World Report Series
Property & Casualty Insurance

Capgemini RESEARCH INSTITUTE

WALKING THE TALK

HOW INSURERS CAN LEAD CLIMATE CHANGE RESILIENCY

In collaboration with Efma

CONTENTS

FOREWORD

It feels somewhat ironic to launch our inaugural World Property & Casualty Insurance Report *Walking the talk: how insurers can lead climate change resiliency*, during a year when eastern Antarctica recorded temperatures 40°C (70°F) above average for more than three days.

The mid-March event has essentially rewritten Antarctic climatology, said researcher Stefano Di Battista via a cautionary Twitter message. Such temperature anomalies would have been considered "impossible" and "unthinkable" before now, he added. Likewise, Jonathan Wille, a polar meteorology researcher at Université Grenoble Alpes in France, told *The Washington Post* that the mid-March Antarctica event might not offer a snapshot of the current state of global warming. Still, climate change is "loading the dice" for more to come.

Incidents such as this illustrate the implications of climate change and foreshadow its impact on the insurance industry. Insured natural catastrophe losses have increased by 360% within the past 30 years. Climate change has upended traditional coverage, underwriting, and investments dynamics as today's policyholders seek protection and peace of mind. Insurers that deliver both will position themselves to generate deeper customer trust and offer personalized solutions tailored to individual policyholder preferences and expectations.

More than half of the 270 insurance executives we polled said they were implementing at least one initiative to help policyholders become climate-resilient. Similarly, 84% of the nearly 5,000 participants in our 2022 Voice of the Customer survey said they are keenly aware of climate influences, are changing their behaviors, and have taken sustainable actions over the last 12 months.

Unfortunately, our analysis suggests that only 8% of insurers are climate change frontrunners. Based on their advanced data analysis capabilities, risk-prevention focus, and sustainability-promoting underwriting and investments, this future-focused minority makes up our *Resilience Champions*.

Capgemini has created a climate resiliency framework to enable insurers to build climate resilience capabilities within a changing risk landscape, while capitalizing on opportunities beyond risk transfer. Our report offers a roadmap to incorporate new data sources and leverage advanced technologies to build better risk models.

We realize insurers can't do it alone, thus the need to leverage sustainability ecosystems based on collaboration among public-private partners, communities, ClimateTechs, and climate experts. So, now, more than ever, we urge insurance firms to align across the C-suite and shift from being early adopters to becoming drivers of innovative and sweeping change.

Today, when no region around the globe is immune from climate-change-related catastrophes, near-term corrective actions are crucial. Therefore, we invite you to call upon our international team of subject matter experts to begin your climate resiliency journey and evolve your risk-mitigation product propositions.

Anirban Bose
Financial Services Strategic Business Unit CEO
& Group Executive Board Member, Capgemini

John Berry
CEO, Efma

EXECUTIVE STEERING COMMITTEE

The Executive Steering Committee for our inaugural World Property & Casualty Insurance Report included CEOs, CMOs, sustainability decision-makers, InsurTech leaders, industry influencers, and technology partners. They helped steer our report content through ideation, hypotheses refinement, validation of key findings, and sharing of best practices. Participants represent the Americas, EMEA, and APAC to ensure a mix of global perspectives and experiences.

NORTH AMERICA

Kimberly Palatnick
VP, Strategy & Sustainability
Wawanesa

Nigel Walsh
Managing Director, Insurance
Google

Nick Allain
Head of Marketing
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One Concern

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Zurich Resilience Solutions,
Zurich

François Lanavère
Head of Business Development
AXA Climate

Simon Torrance
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Generali

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EXECUTIVE SUMMARY

Climate change and its substantial risks are on everyone's radar

Climate change is significantly affecting people and businesses. Not surprisingly, it is a top concern for policyholders and insurers – worldwide. However, for proactive insurers, climate change can also provide an opportunity to enable purpose through actions by actively building climate-resilient business models and propositions.

• Over the past three decades, economic loss driven by climate change increased by 250%.

• Policyholders are conscious of climate change, and around three-quarters of them rank it among their top concerns.

• Insurers are in tune with customers. About 40% rank climate change as a top priority, with profitability and insurability emerging as leading climate-related issues.

• While most insurers acknowledge climate change impact, many have yet to develop a climate resiliency strategy.

Fundamental business model changes are required

Future-focused insurers will embed climate strategies into their operating and business models. But, that requires fundamental changes such as revisiting data strategy, focusing on risk prevention, and moving beyond exclusions in underwriting and investments. To achieve this, insurers need to build a resilience ecosystem by collaborating with government, communities, and ClimateTech specialists to achieve success.

• Our analysis suggests that a select few insurers (8%) are on course to achieve climate resiliency. We call these insurance frontrunners Resilience Champions.

• Climate resilience requires a sophisticated data strategy. Yet, only 35% of insurers have adopted advanced data analysis tools such as machine-learning-based pricing and risk models. These tools are critical to unlocking new data potential and enabling more accurate risk assessments.

• Risk prevention based on data and behavioral science is at the top of the agenda for future-focused insurers. More than 65% of customers are interested in climate risk prevention and mitigation services, and 53% will pay for them.

• More than 30% of insurers restrict investment in unsustainable companies, and more than 20% restrict coverage to unsustainable companies. Insurers that move beyond exclusions and divestment and actively engage in risk prevention will position themselves to support the transition to a climate resilient economy.

Insurers must embed climate resiliency into business strategy

Three key actions can fuel insurers' climate resiliency journey while boosting their relevance and profitability and contributing more meaningfully to one of the most significant modern-day challenges.

Revisit your corporate strategy.

Articulate climate resilience as a structured part of the corporate strategy to assure shareholders of the value-creation potential for all parties involved. Well-defined actions assigned to individual C-level executives will ensure clear ownership.

Rework innovation.

Encourage it to bridge the gap between long-term ambitions and short-term planning horizons and engage with resilience ecosystem partners to access new capabilities.

Redesign your technology strategy.

Deploy IoT, cloud, artificial intelligence, machine learning, and quantum computing to enable insurers' path forward by improving risk management, innovating products, transforming claims, and elevating customer experience.

Climate change and its risks are on everyone's radar

Today, no global region is safe from climate change. For example, storms in the United States drove losses of more than USD60 billion in 2021. Floods in Germany caused insured losses of more than USD9 billion. Meanwhile, China's insured losses hit nearly USD2 billion, and wildfires in Australia caused insured losses of USD63 million.[1]

As part of the 2015 Paris Agreement, 196 countries agreed to limit global warming to well below 2°C (35.1.6°F) compared with pre-industrial levels.[2]

Now, however, 2.4°C (36.3°F) warming is expected by 2100.[3] And that means that by 2050:

- 410-million coastline dwellers will be at risk.[4]
- Global economic output may shrink 11% to 14% compared with GDP without climate change, according to a Swiss Re report.[5]
- Annual investments of USD3 to 6 trillion will be necessary to achieve net-zero emissions.[6]

> *"As natural catastrophe events become more frequent, the need for adequate insurance protection escalates. Therefore, non-insurance is not an option."*

Dr. Jörg Hipp
Head of Commercial Business Transformation, Allianz SE, Germany

Changing weather patterns increase economic losses

The insurance industry is paying a steep price as climate change accelerates. Natural catastrophe events have led to a 3.6 times increase in insured losses and a 2 times increase in uninsured losses over the last 30 years.[7]

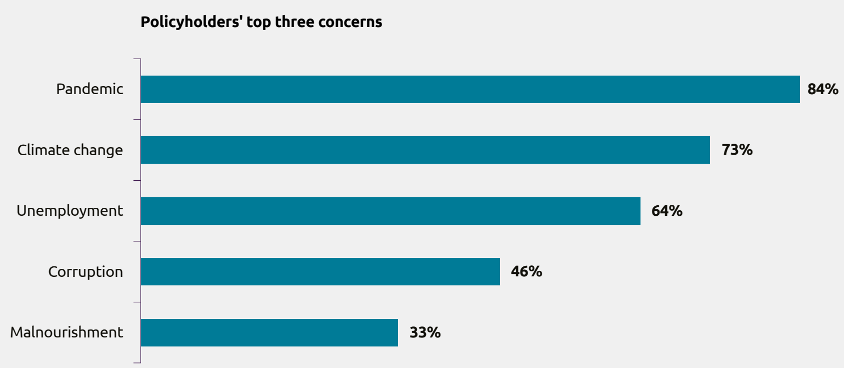
Losses are rising, and insured losses for secondary perils – such as wildfires and storms – have nearly doubled within the past decade.[8] The shift is significant as secondary threats accelerate faster than primary perils, such as earthquakes and tropical cyclones. In addition, risks are moving from wind to water-related threats. In the 1980s and 1990s, Natural Catastrophes (Nat Cat) events were split between wind and water, each accounting for 30-35% of total events. Today, water-related perils cause around 45% of Nat Cat events.[9]

Don't look up – climate change is fundamentally altering policyholder behavior

We captured the sentiments of around 5,000 customers across the globe, and climate change emerged as policyholders' second-highest concern, behind COVID-19 (Figure 1).

Customers who realize the gravity of the situation are acting. More than 80% of individual and commercial clients have taken

Figure 1. Climate change is one of the top customer concerns



Question to customers: Please select your top concerns from the list of subjects below. Pick your top 3, and rank in 1-2-3 order.

Sources: Capgemini Research Institute for Financial Services Analysis, 2022; Capgemini Voice of the Customer Survey, 2022 at least one sustainable action over the last 12 months – including activities as small as walking versus driving and as significant as investing in resilient structural infrastructure. Climate change has upended traditional coverage dynamics and today's policyholders seek protection and peace of mind more than ever. By providing both, insurers have a unique opportunity to generate deeper customer intimacy and loyalty, thus improving profitability.

"The insurance industry has the greatest opportunity and most unique and influential position to directly impact how climate change will affect customers over the next five years and every generation after that. It is a game-changing opportunity when we are already in the second half. Our time and responsibility to act are now."

Nigel Walsh
Managing Director, Insurance, Google, UK

Climate change is a top concern for insurers

As customers grapple with anxiety over potential Nat Cat events, insurers are losing sleep, too.

Climate change is a top risk for insurers, with 44% of executive rating it as comparable to cyber, closely followed by financial and tech threats. Climate change executives are particularly worried about insurability issues, pressure on profitability and regulatory overheads (Figure 2).

Three climate-change issues concern insurers most:

- Insurability – Shifting risk reduces the addressable market in various regions.[10]
- Profitability – Mounting losses worsen loss ratios and weaken insurers' capital position.[11]
- Regulation – Demand for disclosure rises and regulators worldwide assess the sector's exposure to climate risk and prescribe scenario analysis.

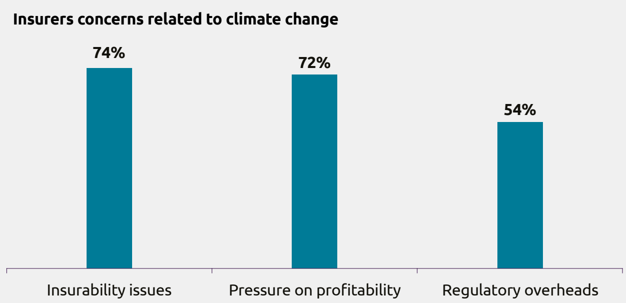
These concerns have sparked the longest hard market on record, with 17 quarterly composite insurance rate increases.[12] Unfortunately, these challenges are not hypothetical and have become a stark reality in many markets.

For example, California has withstood several record wildfires recently, including 7,860 fires in 2019, leading to a 31% hike in non-renewals by policyholders.[13] In turn, state regulators capped premium prices and required insurers not to cancel any home insurance policy for 12 months.[14] The result? Several leading insurers pulled out of the California home insurance market.[15]

The situation in California is but one example of why insurers need sustainable and resilient business models to tackle the shifting risk environment. Insurers must consider ways to limit losses while simultaneously helping to boost policyholder resiliency. The industry's long-term relevance relies on a win-win commitment and action plan.

From Germany, Dr. Olaf Frank, Head of Business Technology at Munich Re, said, "Insurability issues in certain high-risk areas stem from the lack

Figure 2. Perceived impact of climate change for insurers



Question to insurers: How do you perceive the impact of climate change in the areas listed below? Rate on a scale of 1-7, where 1 = No impact at all, and 7= Very significant impact. Responses under ratings 5,6,7 are shown in the figure.

Sources: Capgemini Research Institute for Financial Services Analysis, 2022; World Property and Casualty Insurance Report 2022 Executive Interviews, 2022

of data to understand and calculate risks, which ultimately impedes insurers from offering coverage pricing that aligns with the global market".

Insurers acknowledge climate change impact, but are they walking the talk?

Climate risk presents a unique opportunity for insurers to live up to their purpose through action. In fact, it will enable considerable growth of the Property and Casualty risk pool. Studies predict that Property & Casualty global premiums will rise by USD2.5 trillion over the next 20 years to reach USD4.3 trillion by 2040, and climate change will drive 30% to 40% of this increase.[16] Insurers that capture a meaningful portion of this growth can create a positive flywheel momentum for all stakeholders, from employees to customers, while generating significant shareholders returns.

Going back to 2015, we analyzed what insurers have said and done to tackle this opportunity and challenge. They consistently acknowledged the challenge. In recent annual reports from the 35 largest market-cap insurers, we found that mentions of sustainability terms had increased fourfold (Figure 3). In addition, more than three-quarters of firms had designated a chief sustainability officer or equivalent to beef up governance around sustainability issues.

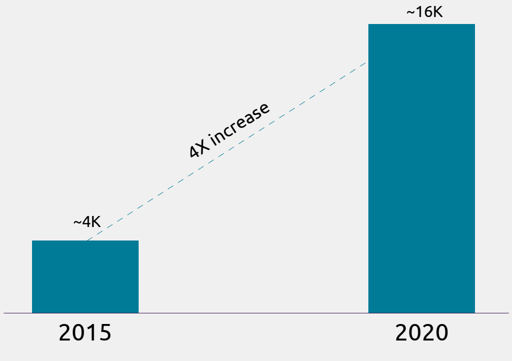
Are these market leaders walking the talk? Only 43% have announced a net-zero emissions target, and some don't have a clear mandate or tangible goals.

To truly lead the climate resiliency journey, all insurers must revisit their propositions and balance risk prevention with risk management.

In addition, CEOs will be required to champion and orchestrate the evolution of operating and business models enabled by C-suite leaders who will take on shared and specific responsibilities.

In Switzerland, Hanno Mijer, Zurich's Global Head of Resilience Solutions, says, "It's too simple if insurers start to exclude highly exposed risks. The industry needs to engage with clients to understand their pathway to achieve more resilience and how they will manage their transition." He adds that "progress monitoring based on data will be key."

Figure 3. Mentions of sustainability-related terms in insurers' annual reports



Source: Capgemini Research Institute for Financial Services Analysis, 2022

Business model changes are needed to achieve climate resiliency

Climate change is the impetus that will transform every company and industry. But to navigate through the crisis, resiliency must be embedded within insurers' DNA to enable fundamental changes to business and operating models.

What will the journey look like?

Transforming the business and operating models will include revisiting insurers' data strategy, focusing on risk prevention, and adopting a sustainable underwriting and investment policy.

Capgemini has created a climate resiliency framework to help insurers build the required capabilities within a changing risk landscape while capitalizing on opportunities beyond risk transfer (Figure 4).

The first step in our framework requires a profound rethinking of current risk assessment models and associated data strategy. More granular data and insights can enrich risk assessment capabilities so insurers can improve customer outcomes with behavioral nudges that encourage policyholder peace of mind and risk prevention action.

Another critical aspect of our framework is sustainable investment strategies and underwriting practices that drive long-term benefits essential for insurers to encourage resilience among clients and stakeholders.

Successful transformations in data strategy, risk prevention, investment, and underwriting strategies can only be achieved by establishing a resilience ecosystem – by advocating public/private alliances and collaborating with innovative third parties, including ClimateTech firms and local communities.

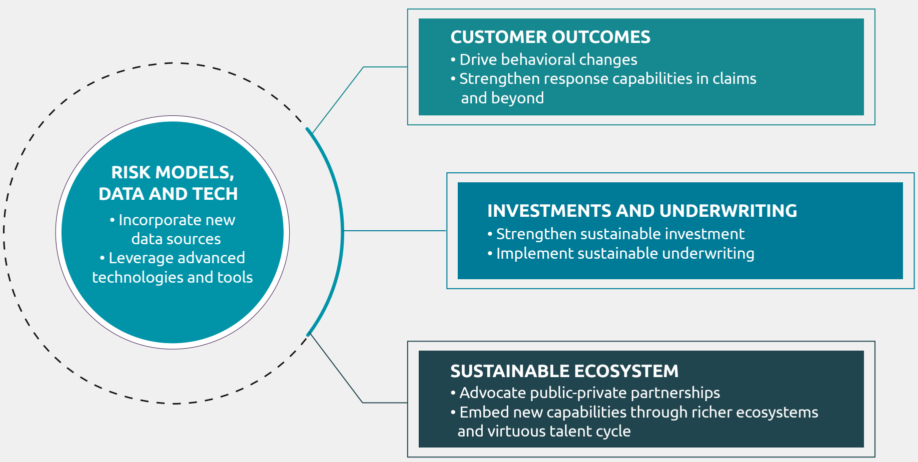
Resilience Champions as trailblazers

To understand carriers' maturity in the journey towards climate resiliency, we interviewed 270 insurance executives worldwide. Our conversations revealed that only 8% were on the fast track (Figure 5). We call these future-focused insurers Resilience Champions. For many other players, the opportunity is to be fast followers and turn their commitments into actions.

82%

of Resilience Champion firms have a chief sustainability officer or equivalent

Figure 4. Capgemini's climate-resiliency framework



Source: Capgemini Financial Services Analysis, 2022

Resilience Champions unlock data value for risk assessment

The first step to strengthening climate resilience capabilities requires the Chief Data Officer to explore how to access data sources that provide accurate, granular, and real-time risk information.

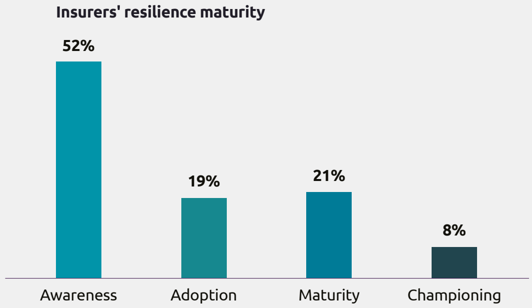
Here Resilience Champions are ahead of the pack, with around 53% accessing more than six new data sources, including satellite data, remote sensors, weather stations, geo-data, social media data, ESG models, and water levels (Figure 6).

Chief Actuaries and Chief Risk Officers must then work closely with Chief Technology Officers to leverage advanced tools and technologies to optimize the potential of data. François Lanavère, Head of Sales and Business Development, AXA Climate, France said "The value is not the data itself. It is in what you do with it – how you explain it and transform it into actionable insights."

While the industry has taken significant steps in accessing new data sources, the opportunity to secure deeper insights from the data is not fully leveraged. However, Resilience Champions are leading the way here, too, with nearly 60% of them in advanced stages of deploying Machine Learning-based pricing models, advanced scenario analysis, and stochastic modeling.

For example, Sompo International Holdings, a global specialty provider of property and casualty insurance, partnered with Los Angeles-based Praedicat to use the analytics company's emergent risk framework, probabilistic liability

Figure 5. Most insurers are beginning their resilience journey



Please see page 23 for details of the methodology for this chart.

Sources: Capgemini Research Institute for Financial Services Analysis, 2022; World Property and Casualty Insurance Report 2022 Executive Interviews, 2022

catastrophe model, and a new litigation tracking capability to help manage Sompo's global casualty portfolio.[17]

"We have unprecedented access to data to micro-segment customers and model certain weather and climate risks around their unique portfolio and assets," says Jayme Hart, an insurance data and analytics solutions leader at Amazon Web Services, USA. "As a result, a carrier's risk-model accuracy can dramatically improve."

Risk prevention. The new mantra for better customer outcomes

Insurers can leverage more granular insights to develop new risk-prevention solutions, not solely to reduce losses. For example, Canada-based Kimberly Palatnick, VP Strategy & Sustainability, Wawanesa Mutual Insurance Company highlighted that "at Wawanesa, we're here to look after one another. Part of that is considering how, as an insurance company, we can help build resilient communities. There is tremendous value in helping people understand the risks they face, and in encouraging preventative and sustainable behaviours."

An enormous opportunity exists for firms to innovate new risk-prevention offerings to create additional revenue streams (with individual income statements) while creating a bonafide method to satisfy policyholders. Brussels-based Hans De Cuyper, the CEO of AGEAS Group, agrees that "the big opportunity around risk prevention is for firms to evolve prevention into a fee-based business adjacent to their traditional insurance business to drive resilience and diversify revenues."

With natural disasters dominating the news, policyholders say risk prevention has become a priority. More than 65% of customers say they are interested in climate risk prevention and mitigation services. Not only they are interested, 53% also indicated they are willing to pay for risk prevention services, a significant jump from 15% in our 2019 World Insurance Report survey.

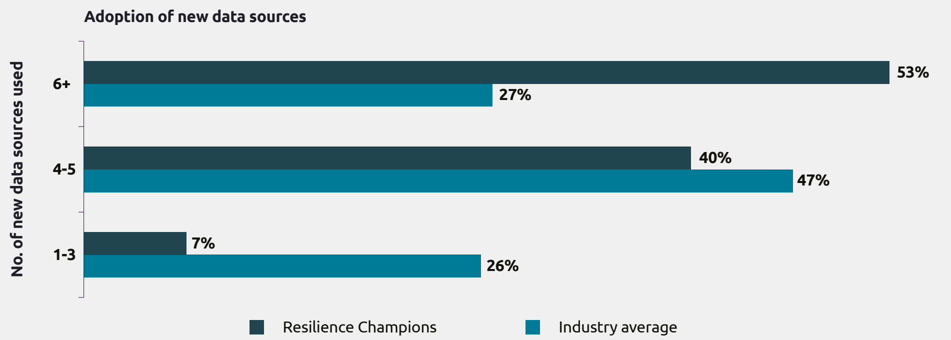
60%

of Resilience Champions are in advanced stages of deploying Machine Learning-based pricing models, advanced scenario analysis, and stochastic modeling.

Product teams must consider how their climate-change solutions will be accepted and adopted by consumers. It's not only marketing's job to engage with people about climate. Insurers must embed consumer insights into product designs.

Nick Allain
Head of Marketing, Zesty.AI, USA

Figure 6. Resilience champions are leading the way in accessing new data sources



Question to insurers: Select the data sources your firm uses to bolster risk assessment and monitor effectiveness. You can mark 'Yes' to all that apply.

Sources: Capgemini Research Institute for Financial Services Analysis, 2022; World Property and Casualty Insurance Report 2022 Executive Interviews, 2022

The time has come for forward-looking actuaries to work closely with product and marketing to accelerate the development of innovative climate resiliency risk prevention and risk-transfer solutions.

Sure, policyholders say they are interested in risk prevention solutions. But successful adoption requires active intervention from insurers to steer individuals and organizations to action. Let's call it a gentle behavioral nudge.[20]

Insurers can deploy behavioral nudges to promote win-win propositions to policyholders. As Guidewire's Chief Customer Officer, Christina Colby, says, "The big opportunity is encouraging policyholder behaviors that promote climate resiliency rather than just addressing what happens when losses occur."

If policyholders agree to implement resiliency actions, their assets retain value, and the insurer's financial results improve. The concept applies to individual and commercial lines. So, how can insurers implement a behavioral nudge effectively?

UK insurer leverages commercial data for risk and sustainability insights

With offices throughout Britain – Zurich UK employs approximately 5,000 insurance professionals. The firm offers general- and life insurance products to retail and commercial clients.

Business challenge: Zurich UK executives wanted to help clients understand, detect, and prevent or mitigate commercial property loss events while supporting sustainability efforts. However, when dozens or more structures are involved, carbon footprint reduction can be daunting, particularly as UK regulators strictly enforce efficiency mandates. In addition, today's commercial clients want to run buildings and equipment effectively and transition from costly, wasteful, and harmful practices.[18]

Strategy/implementation: When the insurer learned that a significant amount of data collected while managing a commercial property is under-utilized, it collaborated with GWTInsight (a UK InsurTech/PropTech firm specializing in commercial building performance). The partnership enabled Zurich UK to extract property data, analyze it and present it to policyholders in an actionable format. Through GWTInsight's efficiency expertise and Zurich's risk knowledge, policyholders benefitted from a 60-day structural health-check report and real-time activity dashboard. The health check suggests ways for clients to gain sustainable savings and reduce risk. The live dashboard allows users to set notification alerts when specific data points hit set thresholds.

Results: Zurich UK's unique collaborative solution empowers risk managers, underwriters, and claims handlers to identify commercial property risks in real-time, allowing insights and decisions to mitigate or remove threats before they become loss events. It addresses risk and sustainability by gathering consistent feedback to identify improvement areas. Policyholders can install the solution independently, and Zurich UK predicts that most clients will generate device ROI within two months. The insurer is poised to develop additional service-based propositions to augment its existing coverage and risk-engineering offerings.[19]

Behavioral nudges will prompt climate resiliency

Long-term, sustainable actions are often easier said than done. Insurers have a unique opportunity to gently steer – or nudge – customers towards these actions and create win-win solutions. If customers are more resilient their assets retain value and insurers improve their financial results. We recommend key characteristics that we believe insurers should consider when developing these behavioral nudges, including:

•Social, appealing to people's tendency to socially conform. Insurers can begin by benchmarking prevention solution adoption among policyholder peers, as utility companies do when they compare neighbors' water or power usage.

•Measurable, quantifying the impact of the prevention solutions to appeal to customers considering the costs of potential losses.

•Actionable and relevant, offering personalized solutions tailored to individual preferences and expectations. For example, while nearly half of policyholders say they want discounts, others seek benefits in kind, such as risk prevention recommendations.

•Timely advice delivering early warnings at the right time through the right channels.

Successful behavioral nudges require up-to-date, relevant customer data and insights to create compelling messages delivered through the right channel. Firms can mine high-impact data and insights through digital solutions and platforms that seamlessly integrate within policyholders' day-to-day activities, possibly through embedded solutions in adjacent ecosystems.

Insurers have the tools to embark on this complex risk prevention and mitigation journey. However, success depends on strengthening customer trust and venturing beyond traditional risk-transfer propositions. It also requires acquiring and developing the right talent who can deeply engage with policyholders through data-driven behavioral nudges.

Resilient responses spark superior customer experience

While prevention initiatives aim to reduce the frequency and severity of losses, loss incidents will continue to happen. Unfortunately, our customer survey participants said claims processes are sub-optimal and lengthy, payouts and forms are complicated, and policies are not comprehensive.

"These initiatives will help us move beyond the traditional claims model. Let's invest in automated claims creation and adjudication and distribute work that can be straight-through processed to the right people at the right time while minimizing fraud."

Doug Stitzer
Global Head of Insurance, PEGA, USA

In tune with customer sentiments, some Insurers are now implementing new initiatives, including aerial photography, satellite imagery, and drones, and combining them with fast and scalable operations to rapidly mobilize resources and support policyholders in the most critical need.

However, the most significant opportunity for Chief Claims Officers is to rethink their claims strategy guided by three principles aimed at providing a faster, better, and more personalized response during a loss event:

- Prevent future loss events. After a loss, restore affected structures at a safer location versus rebuilding on the same site.
- Boost insured-property resilience. Build floodwalls around homes that follow the latest building association guidelines (ideally influenced by insurers).
- Adopt environmentally-friendly restoration practices. Maximize waste and debris recycling and use a sustainable supply chain.

Digital solutions slash the time to process storm-flooded total-loss vehicles

US-based CURE Auto Insurance has provided affordable car insurance to over a million drivers in New Jersey and Pennsylvania for 30+ years. With its launch into Michigan (July 2021), the insurer is growing based on a unique approach to underwriting that prioritizes driving history over credit history.

Business Challenge: CURE was looking to improve and streamline the total loss experience and sought a modern, integrated solution to eliminate manual paperwork, facilitate quicker title/lien releases, and speed claims resolution for policyholders while increasing transparency across the process.

Strategy/Implementation: With a focus on customer-centricity, CURE leveraged CCC Intelligent Solutions' Total Loss Care, a comprehensive digital solution that simplifies and improves total-loss claims processing. Total Loss Care's end-to-end experience helped CURE automate the manual, time-intensive tasks of obtaining lien information and processing title documents. It also provided a mobile app to offer policyholders a digital guide throughout their total loss experience that reduced form submission time. Through automation and direct, digital connections to auto lenders, CURE accelerated its ability to secure titles and pay off liens for vehicles deemed a total loss. The insurer slashed claim resolution time from an average of 45 days to 25.

Results: The technology was a game-changer for CURE and its policyholders during Hurricane Ida (September 2021) as vehicles became submerged in stormwater and total loss claims volumes across New Jersey jumped 35%. However, enabled by Total Loss Care support, CURE could offer 40% shorter processing times, and customer satisfaction rose 50%.

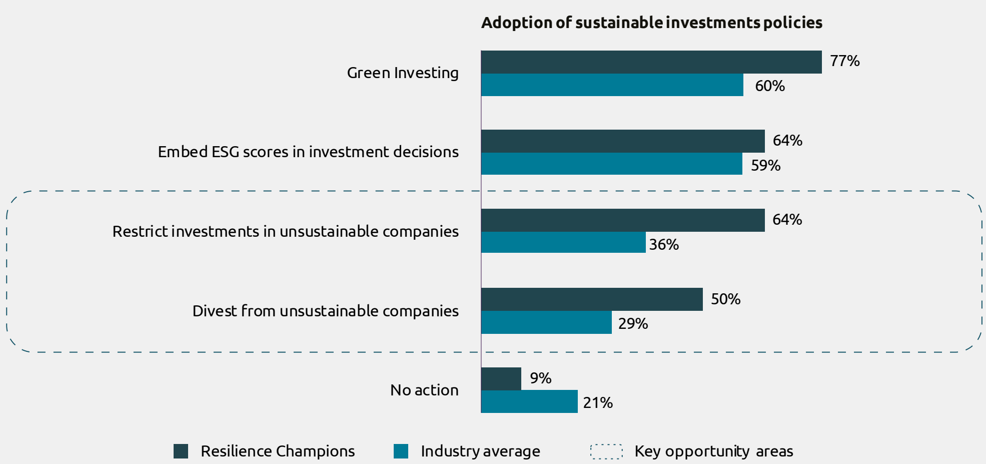
Insurers should look beyond investment and underwriting criteria

The third key pillar in Capgemini's climate resiliency framework requires Chief Underwriters and Chief Investment Officers to take bold actions and adopt sustainable best practices at scale. From our survey, we learned that 21% of firms had not taken action yet on sustainable investments, and 35% of firms had not taken action on sustainable underwriting. In contrast, more than three-quarters of Resilience Champions had adopted one or more initiatives in both aspects (Figures 7 and 8)

However, there is also considerable interest – particularly among Resilience Champions – in restricting investments and coverage of unsustainable companies that adversely impact the environment. Unfortunately, the definition of unsustainable is subjective, and various organizations define which companies and assets fall in this category through different criteria.

We believe insurers will win by taking a more active role and moving beyond exclusions and divestment. Firms can engage with customers and businesses by leveraging their risk management expertise. Then, they can suggest action plans built around risk-prevention initiatives and mitigation to support (versus exclude) policyholders and companies during the transition. Not only will insurers play a more substantial role in enabling societal resilience, but they will also reduce the potential for reputational risk by taking an active pro-climate resilience stance.

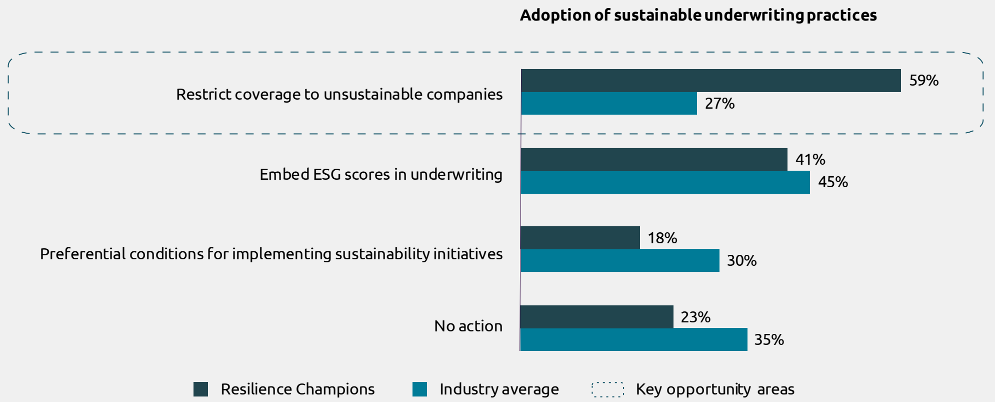
Figure 7. Are sustainable investment policies being enthusiastically adopted?



Question to insurers: How are your firm's investment decisions evolving to ensure sustainability, i.e., focusing on green companies, ESG-responsible companies, etc? Mark 'Yes' to all factors that apply to your organization.

Sources: Capgemini Research Institute for Financial Services Analysis, 2022; World Property and Casualty Insurance Report 2022 Executive Interviews, 2022

Figure 8. Who is leading the charge in sustainable underwriting practices?



Question to insurers: How does your firm ensure increasingly sustainable underwriting policies? For example, do you focus on Green companies, ESG-responsible clients, etc? Mark 'Yes' to all factors that apply to your organization.

Sources: Capgemini Research Institute for Financial Services Analysis, 2022; World Property and Casualty Insurance Report 2022 Executive Interviews, 2022

Insurers need a sustainable ecosystem

54% of Resilience Champions partner with BigTech and Insurtech

For successful transformations in data strategy, risk prevention, investment, and underwriting, Chief Innovation Officers will create a collaborative, resilience ecosystem by coordinating with C-suite colleagues to identify appropriate qualifications, targets, and objectives to move beyond the traditional ecosystem (Figure 9).

Layer 1 strengthens the core insurance ecosystem. The transition to resilience and risk prevention requires a significant shift in current operations, vision alignment, and new processes to streamline information exchange between brokers, insurers, and reinsurers.

Moreover, insurers will require dedicated talent to support an efficient resiliency journey. So we were not surprised that half of the Resilience Champions say they nurture sustainability talent. Astute recruitment ensures value alignment with employees and enables the industry to position itself as a prime destination for tomorrow's evolving workforce.

Layer 2 empowers a digital ecosystem through partnerships with BigTech, InsurTech firms, and tech providers to capture new data sources, leverage AI and ML, and deploy cloud and edge computing for insights. Digitalization is essential to increase risk model accuracy and enable risk prevention.

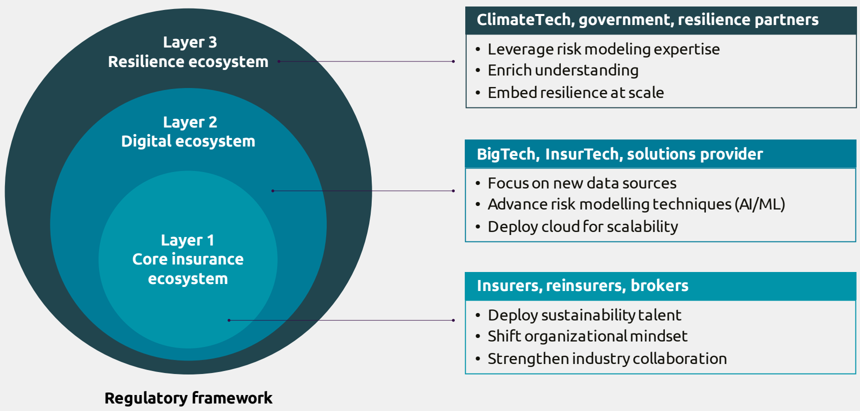
For example, German multinational insurer Munich Re partnered with Microsoft Azure to deploy climate change risk assessments that predict the future.[22] Similarly, Aon partnered with US-based Zesty.ai to build an AI-powered wildfire model to assess climate and non-catastrophic risks to detect and mitigate wildfires.[23]

Layer 3 is an essential addition to this model, and it focuses on building a resilience ecosystem. It is where insurers leave their comfort zones and expand their ecosystems by partnering with governments, ClimateTech firms, and climate specialists to bolster resilience proficiency.

As insurers begin to think outside the traditional coverage box, they should consider these best practices:

- Advocate for public-private partnerships to create risk-prevention initiatives and tackle tail risk that the industry may not be able to underwrite unilaterally

Figure 9. Insurers need to drive engagement above and beyond their traditional ecosystem



Sources: Capgemini Research Institute for Financial Services Analysis, 2022; World Property and Casualty Insurance Report 2022 Executive Interviews, 2022

- Influence construction standards and land planning to ensure developers embed proper risk management and assessment plans before they break ground
- Insert climate risk in the property purchase process, including showing climate change risk indicators on real estate aggregator websites in the same way as proximity to schools and local amenities is promoted
- Lobby financial institutions to reexamine financing requirements to assess whether coverage is sufficient
- Insist on underwriting right-to-repair clauses to minimize waste and drive sustainability across the value chain

Finally, the industry needs to continue its data-driven dialogue with regulators worldwide to drive consistency and clarity in requirements and initiatives.

"Within current business dynamics, each data-ecosystem partner owns a piece of information. When they seamlessly share the data, they understand the holistic nature of risk and arrive at a comprehensive customer risk profile."

Dipak Sahoo
Regional CIO, Asia, Generali, Hong Kong

Thai farmers benefit from insurer's innovative satellite weather index

Founded in 1997, Bangkok-based Sompo Insurance (Thailand) Public Company Limited (Sompo Insurance Thailand) specializes in corporate and commercial underwriting for fire, marine, agriculture, motor, travel, and casualty coverage.

Business Challenge: Agriculture is a critical Thai industry, but the effects of climate change make predictable harvests difficult. Longan, a fruit eaten raw or used in soups, desserts, and candies, is a leading Thai export (≈USD 4.9 billion annually). Sompo Insurance Thailand wanted to minimize farmers' losses from weather-related crop damage. However, rainfall varies each season, and the firm sought to create a policy triggered by long-term drought.[1]

Solution/Implementation: In cooperation with Thailand's Bank for Agriculture and Agricultural Cooperatives (BAAC), Sompo Thailand piloted a first-of-its-kind coverage plan to protect longan farmers from devastating drought impact using a precipitation volume index. The policy pays indemnity to insured farmers when satellite data indicates low or below-drought index precipitation. Working with the Remote Sensing Technology Center of Japan (RESTEC), Sompo Insurance Thailand uses a Global Satellite Mapping of Precipitation (GSMaP) solution that provides hourly rain-rate data. Damage assessments are possible without in-person surveyors. Through Sompo Insurance Thailand's collaboration with BAAC, the policy was made available for longan farmers in 24 districts in northern Thailand where longans are grown.

Results: The firm introduced longan farmers' coverage under the direction of AgriSompo, Sompo International's integrated platform to assist farmers, ranchers, farm suppliers, agriculture insurers, and agribusinesses in 2019. The launch allowed Sompo Insurance Thailand to hone its expertise in design services for weather index insurance, collect damage data, and relieve farmers of as many losses as possible. By 2021, Sompo Insurance Thailand expanded its parametric weather insurance to cover rice and sugar cane farmers. Today, Sompo Insurance Thailand combines local knowledge with technical support from AgriSompo to further support Thai agriculture.[2]

Embed climate resiliency in corporate strategy to future-proof business

As breaches in the protective ozone layer multiply, the falling-sky scenario catalyzes the urgency for new business and operating models. We recommend that insurers accelerate their climate resiliency journeys with these strategic mileposts:

• Revisit your near and long-term corporate strategy
• Rework your team's approach to innovation
• Redefine your technology investment goals

Revisit your corporate strategy

The starting point for insurers is to define a resilience plan and embed it in their revisited corporate strategy. The goal is to convert long-term ambitions into short-term actions and carefully estimate the actual ROI of such an investment. To ensure steady progress against this strategy, insurers should consider three steps:

• Complete a detailed gap analysis to identify potential disparities and vulnerabilities within the journey. Is the right talent in place to drive resilience and risk prevention? Are your risk models mature, or could they use fine-tuning? What about the data strategy and technological capabilities required to drive change?
• Engage stakeholders early in the process – including governments, communities, and clients, as well as technology partners and InsurTech firms. Align goals, create opportunities to improve awareness and education, and decide whether to buy, build, or partner for new solutions and capabilities development.
• Measure progress to drive a virtuous cycle of change.

California-based Joe Paluska, the CMO from OneConcern, a provider of a Resilience-as-a-Service solution that helps uncover, prepare for, and mitigate unpredictable disaster risk, added: "The industry needs quantifiable, resilient scores that are consistent, transparent, and measurable across assets over time."

Today's extraordinary circumstances position the industry to deliver resilience solutions that prepare society to face future challenges. "Climate resilience is an incredible opportunity for the industry," said Hanno Mijer, Zurich's Global Head of Resilience Solutions. "Insurers have real skin in the game and can align with customer outcomes. If not insurers, then who?"

Rework your innovation strategy across the value chain

The starting point here is to align across the C-suite. Elevate the role of the Chief Sustainability Officer and encourage a culture and governance structure that enables innovation and bridges the gap between long-term ambition and a planning horizon that rarely extends beyond three years.

"Too often, we trap innovation within short-term cycles," noted UK-based Simon Torrance, Embedded Finance & Super App Strategies founder. "If you think about the amount of innovation needed to tackle climate resilience, you need long-term horizons and collaboration with multiple ecosystem players. Not many insurers have the governance and culture to make it happen."

"Working together, insurers and governments can create large-scale data exchanges as the basis of predict-and-prevent propositions, which are essential to achieve resiliency – both for the industry and society as a whole."

Sean Kevelighan
President and CEO, Insurance Information Institute, USA

The ultimate goal of innovation strategy is to embed resilience into the insurance value chain (Figure 10).

Corporate citizenship is an important cornerstone, but the organization also needs clear value-creation goals. The key is to go beyond excluding assets and support the transition across both underwriting and investments.

Risk management is about capturing and leveraging data better. The goal must be to create new and different approaches for more accurate risk modeling.

> ***"Consumers are used to next-day delivery without thinking about delivery ecosystems, payment processors, or stock houses. Policyholders expect the same, and – as extreme events become more common – insurers need to improve end-to-end customer experience and reduce product complexity."***

Shivani Govil
Chief Product Officer at CCC Intelligent Solutions, USA

Product evolution offers opportunities to bundle risk prevention with insurance or sell it as a different solution altogether. Insurers that use nudges effectively incentivize policyholders to adopt resilient behaviors and position themselves to offer risk transfer solutions that reduce protection gaps and create growth opportunities.

Generali's Chief Marketing Officer and Head of Sustainability in Portugal, Maria João Silva, said, "We need risk prevention and mutualization literacy to tackle insurability issues and create a win-win proposition for insurers, clients, and governments."

When it comes to marketing and distribution, it is essential to engage customers through all channels to build a resilience-friendly brand.

And finally, claims transformation presents a significant opportunity to create quantifiable differentiation during extreme weather events. Winners will focus on better restoration by leveraging connected sensors and accurate data for loss detection and cloud for scalable response capabilities.

Figure 10. Insurance value chain resilience requires a comprehensive approach

VALUE CHAIN	Corporate Citizenship	Risk Management	Product Evolution	Marketing & Distribution	Claims Transformation
ACTIONS REQUIRED	• Go beyond assets exclusion in investment and underwriting to support the transition • Reduce operations carbon footprint • Deploy capital on infrastructure and cleantech	• Enhance data used in pricing and underwriting • Develop and adopt more accurate catastrophe models • Refine reinsurance posture to reflect prospective risk	• Offer risk prevention as complimentary or independent solution • Broaden and refine coverage terms and conditions • Embed nudges in product propositions • Develop products to target underserved	• Align with distribution to increase awareness and education • Incentivize customers to take more resilient actions • Offer omni channel to engage throughout the Nat Cat lifecycle • Build resilience friendly brand	• Differentiate through preparedness and response capabilities • Build scalable response capabilities • Focus on sustainable restoration practices
WHO TO ENGAGE WITH	Governments, BigTech, InsurTech, Fintech, asset managers	Governments, communities, ClimateTech, InsurTech	Behavioral scientists, building associations, InsurTech, BigTech	Agents, brokers, governments, communities	InsurTech, communities, ClimateTech

Source: Capgemini Research Institute for Financial Services Analysis, 2022

Redesign your technology strategy

Insurers seeking to boost policyholder resilience need a customer journey featuring best-in-class engagement and optimal outcomes. Start with a digital platform to create a customer journey based on real-time data. Then, provide nudges and timely direct response services via each customer's preferred channel.

Such a platform requires multiple new technologies to coalesce. The most successful insurers will leverage sensors, mobile, and satellite data and drive insights in real-time through AI and machine learning. Deploying these capabilities will require a rapid and structured transition to the cloud to boost computing power.

Leading-edge technologies hold the key to speeding up risk modeling.

For example, quantum computers are on track to deliver quadratic and, in some cases, exponential acceleration, which means computation can be reduced from weeks to hours for significantly complex problems. This capability will benefit insurers seeking to augment their risk-management and risk-prevention capabilities.

Firms that successfully carry out this complex transformation will strengthen their relevance and profitability and authentically contribute to one of the most significant modern-day challenges.

Starting your climate resilience journey

But where does the journey start? Below are key strategies to drive climate resiliency:

- Build a resiliency roadmap and define your strategy
- Access new data via engagement with non-traditional ecosystem partners, capture ESG data, and embed IoT solutions to secure real-time mining.
- Add climate risk insights and implement change detection at renewal. Deploy AI/ML insights and embed data in underwriting and pricing.
- Build infrastructure that enables scalable capabilities. Migrate to the cloud to scale computing power during and after Nat Cat events. Explore quantum computing for faster simulations, and deploy Green IT.
- Evolve your product propositions, including risk prevention and mitigation solutions. Advance underwriting techniques. Assess behavioral science use cases.

IN CONCLUSION

Climate change is the defining challenge of our times, and customers and insurers are well aware of the risks posed. As a result, some are incrementally taking action.

However, too few insurers are making headway. The whole industry must hit the climate-resilience accelerator and get moving. Start by focusing on critical success levers. Prioritize strategic initiatives aimed at loss prevention. Invest in advanced technologies to assess risks accurately. And establish a diverse and innovative resilence ecosystem.

Deliberation time has expired. Act now to profitably make a difference!

Methodology

The World Property and Casualty Insurance Report 2022 draws its data from two primary sources – the 2022 Global Insurance Voice of the Customer Survey and the 2022 Global Insurance Executive Interviews. These primary researches together cover insights from 29 markets: Australia, Austria, Belgium, Brazil, Canada, China, Colombia, Denmark, Egypt, France, Germany, Hong Kong, India, Italy, Japan, Luxembourg, Mexico, the Netherlands, Norway, Portugal, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Switzerland, United Arab Emirates, the United Kingdom, and the United States.

Capgemini Voice of the Customer Survey, 2022

Our comprehensive Voice of the Customer Survey, which was administered in January and February 2022, in collaboration with Phronesis, polled more 4,900 insurance customers in 16 countries. These markets together represent all the three regions – Americas (North America and Latin America), EMEA (Europe, Middle East, and Africa), and Asia-Pacific (including Japan).

World Property and Casualty Insurance Report Executive Interviews, 2022

The report also includes insights from interviews of over 270 senior insurance executives of leading insurance companies across 27 markets. These markets together represent all the three regions – Americas (North America and Latin America), EMEA (Europe, Middle East, and Africa), and Asia-Pacific (including Japan).

Resilience Champions

We calculated each firm's resiliency maturity based on the maturity of adoption of the following sustainability initiatives: Green IT, Embedding ESG in underwriting & investment, Green finance & sustainable underwriting, Embedding ESG & stress-test scenario analysis in ERM, Embedding climate risk data, Carbon footprint tracking & risk mitigation services, Resilient infrastructure, Recruiting knowledgeable talent, and Climate risk advice. We considered five levels of adoption: No capability, Piloting / PoC, Business unit level adoption, Organizational adoption in certain geographies, and Group/ enterprise level adoption. In our analysis, we found that the top 8% of firms (Resilience Champions) also are leading their way in implementing initiatives that can lead them to achieve climate resiliency.

Partner with Capgemini

Build the foundation to drive a sustainable and climate-resilient future

As ESG (environmental, social, and governance) gains momentum, sustainability in the insurance industry is becoming integral to activities across the value-chain. Capgemini helps insurers build the right foundation to manage climate risk, identify sustainability linked growth opportunities, and monitor stakeholder interactions.

We blend deep domain expertise, ready-to-deploy solutions, and an ecosystem of trusted partners to collaborate with you about ESG strategy and data intelligence to align your organization's sustainability objectives with actions.

Our services fall into three categories:

Fundamental ESG Data.

The first step toward sustainability transformation is putting in place a system to measure data supported by a centralized data platform across the insurance value-chain. We partner with insurers to build a sustainability-aligned ESG data hub to measure fundamental ESG data so you can effectively manage climate risk and support the innovation of sustainability-linked products.

Custom Green Scores.

Both insurers and customers are looking for effective ways to measure, monitor, and predict the impact of climate risk. We devise a framework to establish customizable ESG scores by leveraging internal and external data, including customer sentiments derived from AI/ML structured and unstructured data sources. We help you integrate these ESG scores into your underwriting, pricing, and customer interactions. Sentiment data and ESG scores can be used for peer group benchmarking while also providing insights into underwriting and pricing.

Property360.

Integrating a 360-degree view of an insured asset with qualitative ESG attributes enables more effective asset management across acquisition, due diligence, underwriting, and servicing. Our Property360 offering has an integrated property risk management framework that embeds ESG considerations into every stage of the property lifecycle. For example, we use composite scores to assess risk selection, ESG variables to determine pricing, and carbon-footprint index scores or IoT-based continuous monitoring and exposure tracking to oversee buildings.

Regardless of where your organization is in its sustainability journey Capgemini has the tools, methodologies, and partnerships to inspire you and help you get where you need to go.

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