate working group
-  **BUILDING BLOCK 6**  
Communicate sustainability throughout the company
-  **BUILDING BLOCK 7**  
Join collaborative initiatives
-  **BUILDING BLOCK 8**  
Start challenging risk model providers



### **BUILDING BLOCK 1: START THE JOURNEY NOW - DON'T WAIT FOR THE PERFECT TOOLS**

Nearly all respondents urged for their peers to start right away with developing their climate strategies and warned against waiting for data, tools, and methodologies to develop further before taking further action. Even the most advanced respondents regard their own strategic responses as journeys that are expected to intensify and become more sophisticated over time. Many respondents also referred to the recent IPCC report<sup>31</sup> which warned that there is only a decade left to radically decarbonise economies and stay on a less than 2-degree pathway.



### **BUILDING BLOCK 2: CONSIDER CLIMATE CHANGE FROM A RISK PERSPECTIVE**

Looking at climate change from a risk perspective was also recommended. One respondent suggested responding to climate change in the same way as cyber risk, which has elicited a strong practical response from the insurance industry. Carbon footprinting of investment portfolios was recommended as a helpful first step in identifying hotspots of climate risk, while others recommended performing climate scenario analysis against a range of plausible outcomes (from a rapid 1.5-degree transition to a 4-degree business as usual outcome) to help better understand current and future climate risk exposures.



### **BUILDING BLOCK 3: START USING TCFD**

The TCFD Framework was widely recommended as a helpful way of approaching climate-related risks and opportunities. Respondents noted how using TCFD helped drive internal discusses and stimulate cross-department collaboration on effective climate responses, while also guiding public reporting. Some respondents noted that they expected TCFD-aligned disclosure to become mandatory, and had accordingly already begun either public reporting or exploring how best to disclose.



### **BUILDING BLOCK 4: GAIN SUPPORT FROM SENIOR DECISION-MAKERS**

Gaining internal support from senior management and the board of directors was also widely recommended as an important step in making progress on climate-related issues. Climate-related education for senior decision-makers was also recommended for helping secure commitment and buy-in from senior levels, with some suggesting the benefit of bringing in external experts as necessary.



### **BUILDING BLOCK 5: BUILD A CROSS-FUNCTIONAL CLIMATE WORKING GROUP**

Cross-functional initiatives related to climate change, such as committees, working groups, and taskforces, were also widely recommended as an effective way to encourage group-wide connected thinking and action on climate issues. Some respondents also added that building a cross-functional initiative helped strengthen climate governance and raise awareness of climate risk throughout the company.



### **BUILDING BLOCK 6: COMMUNICATE CLIMATE AWARENESS THROUGHOUT THE COMPANY**

Communicating and embedding the concept of sustainability throughout the entire company was also recommended by some respondents as an important step in making progress on climate. Some respondents recommended using pre-existing frameworks such as TCFD or the SDGs as helpful tools in communicating around sustainability and climate-related issues. Another recommended the benefit of appointing climate 'ambassadors' at every organisational level, who each know how best to 'speak the language' of their departmental colleagues.



### **BUILDING BLOCK 7: JOIN COLLABORATIVE INITIATIVES**

Joining climate-related collaborative initiatives was also widely recommended in helping make progress in developing and implementing climate strategies. Such initiatives are cost-effective, sources of high-quality information, and helpful ways of building supportive networks with other insurers and wider stakeholders (as explored in case study 7.1).



### **BUILDING BLOCK 8: START CHALLENGING RISK MODEL PROVIDERS**

For insurers dependent on outsourced risk models, some respondents recommended becoming more active on challenging third-party providers on how they incorporate forward-looking climate science and scenarios into their risk models. The more clients challenge third party service providers on these issues, the more robust and future-proof these models are expected to become. Some respondents also recommended that insurers undertake annual 'back-testing' of their risk models to ensure they are fully capturing emerging trends.

→ “Some insurers have recently taken public positions calling for more climate-supportive policies from regulators, such as the introduction of higher carbon prices.”

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The following recommendations draw together insights from this research process to offer a selection of impactful steps key stakeholders can take to help drive more rapid progress on the insurance industry's response to climate change.



### RECOMMENDATIONS FOR INSURERS

#### ***Challenge policymakers on carbon pricing, fossil-fuel subsidies, and mandatory TCFD-aligned disclosure***

Some insurers have recently taken public positions calling for more climate-supportive policies from regulators, such as the introduction of higher carbon prices.<sup>32</sup> As public policy can be a powerful driver toward Paris-alignment we encourage insurers to take a more public and collaborative approach toward requesting Paris-aligned public policies such as introducing stronger carbon prices, removing fossil-fuel subsidies, and mandating TCFD-aligned disclosure.

European Insurers are encouraged to engage in the upcoming review of Solvency II by providing data on the risk profile of different asset classes, thus allowing the European Insurance and Occupational Pensions Authority (EIOPA), as well as the Commission, to

proceed with a review of capital requirements under the prudential framework. European insurers are also encouraged to be engaged in the development of the Taxonomy on Sustainable Investments, which could facilitate the setting of appropriate capital requirements for the financing of “green” activities. The development of taxonomy defining “unsustainable” activities could also influence the review of Solvency II's capital requirements calculations.

#### ***Invest more resources into understanding climate risks facing life and health***

Many respondents with life businesses noted that they are yet to consider how climate change will impact their life and health portfolios. As the impacts of climate change are expected to significantly influence not only general insurance portfolios but also life and health portfolios, we encourage insurers to invest more resources to better understand and respond to risks in this field.

#### ***Challenge third-party risk model providers on integration of forward-looking climate science and scenarios***

Many insurers rely on risk models provided by third-party service providers, which tend to rely on historical data. We encourage users of these risk models to challenge their providers on how they are integrating forward-looking climate science and scenarios into their risk models.

### ***Consider impact, as well as risk***

While it is increasingly being regarded as good practice for insurers to consider financially-material environmental (including climate change), social, and governance risks in their decision-making, holding global warming to well under 1.5 degrees will require insurers to also consider how their own business operations and investments are impacting climate change, whether for better or worse.

The newly-introduced Disclosure Regulation, agreed as part of the European Commission's Action Plan on Financing Sustainable Growth, is set to create requirements for the disclosure of such impacts, encouraging investors to develop and articulate a strategic approach as to how impact measurements are aligned with their approach to sustainable investing. Aside from this being an issue of regulatory compliance, impact measurement can encourage insurers to anticipate sources of risk which may not fit into conventional time horizons, thus not being conventionally incorporated into current risk management practices. Some of the case studies explored in this report highlight how respondents are focusing on impact, such as through their education and awareness campaigns (see case studies 2.1 and 2.2) and the development of climate-themed investment products (see case study 6.2).



## **RECOMMENDATIONS FOR INSURERS' INVESTORS**

### ***Challenge insurers to develop more robust and holistic climate policies***

Some respondents noted that a lack of pressure from their own investors is holding them back on making more rapid progress on managing climate-related risks and opportunities. As a material financial risk, investors can take a more rigorous approach in holding the insurers they invest in to account on how they are strategically responding to climate-related issues.



## **RECOMMENDATIONS FOR POLICYMAKERS**

### ***Review capital requirements to ensure insurers are incentivised to invest in the low carbon-transition***

In line with the ongoing process for collecting evidence to feed into the upcoming review of Solvency II, EIOPA and the European Commission are encouraged to engage proactively with the insurance industry to ensure that capital requirements accurately reflect the risk profile of real assets, as well as those that are explicitly sustainable. Any re-calibration of capital requirements should also be accompanied by the explicit incorporation of climate risk considerations in Pillar 2 and Pillar 3 requirements under Solvency II. In addition, the development of a robust Taxonomy that will include technical screening criteria for both sustainable and unsustainable economic activities would be useful in facilitating capital allocation towards sustainable infrastructure projects.

### ***Increase carbon prices and phase out fossil fuel subsidies***

Some insurers have recently called for regulators to set more ambitious carbon prices to help drive the low-carbon transition in alignment with the goals of the Paris Agreement. Recent research reveals the current average carbon price is only US\$2 per tonne, while meeting a 2-degree target would require a global carbon price of US\$70 per tonne.<sup>33</sup> Another key barrier obstructing decarbonisation of the energy industry are fossil fuel subsidies, which in 2017 amounted to US\$5.2 trillion globally representing 6.5 per cent of the world's GDP.<sup>34</sup> Efforts to set an ambitious price on carbon through a fair and equitable emissions trading system or the introduction of a carbon tax should thus be further explored. Efforts to increase the price of carbon should be accompanied by policy measures to ensure the social costs of transitioning out of carbon-heavy industries be properly mitigated, such as job losses.

### ***Make TCFD mandatory for investors and corporates***

Since the introduction of the voluntary TCFD Framework, uptake by companies and investors has been slow. The most recent status report by the TCFD notes that of the 147 insurance companies assessed, there was not a single TCFD recommendation where

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industry disclosure was above 40 per cent.<sup>35</sup> The status report also highlights that the insurance sector showed some of the smallest increases in the percentage of disclosure between 2016 and 2018, as compared to other sectors. Mandatory requirements to disclose against TCFD would drive better quality disclosure on a much faster scale than relying on voluntary uptake, allowing investors to better price and respond to climate risk into their investments across the insurance sector.



## RECOMMENDATIONS FOR CUSTOMERS

### ***Challenge insurance providers on further integrating climate awareness into their products and services***

Customers of insurance products are encouraged to challenge their policy providers to take stronger consideration of climate awareness in following area:

- Products and services (as explored in case study 1.1).
- Claims processing (as explored in case study 1.2).
- Education programmes on climate risk (as explored in case studies 2.1 & 2.2).

Our review of the current leading practice landscape reveals a variety of innovative and creative ways insurance companies are managing climate-related risks and opportunities across their underwriting, investment, and group-wide risk management practices. While all respondents are taking action in various ways, only the most advanced are already strategically integrating climate awareness into formal policies across all their departments and business lines or making bold pledges to align their businesses with the goals of the Paris Agreement. Encouragingly, nearly all respondents have recently established cross-functional initiatives around climate change, suggesting the industry is moving toward more sophisticated and holistic strategic climate responses. A new generation of climate-supportive products and services is also becoming available, though consumer demand remains nascent. Many insurers have responded by actively sharing their knowledge of climate risk with a range of stakeholders to encourage both mitigation and adaptation responses.

However, the industry still has far to go before its actions meet the ambition required to meet the goals of the Paris Agreement in keeping global warming under 1.5-degrees. Our 2018 ShareAction/AODP assessment of the global insurance sector in 2018 found that on average insurers are investing less than one per cent of their general accounts in investments that support the low carbon transition.<sup>36</sup> Some of the insurers featured in this report have allocated over six per cent of their accounts in low-carbon opportunities across a range of asset classes, signalling that it is possible to start scaling low-carbon investments today. Where investable opportunities are short, such as in clean infrastructure, some have also begun challenging selected policymakers to take stronger actions to unlock further opportunities. As an industry, we see the potential for insurers to take stronger collaborative actions on influencing policymakers to take bolder actions to meet the goals of Paris whether through increasing carbon prices, removing fossil fuel subsidies, or mandating TCFD-aligned disclosure.

Promisingly, proactive insurers are strategically escalating climate issues in their company engagement across both listed equity and debt. With most investors typically focusing their engagement on listed equity, this should signal to the wider investment community the influence they also wield as providers of corporate debt, and the corresponding responsibility they have in using this influence to drive climate-related progress across corporate issuers. Furthermore, some of the innovation shown by respondents in their company engagement practices should inspire the wider investment community to take more forceful and creative action as responsible owners.

Our research also highlights a key challenge facing insurers in reconditioning their risk models to better capture forward-looking climate risks, for which there is no historical precedent. While some are proactively upgrading their internal risk models, others reliant on outsourced models have begun challenging their external providers. Promisingly, we are also seeing industry collaboration in this field. However, only the most advanced insurers have begun actively exploring climate risks facing life and health, where stronger collaboration and research is needed.

The TCFD Framework has an important role to play for insurers at all stages of their climate strategy journeys. For those at earlier stages, TCFD helps stimulate internal discussion and connected thinking on climate issues, while more advanced insurers are already publishing their own TCFD reports and embedding the Framework in their company engagement. As mandatory TCFD-aligned disclosure becomes more likely across regions, insurers are encouraged to start implementing and reporting against the Framework as soon as possible. However, all insurers should keep in mind their ultimate goal should not only be better disclosure but a rapid decarbonisation of the real economy in line with the goals of Paris. Based on current actions and ambitions we are currently on track for 3.9 degrees of global warming.<sup>37</sup> And as the CEO of a major insurer has warned in recent years, a 4-degree world is an uninsurable world.<sup>38</sup>

## APPENDIX I: LIST OF CASE STUDIES

CASE STUDY	
1.1	Developing products aimed at mitigating climate change
1.2	Incorporating circularity into claims processing
2.1	Educating customers and communities on climate-related weather impacts
2.2	Educating customers and communities on climate-related life and health impacts
3.1	Developing cross-functional climate initiatives
3.2	Developing group-wide climate policies
3.3	Undertaking group-wide scenario analysis
3.4	Developing group-wide fossil fuel policies
3.5	Applying climate expertise across the balance sheet
4.1	Exploring climate risks facing life and health
5.1	Integrating climate science into risk models
6.1	Developing holistic Paris-aligned investment strategies
6.2	Building and promoting climate-themed investment products
6.3	Strategically increasing low-carbon investments
6.4	Holding asset managers to account on climate integration
6.5	Elevating climate in company engagement
6.6	Innovating in climate risk management for investment portfolios
7.1	Driving industry partnerships and collaboration on key climate issues

## APPENDIX II: LIST OF INTERVIEW QUESTIONS

1. Which elements of your climate strategy relating to your insurance business would you consider leading practice?
2. Which elements of your climate strategy relating to your investment practices would you consider leading practice?
3. Can you share examples or processes that ensure climate-related risks and opportunities are holistically considered across both underwriting and investment portfolios?
4. To what extent has climate science been integrated into your risk modelling?
5. How does your climate strategy consider the impact of your business or investment practices on climate change?
6. Are there any other features of your climate strategy you consider to be leading practice?
7. What have been the most significant barriers in developing your climate strategy, and how have you effectively responded to them?
8. What practical advice can you offer other insurers who are at early stages of their climate strategy journeys?
9. What are the next steps in your climate strategy journey?

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