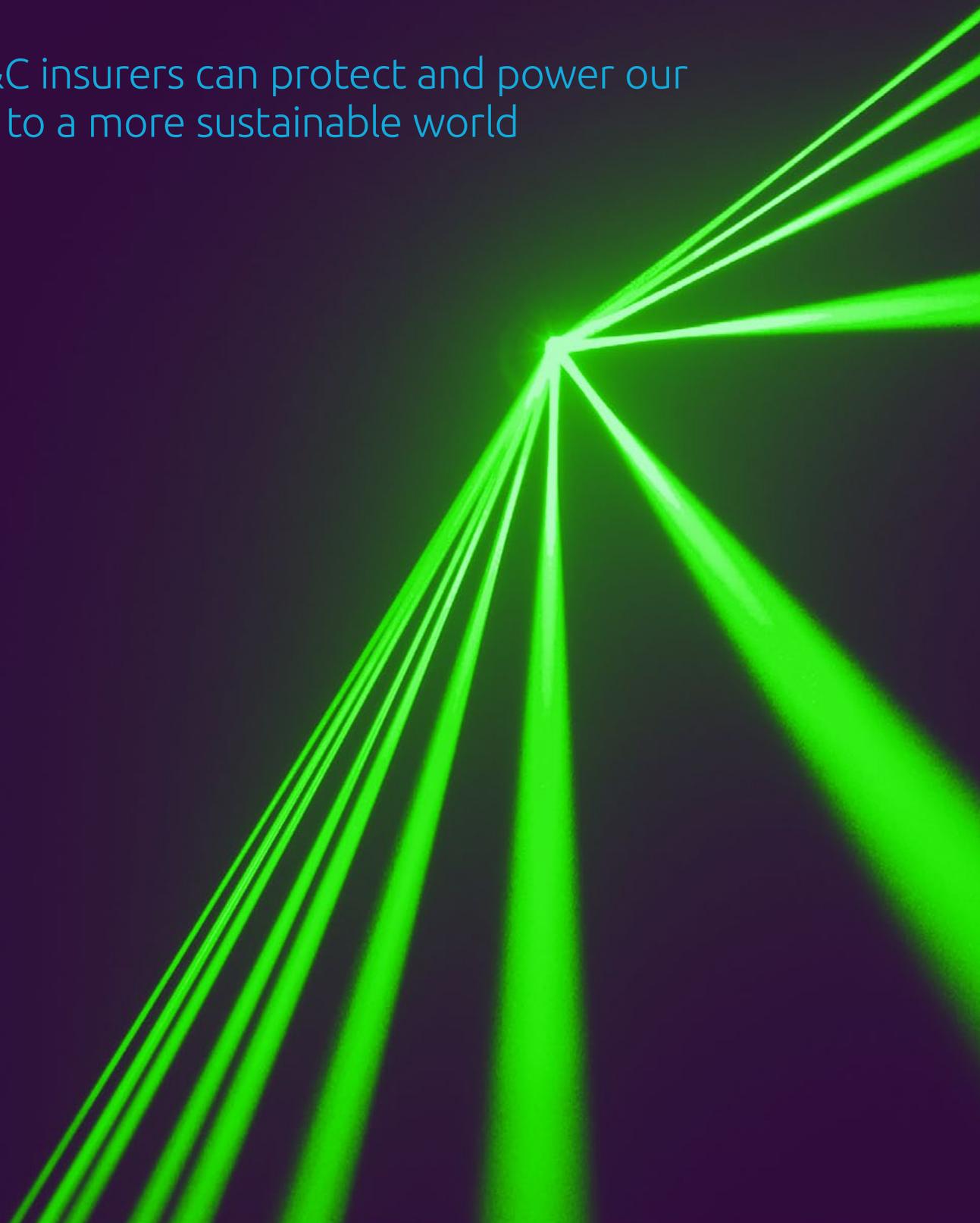


SUSTAINABLE INSURANCE

How P&C insurers can protect and power our
journey to a more sustainable world



FOREWORD

Natural disasters and behemoth weather events have become increasingly common and detrimental to society. However, for many years, political leaders, corporate executives, and citizens around the globe were slow to realize the true impacts and scale of climate change as its effects took their toll. Over the last 20 years, we have seen an overwhelming increase of droughts in India, extreme heat across continental Europe, deadly tsunamis and earthquakes in Japan, raging wildfires in Australia and the Western United States, fierce cyclones in Africa, and treacherous hurricanes across the Caribbean and the Southeastern United States.

By the end of 2020, weather disaster damages destroyed hundreds of thousands of homes, took thousands of lives, and cost the world over \$95 billion USD.¹ As recently as February 2021, the American state of Texas' freezing temperatures paralyzed energy sources, which left over four million Texans without power for days. The unexpected and extremely

cold temperatures caused the already weak electric grid to fail. The inability to keep up with energy demands to provide heat and electricity across the entire state wreaked havoc on individuals and businesses. By mid-March 2021, damage estimates were as high as \$30 billion USD.² This is one of many recent examples of how climate change is rapidly increasing the amount of risk we're experiencing.

Property and casualty (P&C) insurers both underwrite this damage and have a role to play in mitigating the impact of climate change. Bulge bracket insurers are equipped with name brand recognition, financial capital, expert resources, vast stores of data, and a wide breadth of influence. This puts them in a unique position to impact sustainability trends, influence how individuals behave, and shape how businesses consume products. Those who are affected by increased risk and natural disasters depend on P&C insurance products to protect them from loss and financial peril. For example, when considering the

material environmental impacts on property, insurers are on the hook to spend billions of dollars on replacing goods and repairing damage after claims are made.

Insurers undeniably carry the financial burden of climate change-induced natural disasters on a more significant level compared to other financial services sectors. However, they also sit in a place of power and authority and have the ability to embed sustainability criteria on the replacement of products supplied or repair work.

Insurance companies and their evolving policy offerings can contribute to both the way people and communities recover from climate-related disaster and the overall climate resiliency of a society. They are also positioned to meet the changing demands of consumers as sustainable practices and climate change prevention become key differentiators in an increasingly competitive insurance landscape.

“*Insurance models are rapidly changing in response to the emerging risks. It is important for insurers to transform themselves and proactively manage the emerging risk scenario, rather than just adapt to it.*”

Youngran Kim
Region CIO, Allianz Asia Pacific



Insurers sit between their customers and the financial damage of climate risks, placing them in an advantageous position to help drive climate resiliency. They can encourage the proactive adoption of sustainable practices and products. They can refine underwriting assumptions to account for changes in weather and associated risk with certain products and geographies, in addition to offering incentives that drive preventative behaviors.

A critical component of ensuring climate resiliency is conquering the insurance protection gap. This

represents the difference between economic and insured losses and the cost to society in the wake of natural disasters. In 2019, more than 400 damaging weather events culminated in over \$232 billion USD in economic losses globally and only \$71 billion USD was insured.³ Insurers should start to partner and collaboratively form strategies and new products to address this issue in order to stay on the offensive side of climate change.

Arguably, insurers' performance is more affected by the results and ongoing effects of natural

catastrophes and disasters than any other financial services players. Their heavy investment reserves and product portfolios must consider the impact of sustainability across experience, innovation, and operations, while also understanding how they instill resiliency and address the protection gap with new policies and products. Incorporating sustainability into corporate strategy and developing more adaptable products will not only speak to customers but will also secure long-term viability for insurers and the planet as whole.



This report aims to highlight perspectives and concrete illustrations from the insurance industry to inform how insurers should think about incorporating sustainability into their strategies and product offerings. We focus on how insurers should act as responsible societal players and understand the role their brands play when it comes to customer expectations. Here, sustainability is defined as business approaches that create long-term stakeholder value while focusing on the environmental and some social dimensions of business. We will equip insurance leaders with preliminary recommendations on how to respond to evolving market demands and customer preferences, with the ultimate goal of limiting profit losses and unlocking revenue, all while greenifying company strategy.

“*We are the first generation to feel the sting of climate change, and we are the last generation that can do something about it.*”

Jay Inslee
Governor of Washington

EXECUTIVE SUMMARY

OUR APPROACH

For insurance leaders, we defined areas of focus in which investment in sustainability topics is relevant in both the short- and long-terms for individuals, businesses, insurers, and communities.

We have scanned the market to collect information from top insurers worldwide.

We have shared how product and customer expectations are driving the way insurers should respond to the market.

For insurance organizations, we have provided insights and methodologies that can kick off or enhance the sustainability agenda.

This report covers key trends, mainly centered around property and casualty, and takes insights from events and changes across the globe. It will be the first in a series of reports that will cover additional insurance niches in greater depth.

KEY TAKEAWAYS

1

We are witnessing a switch from the “leading” era to the “lagging” era

- Action is imminent as risks continue to increase and put pressure on insurers in many ways
- Insurers already on their journey are positioned to be market leaders in the future
- Customers are willing to pay a premium when brands and their products adhere to sustainability criteria

2

The insurance product landscape in P&C is changing but there is still room for innovation and advancement

- New products are becoming readily available and attract customers through discounts and rebates
- Incumbents need to recognize that non-traditional players are disrupting the P&C market without any sign of stopping and they will continue to take market share from those without a sustainability action plan
- A strategy that supports new product innovation to combat the impacts of climate change could continue to act as competitive advantage across the P&C landscape

3

Insurers who proactively take action to increase climate resiliency will gain a competitive edge

- True climate resiliency is achieved when a company moves away from surface-level changes that focus on managing reputation to more significant structural transformations
- Climate risks need to be engrained in strategic and operational assessment and planning
- Climate resiliency results in a stronger foundation to protect a company against climate-related risks and uncertainties, allowing them to stay offensive rather than defensive

4

Capgemini Invent’s fields of play and transition matrix aim to design and assess comprehensive strategies to realize insurers’ sustainable ambitions

- Six fields of play must be included in the plan for success: strategy, engagement, business models, risk management, green IT and operations, data
- We assess insurers’ maturity along these six fields of play to define appropriate action plans and next steps

SUSTAINABLE TRANSITION IS NOW A NECESSITY FOR INSURERS, AND IT WILL BECOME AN OBLIGATION IN THE UPCOMING YEARS



Insurance firms that were proactive when the topic of climate change surfaced in the early 2000s are now considered leaders amidst the transition to a low-carbon economy. They continue to capitalize on the opportunities, whereas firms that have yet to begin their transition or are only superficially engaged will either

be forced to comply or face negative financial and brand consequences. At the start of 2021, we are at a precipice, beyond which there will be increasing pressure on institutions to strictly comply with “green” norms. Failure to do so will likely result in a loss of profit (increased claims, squeezed margins, loss of product revenue, etc.) and

customers (loyalty on green affinity, decreased demand, poor coverage options). If insurers act now, there is still opportunity to reap financial benefits. However, every moment they hesitate to address sustainability will result in potential profit loss.

Figure 1. From the “leading” to “lagging” era



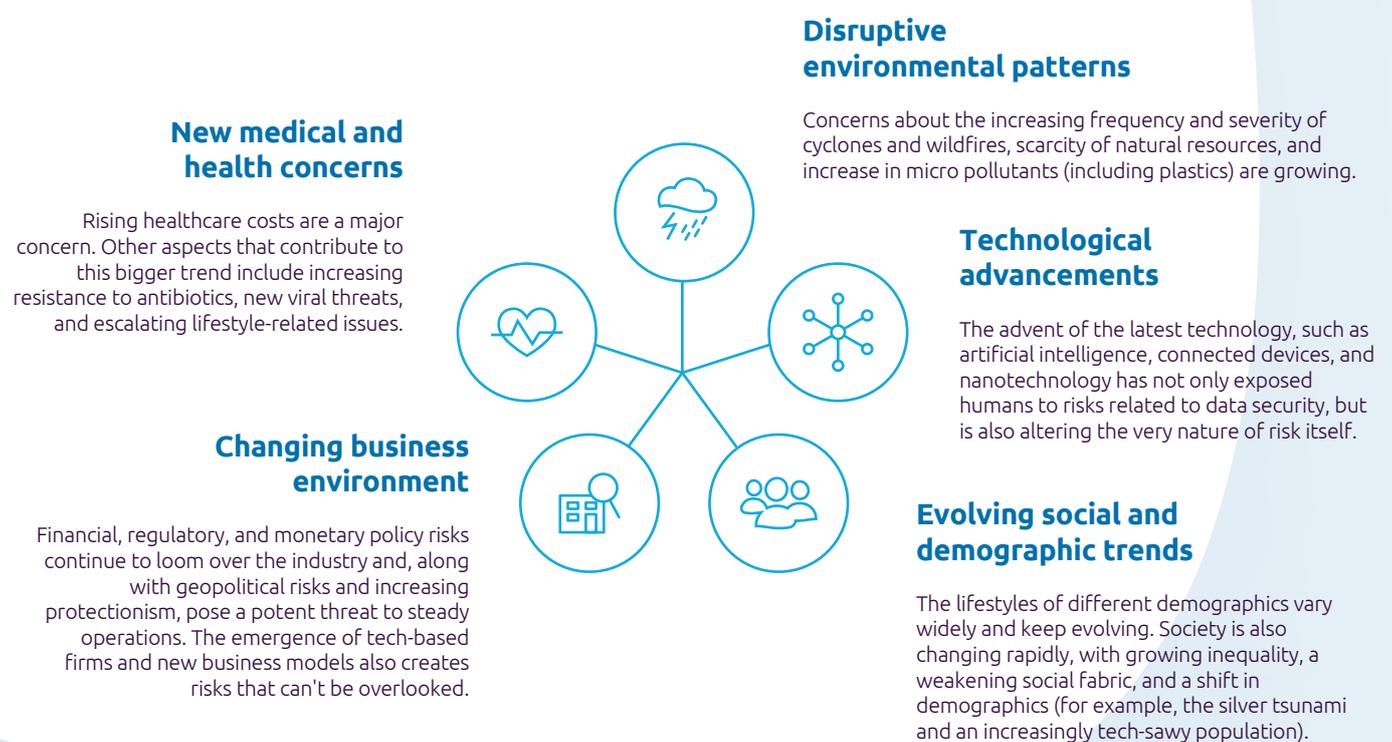
AS CLIMATE-RELATED DISASTERS INCREASE IN FREQUENCY AND SEVERITY, RISK EXPOSURES ARE ON THE RISE

2020 is widely recognized as having been a record-breaking year for a multitude of reasons, one of which is the overwhelming number of billion-dollar disaster weather events causing the United States \$95 billion USD in damages, the highest annual total cost since 1980.⁴ Beyond the United States, we have seen an increase in the frequency and severity of natural catastrophes globally, increasing steadily in just the past few decades.

Capgemini's 2019 World Insurance Report reviewed a set of macro trends around various factors, including technological advancements, evolving social and demographic trends, new medical and health concerns, and the changing business environment, that are driving the evolving risk landscape. However, in this report, we will further elaborate on one section of the 2019 World Insurance Report:⁵ the risk of disruptive environmental patterns. This paper will be the first in a series

of releases around climate change and its effects on insurance providers, and will focus on climate-induced weather events as it relates to P&C insurers across the globe.

Figure 2. Capgemini World Insurance Report 2019; Macro trends driving the risk landscape evolution



DECLINING PROFITABILITY DUE TO FINANCIAL IMPACT OF INCREASED FREQUENCY AND SEVERITY OF LARGE NATURAL CATASTROPHES

Munich Re, a leading reinsurance group, has stated that the years of the Harvey, Irma, and Maria hurricanes (2017-2018), were the worst 2-year period for natural catastrophes on record, with insured losses totaling over \$225 billion USD.⁶ Furthermore, Swiss Re estimated \$140 billion USD total economic losses from natural and man-made disasters in 2019.⁷ This damage will be ongoing if climate issues are not properly addressed. According to the CRO Forum, \$12 to \$15 trillion USD in assets are projected to be at risk from coastal flooding alone.⁸

In addition to higher rates of insured losses, the insurance industry is seeing a global property protection gap that has almost tripled since the 1980s. In April 2016, the Kumamoto earthquakes in Japan resulted in economic losses of \$32 billion USD, with a protection gap of \$25 billion USD.⁹ In the summer of the same year, the earthquake that struck Western Europe only saw 10% of its total economic losses covered by insurance.¹⁰ Though transfer of all climate-related risk to insurers may not be optimal for their business models, there is still opportunity to strategically minimize this gap when appropriate and provide benefit for both the insurers and the insured.

Reinsurers are suffering from climate catastrophes in a way that is unique from primary insurance providers. Reinsurers provide financial protection to primary insurance companies and coverage for risks that are too large for insurers to handle on their own. The majority of these risks were formerly thought to be low probability, but have steadily increased in both frequency and severity, which changes the way insurance can be paid out and raises capital requirements for reinsurance providers.



LACKING ORGANIZATIONAL AND STRUCTURAL PREPAREDNESS DUE TO BUSINESS MODELS THAT ARE NOT GEARED TOWARDS CLIMATE CHANGE

The Insurance Regulator State of Climate Risks Survey found that a majority of US state insurance regulators expect all types of insurer specific climate risks, including physical, liability, and transition, to increase over the medium to long term. A third of the surveyed regulators reported not knowing how well

insurers are prepared to deal with the potential impacts of climate-related risks on financial stability. Another third of regulators reported being unsure of whether current insurer risk models were up to the challenge of capturing and testing for climate related risks. As weather becomes increasingly volatile, more events that

are not measured in current insurance risk models will continue to surface, as illustrated most recently in the United States with the collapse of the energy grid in Texas after days of unprecedented winter storms and freezing temperatures.

INCREASING INSTABILITY IN UNDERWRITING AND INVESTMENT PORTFOLIOS DUE TO REGULATORY AND FINANCIAL PRESSURE ON PRODUCTS AND PRICING

Climate change will have a huge impact on coverage scope and underwriting assumptions. In the aftermath of increasingly common catastrophes, we will see payouts continue to increase, driving up the price of protection. However, this will leave insurers stuck between the regulators, who restrict prices and premium increases, and the

ability to cover shrinking margins while increasing risk in their portfolios.

Regulatory restrictions on increasing premiums to match higher levels of risk have resulted in insurers dropping policyholders, leaving them without insurance. In the past four years, an estimated 340,000 policyholders in

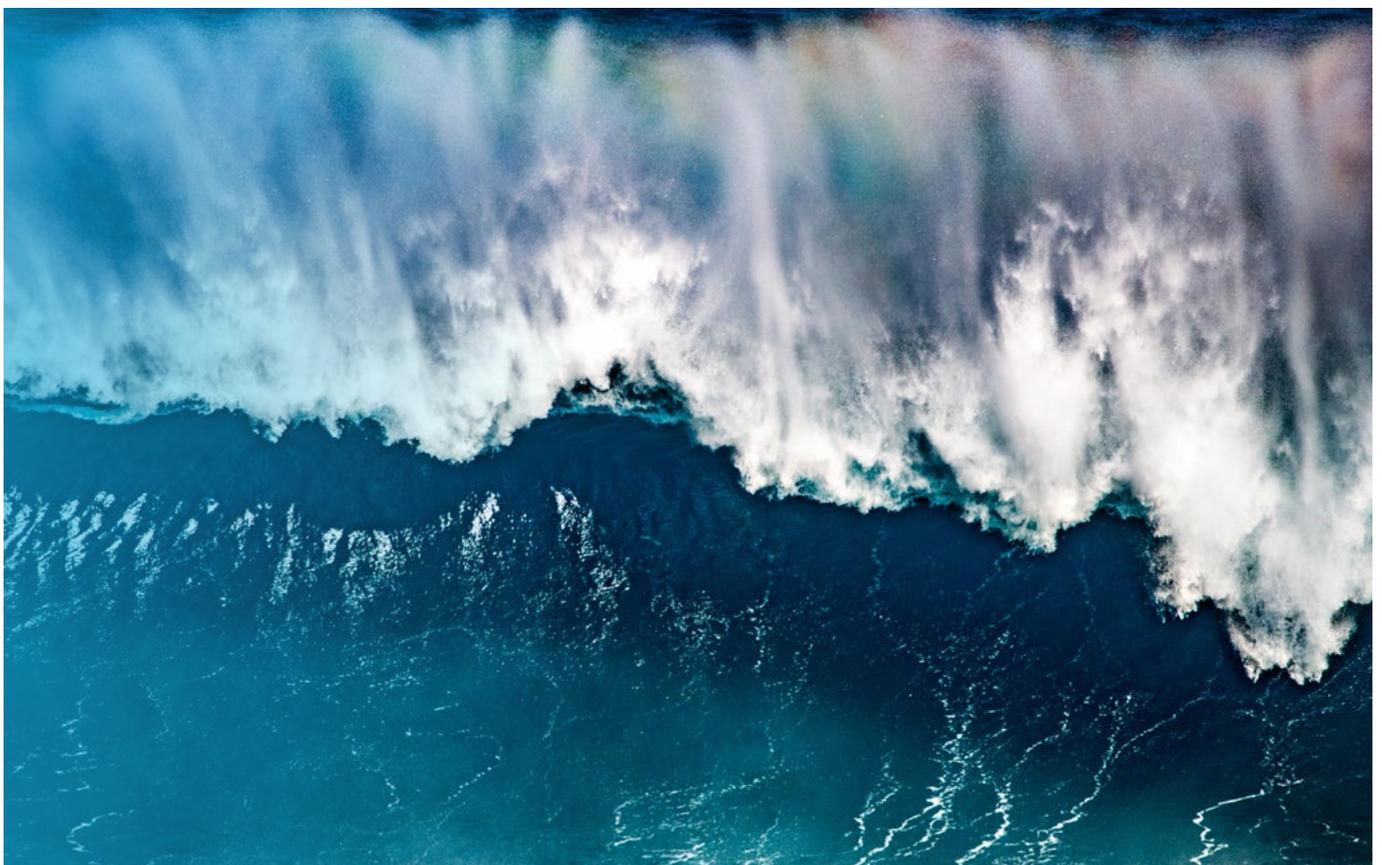
fire-prone areas of the United States have been defined as 'uninsurable' by most large insurers,¹¹ resulting in their reliance on state-funded insurance plans backed by insurers who provide very basic coverage at extremely high premiums.

SCRUTINY OF INVESTMENT PORTFOLIOS

As many financial institutions, such as BlackRock and Barclays, are publicly committing to impact investing, the pressure on insurers to re-evaluate their own war chests will increase. Zurich has stressed the importance of

responsible investment and committed to managing their assets in a way that creates sustainable values. They currently have +\$3.5 billion USD in green, social and sustainability bonds, +\$700 million USD in impact

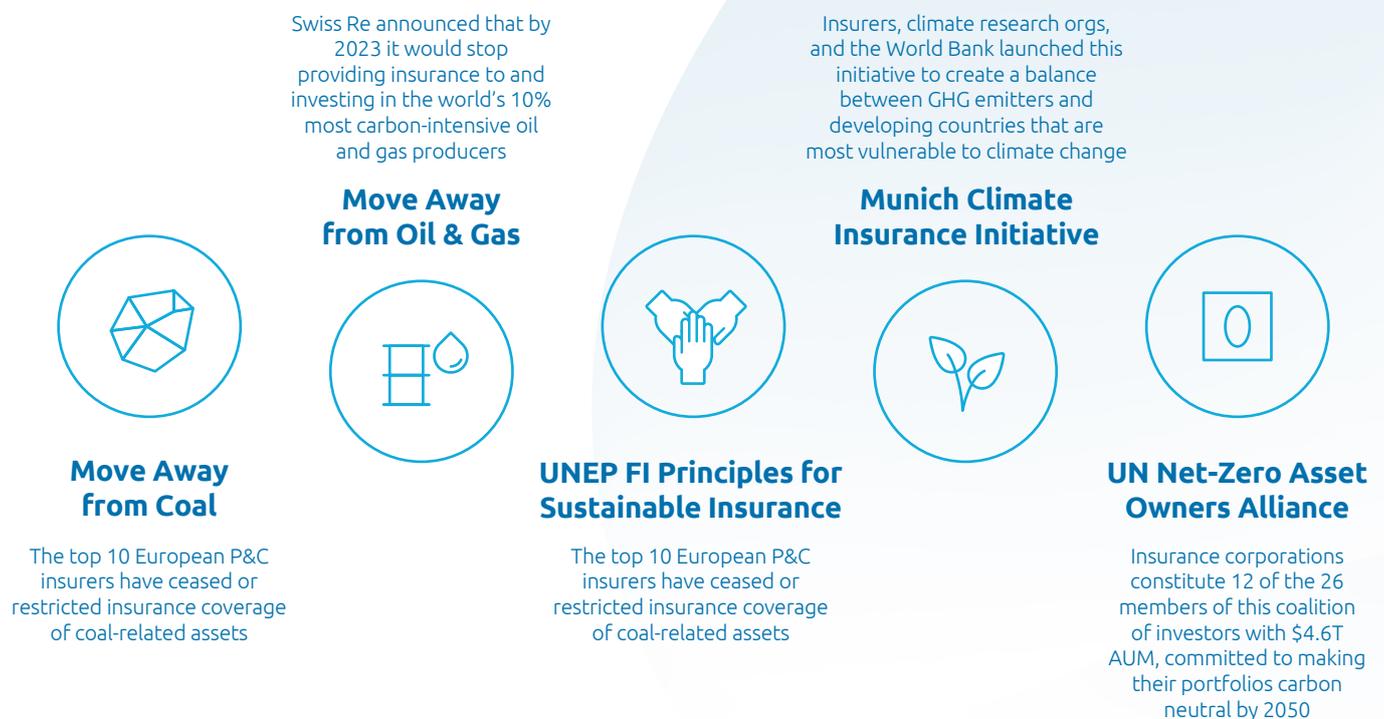
infrastructure, and +\$150 million USD in impact private equity.¹² These refined portfolios will more effectively generate and preserve long-term value, and it is advised that other insurers follow suit.



INSURERS COMMITTED TO THEIR SUSTAINABILITY JOURNEYS ARE LEADING THE CONVERSATION AND REAPING THE BENEFITS

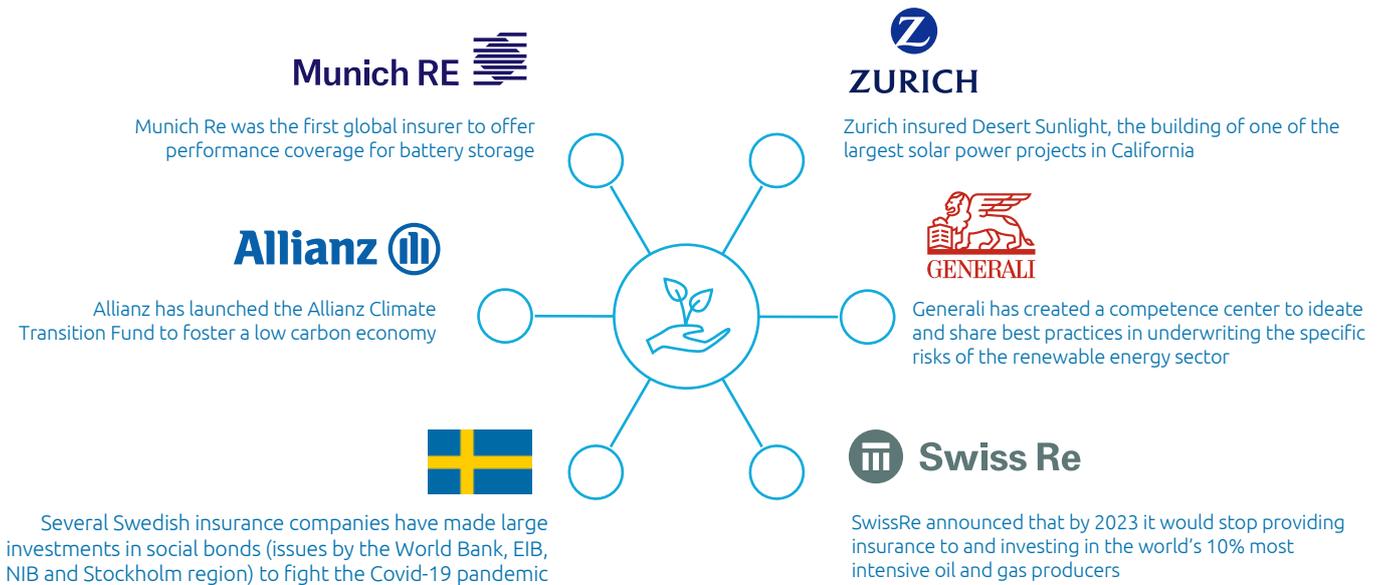
There is no doubt that the insurance industry can play a monumental and multifaceted role in accelerating the shift towards more sustainable economies and communities; insurers not only act as protection providers, but also risk managers and investors. Trends around shifting investments, working collectively to influence change, and anchoring decisions on sustainability around research and science are surfacing, especially across Europe - see Figure 3:

Figure 3. Complex normative environment



We see individual insurers also taking tangible action to edge themselves to the forefront of the sustainability conversation - see Figure 4:

Figure 4. Leading European insurers in the sustainability movement



A handful of American insurers embarked on their sustainability journeys as well, though there is still a great deal of work to be done. In the works are programs specifically targeted at natural catastrophe recovery and shifting investments into risk modeling and sustainable funds - see Figure 5:

Figure 5. A sample of American insurers in the sustainability movement



These trends, combined with tangible actions taken across various insurers, lead us to believe that sustainability will become institutionalized and major investment will be required. The environment, competitors, and natural disasters will continue to deliver this message.

CONSUMERS ARE BECOMING MORE ENVIRONMENTALLY CONSCIOUS IN THEIR ACTIONS AND THEIR CONSUMPTION HABITS; INSURERS NEED TO MEET CUSTOMER DEMANDS

Capgemini's 2019 World Insurance Report states, "future insurers will act as a partner by becoming more involved in customers' daily lives, and as a preventer by providing risk-control advice, all while being the payer that covers potential loss." To help manifest this ambition, insurers must play specific roles as sustainability moves on to corporate agendas. On the one hand, they need to be good corporate citizens, and on the other, they need to be purveyors of sustainable trends and products.

As corporate citizens, insurers should reflect internally and understand their purpose or vision for their own sustainability journeys. They must continually ask themselves: how will employee values and internal operations demonstrate commitment to sustainability? What can the organization do to prevent climate related risk from rising? Considerations for how sustainability

plays into their brand will also become a major key to customer adoption and retention. There will be no customer shift if insurers do not practice what they preach.

Additionally, incumbents cannot assume that brand recognition will be enough to tide them over as the sustainability agenda comes to the forefront. Insurers must create their own identities as they relate to sustainability. Information is now at the fingertips of anyone who is looking for it. Consumers have become more educated on the sustainability of the organizations they support and are looking for companies with transparent and robust sustainability practices. Insurers should focus on defining how they are driving green initiatives to capture consumers that will only do business with companies who share their values.

From a customer expectations perspective, policyholders are now prioritizing strong coverage for natural disasters and coverage for a growing market of sustainable habits. Furthermore, a recently published study found that nearly 70% of consumers in the United States and Canada believe it is important that a brand is sustainable or eco-friendly:¹³

- 70% of people are more aware now than before COVID-19 that human activity threatens the climate¹⁴
- 87% of consumers feel that companies should integrate environmental concerns into their products, services, and operations to a greater extent than they have in the past¹⁵
- Impact first investors are ready to lower their annual yield if the assets they're investing in have a positive social or environmental impact¹⁶





Factors such as social endorsement of sustainable practices, increasing approvals in communities and social networks, and influencing patterns are having a domino effect on the customer psyche:

- Customers perceive sustainability as a crucial differentiator for the brand value of their choice and may go on to pay a premium to acquire a product that is “sustainable-branded” as opposed to one that makes no mention of it
- Customers are abandoning products that have violated environmental norms in their production processes, distribution methods, marketing approaches, or even utility value
- The appeal of sustainability has permeated the customer psyche and has given rise to the associated “social signaling,” whereby consumers purchase certain products because they help in communicating a distinctive persona to the outside world. In short, being sustainable is chic

We see this shift already taking place in the other parts of the financial services sector. BlackRock’s CEO, Larry Fink, has committed his organization to integrating ESG into their investment processes. Barclays has also taken a stance on making impactful investments and growing their product offerings across ESG. They place sustainability at the core of the way they do business.

IN THE FACE OF CLIMATE CHANGE, THERE IS OPPORTUNITY AND A NEED TO BUILD NEW PRODUCTS AND INFLUENCE BEHAVIOR THROUGH EMBEDDED OPPORTUNITIES

Similar to their bank counterparts, insurers must focus on providing sustainable insurance products. Their position in the market and their motivation to meet evolving consumer demands and green norms is ripe. But unlike banks, insurance providers are uniquely positioned to address the protection gap and encourage resilient behaviors. When considering the amount of insurance that is economically beneficial compared to what is actually purchased in the P&C space, it becomes increasingly clear that there is opportunity for P&C insurers to strategically grow their revenue, market share and product offerings, while simultaneously offering greater swathes of coverage to the communities that desperately need it.

As environmental catastrophes continue to take place, governments often provide relief and subsidies

to repair the damage of the likes of hurricanes, earthquakes, and tsunamis to cover the protection gap. Examples include FEMA for hurricanes Katrina and Sandy in the United States and the disaster relief budget for the Tohoku earthquake in Japan. However, with the cost of these relief plans hitting taxpayers and potentially being bottlenecked by political red tape, there is opportunity for the insurance sector to provide supplemental and alternative products to government packages. For example, insurance companies can provide innovation around faster payout or opt-out alternatives in high risk areas to ensure coverage.

While it might seem like a straightforward proposition to ask insurers not to provide coverage to customers who have no intention of making more sustainable choices, this is not a realistic expectation. There will

always be a group of people willing to keep the status quo who would rather pay for convenience. However, there is a plausible alternative solution to shift customer behavior. As claims are paid out on destruction, whether caused by climate conditions or not, insurers can embed certain criteria to complete the claim in order to passively command green behavior. Instead of increasing premiums in high risk areas, insurers can create stipulations and refuse claims payout if these standards are not met. An example is incorporating green building practices around solar energy, water filtration and use of natural materials for how properties are fixed or rebuilt after incurring damage. If the entire industry shifts toward this practice, it could potentially lower the total value of claims paid in addition to moving the needle on consumer behaviors one natural disaster at a time.



NEW PRODUCTS AND THE ROLE OF INSURERS IN THE SUSTAINABILITY VALUE CHAIN

Large insurers, many of which are European, have started to create sustainable insurance products for consumers incorporating sustainability into their daily lives. They have designed insurance products to save eco-conscious consumers money in the form of home, auto energy-generation insurance or pensions and savings products. They have also designed products for corporations who have committed themselves to integrating sustainability into the value chain. For

example, UK based insurance provider AVIVA has launched an offer to support sustainable energy providers in project financing and risk coverage.¹⁷ France-based company Credit Agricole has launched an offer for sustainable farmers with exclusive warranties to prevent or better compensate weather-caused losses.¹⁸

Insurance products focused specifically on the renewable energy industry provide companies with a

coverage-based cushion against rapid change and risk, so they can focus their resources on technological and sustainable innovation. The insurers in this group of early leaders are well positioned as the economy transitions toward long-term decarbonization. Today, we see sustainable insurance products often take the form of discounted insurance plans for customers who are adopting green practices to reduce their energy and resource consumption:

Figure 6. A selection of sustainable insurance products offered by insurers in the United States



However, there will be additional benefits to be achieved as sustainability trends make their way into the mainstream and regulation catches up. Listed below are some additional sustainable insurance products offered in the personal insurance market today:

Figure 7. Additional personal sustainable insurance products focused on property/home

Personal Lines



<p>Property Renewable Energy Reimbursements</p>	<p>Property Renewable Energy Reimbursements offers protect homeowners who use an alternative energy system and experience a power outage. This type of coverage may provide indemnification for:</p> <ul style="list-style-type: none"> • Loss of income from selling surplus energy generated to local energy companies • Utilities or governmental fees for inspections, reconnections or permits when the homeowner’s alternative energy system is brought back online • Costs to purchase replacement electricity.
<p>Property Loss Mitigation Device Discount</p>	<p>Premium discounts or credits may be offered to homeowners to install mitigation devices or choose storm resistant construction techniques in catastrophe-prone areas, i.e., window shutters for protection against extreme storms and wind.</p>
<p>Fuel Efficient/Low Emission Vehicle Discount</p>	<p>Many insurers provide discounts to drivers of hybrid or electric vehicles.</p>

Insurers are also providing sustainable products to protect corporations and large organizations against general business risks. Listed below are a few of the most common sustainable insurance products offered in the commercial insurance market today:

Figure 8. A selection of sustainable insurance products offered to corporations

Commercial Lines



<p>Upgrade to Green Commercial Fleets</p>	<p>This type of product offers an option to upgrade the company’s fleet to hybrid vehicles for new vehicle replacement as part of an endorsement to the policy.</p>
<p>Insurance for Renewable Energy Projects</p>	<p>These insurance products help companies in the renewable energy industry manage risk, defend against lawsuits, and protect their assets. The coverage on these products spans across all stages of a project, from design to distribution.</p>
<p>Insurance for Renewable Energy Industry’s Property and Equipment Upgrades/Replacement</p>	<p>This type of coverage protects companies from incurring high costs from the rapid technological changes in the renewable energy field. These policies will provide replacement cost coverage for equipment that is more energy efficient. Equipment currently in operation, under construction, or newly purchased can be added to the policy.</p>

These lists will continue to grow as society’s awareness of climate change and its impacts increase. Additionally, as regulatory pressure/government incentives come to the forefront, the number of sustainable insurance products in the market is likely to grow in tandem.

Insurance companies’ investments should follow suit, with portfolios comprised of more sustainable investments. Just as BlackRock did, insurers with their own Investment arm and Corporate Treasury should make more eco-conscious investment decisions.

All in all, climate change and its effects will be a big part of all our futures and there are many gaps in coverage that insurers should strive to close. Insurance companies who want to reap the benefits of being an early market leader in the green insurance space should prioritize investing in product development and innovation, along with recalibrating their own financial portfolios.

IMPACT UNDERWRITING AS AN OPPORTUNITY FOR RISK MITIGATION AND POSITIVE SOCIAL AND BUSINESS IMPACT

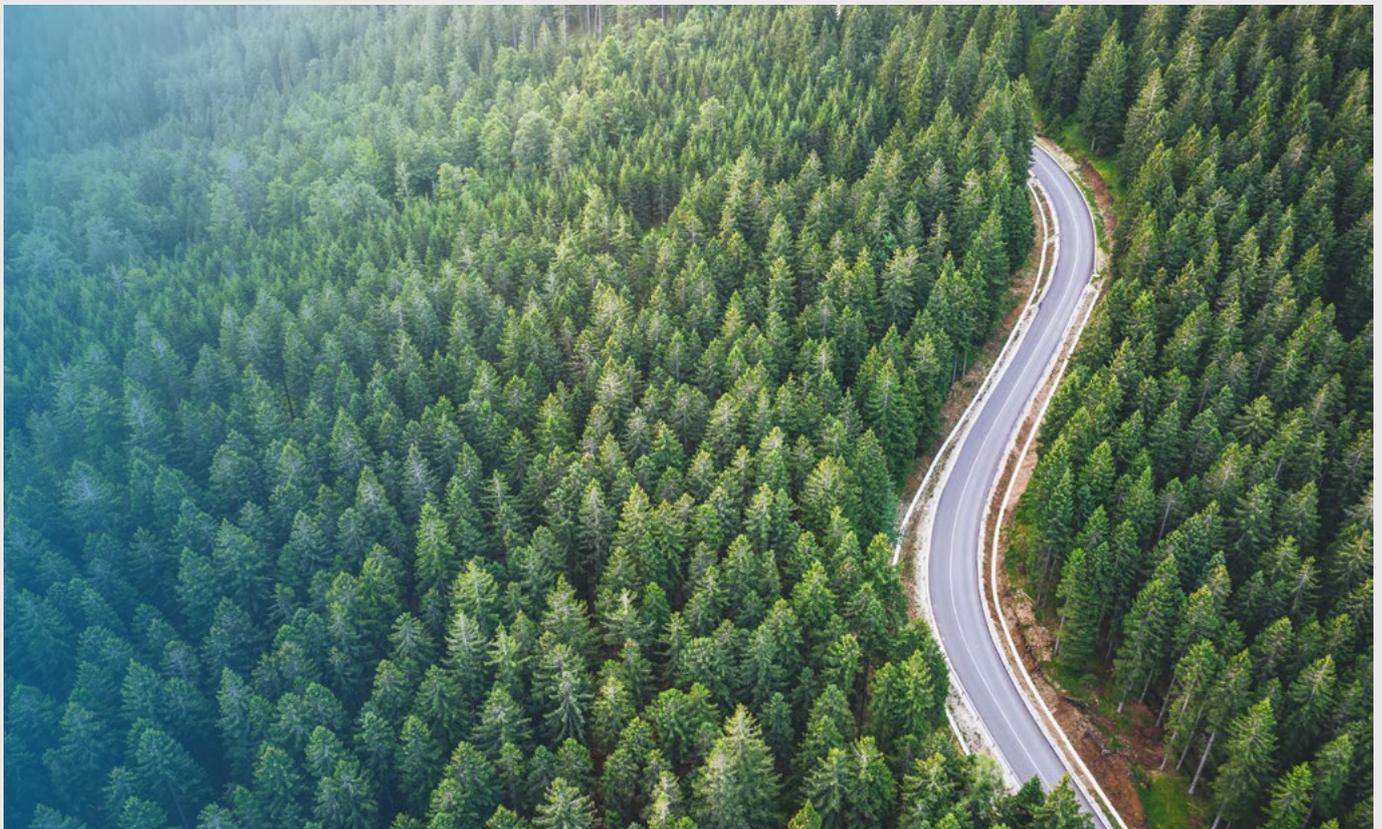
The market for sustainable insurance products is growing, but is this enough to drive sustainability and change consumer behavior in the long run, or is it merely a band-aid?

A forward-looking strategy for insurers to both protect their book of business and pivot their resources towards sustainability is “underwriting green”, or impact underwriting. This type of underwriting requires divestment from industries that are increasingly risk prone and present ethical and environmental challenges. It can

offer a ‘double dividend’ to insurers, generating revenues while realizing positive externalities for society. According to the EIA, global energy demand is projected to increase 50% by 2050,¹⁹ which will prompt \$23 trillion in renewable energy investments over the next decade.²⁰ These investments in emerging markets will open a vast and growing underwriting market for insurers, which ultimately translates to more revenue.

Additionally, evidence suggests that insurers who consider climate and

sustainability in decision making are likely to see higher yields and improved investment performance. Sustainable investment offers the practical benefit of more durable and secure yield to insurers as investors. As the economy transitions toward decarbonization, we anticipate asset price fluctuations and investment portfolio volatility. Insurance providers must evaluate the exposure of their investment portfolios to both physical and transitional risk, particularly in instances where both assets and liabilities could be affected.



LOSS AND RISK MANAGEMENT DUE TO CLIMATE CHANGE IS UNIQUE FOR INSURERS AND CAN BE A KEY DIFFERENTIATOR – BUT IS BEYOND IMMEDIATE CONTROL

Climate change creates opportunities for insurers to change their business models to incorporate sustainability into their growth strategies, leveraging new technologies and new products to help make risks that are uninsurable today insurable in the future. However, we cannot talk about climate change in the P&C industry without recognizing that there are some risks that require government and policy intervention. At an aggregated systemic level, both insurers and reinsurers could be heavily impacted by the same major events in the near future, leaving both insolvent if governments and regulatory bodies do not intervene.

The impact of climate change on secondary peril events losses (e.g. flooding because of a major hurricane), is becoming more and more significant. According to Swiss Re Institute's preliminary sigma estimates in 2020, insurance industry losses from natural catastrophes and man-made disasters globally amounted to USD 83 billion (USD 76 billion Nat Cat).²¹ This makes it the fifth-costliest year for insurers since 1970. The insurance industry covered 45% of the \$187 USD billion global economic losses, well above the ten-year-average of 37% coverage.

A global approach is needed to assess emerging risks. Since the publication of the TCFD (Task Force on Climate-related Financial Disclosures) report in 2017, following the G20 and Paris COP Agreement, the climate-related

financial risks have been classified according to the following groupings:²²

- Physical risks: Economic costs and financial losses arising from weather-related events, such as floods and storms
- Transition risks: Financial risks arising from the process of adjustment toward a low-carbon economy, including shifts in policies designed to adapt to climate change (regulatory frameworks, incentive structures), technological progress, or changes in market trends
- Liability risks: Erosion of the value of financial assets (e.g. re-pricing of carbon-intensive assets), and/or increase of liabilities through direct or indirect losses

Climate change has already started to influence regulatory requirements and will have a significant impact on insurers' regulatory compliance in the coming years. Insurers might want to consider the following:

- Supporting the green and / or penalize the brown will become a mandate. Assigning lower / higher risk weights can have a significant impact on an insurer's investments management as well as profitability. While this is yet to be determined on a country by country basis, insurers must be prepared to make decisions in this arena.

- Managing financial resiliency will become a key regulatory focus for insurers. Complying with regulation requires an adaptation of the solvency tools and the loss projection models in order to provide a clear perspective on the new risks faced, their correlation to the traditional ones, as well as a view of an insurer's capital position under stressed scenarios.

In this rapidly changing landscape, an insurer's risk management approach is becoming a differentiator for insurance companies. Insurers should address their climate risk assessment within their broader Enterprise Risk Management frameworks to identify and correlate all these impacts across the organization, including identifying the risks related to strategy, reputation, governance, operations, technology, underwriting, liquidity, capital, and overall profitability.

NEW MARKET DEMANDS ARE BEING FULFILLED BY NON-TRADITIONAL PLAYERS

There is still room for new market entrants. In recent years, a number of non-traditional firms have captured a share of policies sold by leveraging their appeal to customers specifically interested in social and environmental responsibility and who seek innovation in the insurance market.

Tesla Insurance appeals to an eco-conscious crowd by default, offering insurance products to only those who have already invested in their electric vehicles (EV). Tesla holds the greatest share in the EV market, posing a threat to the sustainable auto insurance product space.²³ Tesla Insurance gains competitive advantage against traditional auto insurers by easily accessing and analyzing massive amounts of data to understand their vehicle owners' behavior. While traditional insurance providers rely heavily on their actuaries to determine optimal premium rates, Tesla taps into each member of its connected fleet to acquire all the information needed

to provide Tesla-owners with a fair insurance premium.

Lemonade, a publicly traded online insurance company, offers homeowners and renters pet and life insurance. Launched in 2016, they boast 500% growth, have 10% of the renters market' in Texas, and \$100 million annual recurring revenue in just under five years.²⁴ These numbers are leading indicators of where the insurance market is headed. As the first insurer in the world to become a certified B-Corp, Lemonade aims to achieve full transparency with its customers and allows each policy holder to select a nonprofit to which a portion of Lemonade's annual revenue will be donated, appealing to a socially minded group of buyers.

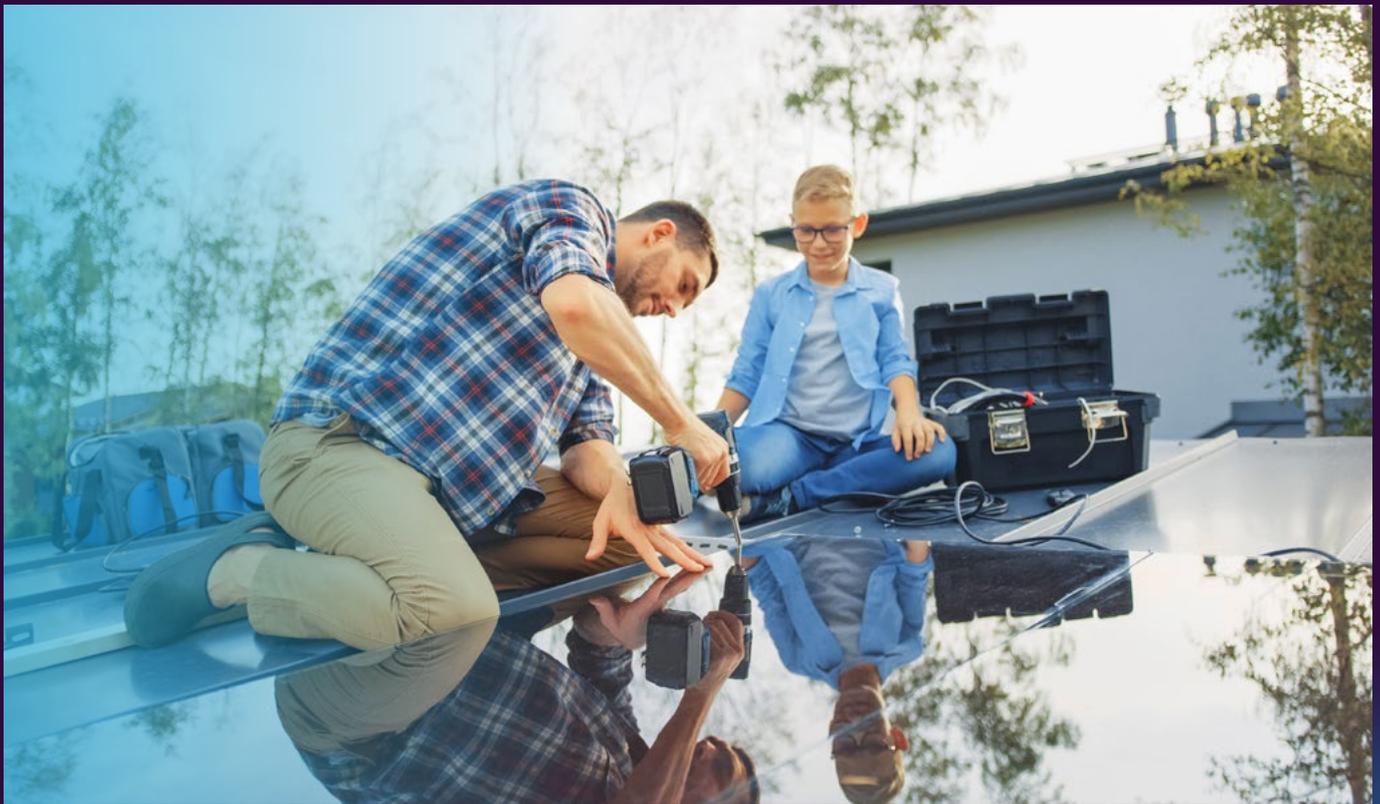
Metromile is an online auto insurer that targets infrequent drivers by selling car insurance on a pay-per-mile basis. Metromile differentiates itself from other pay-as-you-drive products,

which primarily use a behavior-based pricing model, by giving drivers control over how much they pay for auto insurance with a dynamic pricing model focused on the number of miles driven. Metromile asserts that a majority of auto policyholders pay higher premiums to subsidize the minority who drive the most.²⁵ It can offer lower monthly premiums to policyholders who take multiple forms of transit, such as public transit, walking, or biking, beyond just driving their cars, a bonus for the planet and a disruptor to less flexible auto policy providers.

Many new market entrants are equipped with innovative data acquisition methods, offer their customers increasingly personalized premium rates, and appeal to a culture of sustainability and efficiency. This makes them threats to large incumbents. Additionally, these pioneers have set the groundwork for additional sustainability minded disruption in the P&C space.



A CALL TO ACTION FOR INSURERS



As the trends suggest, insurers are in a position to receive and drive benefits from sustainable insurance, and should take action sooner rather than later when it comes to climate change.

1

Through intentional alignment of their brand with sustainability and eco-friendly positioning, insurers can attract and maintain climate-minded consumers

2

By investing in new risk modeling and underwriting practices to ultimately drive product innovation, insurers will be in a position to minimize the protection gap and generate additional revenue opportunities that are not prevalent in the market today

3

For the greater good of society, insurers can drive resiliency and the ability for people, businesses and communities to rebound in the face of climate change by mitigating additional impacts of climate change and providing consumers with innovative and preventative tools and products

HOW INSURERS SHOULD INVEST IN THEIR STRATEGY AND RESOURCES TO STAY AHEAD OF CLIMATE CHANGE AND ENABLE THE CALL TO ACTION

THERE ARE SIX IMMEDIATE FIELDS OF PLAY INSURERS NEED TO TACKLE



At Capgemini Invent, we understand that technology and innovation are the keys to unlocking a more sustainable world. We believe insurance companies that have not yet recognized the importance of investing will soon face huge hurdles in growth and financial viability.

Integrating sustainability into a corporation's business strategy is more than a marketing tool or the ambition of a niche sector: it's the only viable way to improve yield and control strategic risk. It is no longer a question of reducing carbon footprints, but of adapting to new societal expectations,

addressing growing regulatory needs, minimizing the protection gap, generating new revenues, and gaining overall resilience.

Figure 9. The six strategic fields of play

Stakeholder Engagement & Customer Experiences

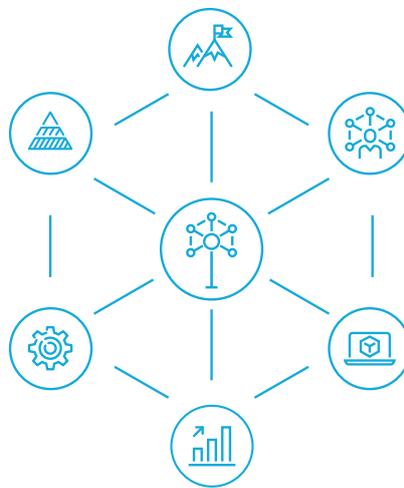
- Engage customers towards a social economy, rethink the brand experience
- Identify and manage the impacts on the businesses
- Engage employees, agents, brokers, customers (from awareness to training to best practices)
- Manage the relationship of external stakeholders (regulators, investors, NGOs, etc.) to support the transformation and visibility in the ecosystem
- Close the protection gap for more customers

Responsible Operations & Processes

- Implement energy efficient business practices to decrease the carbon footprint of the insurance operations
- Incorporate ESG factors in the selection of asset managers
- Develop and maintain an appropriate approach to disclosure around climate-related financial risks. Such disclosure should allow for interaction with existing risk categories and for the newly introduced, distinct elements of financial risk from climate change
- Set up a sustainable real estate strategy
- Partner with like minded vendors who meet ESG criteria

New Products & Services

- Support innovation to build new offerings: sustainable insurance solutions, emerging customers solutions and asset management solutions
- Develop new products and services to support
- Build supporting business models
- Rebuild the Customer Experience



Data & Measurement

- Define the necessary indicators (reporting, management, risk monitoring, etc.) and identify the necessary markers (value chain analysis)
- Build the data collection process & set up data governance
- Formalize the ability to cope with potential future outcomes in risk frameworks and include climate change consideration in emerging risk assessment
- Implement advanced analytics to improve risk selection and pricing. Augment climate change models with big data information
- Implement stress tests to determine capital and liquidity implications and anticipate future losses

Strategy, Innovate & Transformation Roadmap

- Define a purpose, a vision, an ambition
- Know your starting point (maturity diagnoses)
- Define a roadmap (e.g. carbon zero) at operational and portfolio level
- Build the transformation plan
- Establish good organization and appropriate governance
- Identify ecosystems and potential partnerships
- Leverage new technologies to create new distribution models through digitalization and / or partnerships

Green IT Practices

- Determine a vision and objectives for the IT department
- Diagnose (infrastructure, applications and equipment, project mode, etc.)
- Build the action plan
- Take into consideration ESG factors when commencing new projects
- Adapt the Business Continuity Plan to include emerging risks

HOW WE HELP INSURERS TACKLE THE FIELDS OF PLAY

1. Outmaneuver Disruption with Strategy & Innovation

Insurers must evaluate the maturity of their sustainability strategy and clarify their ambitions. Capgemini Invent has developed assessment tools that can help identify the strategy and define next steps. This is necessary to identify and implement priority actions, to establish a relevant roadmap that enables an organization to truly transform toward sustainability, and to innovate new products and services addressing changing consumer expectations and demands. Ambitions of driving resiliency and change start here.

2. Design and Deliver Sustainable Insurance Products

As consumer demands shift towards green preferences, the ability to quickly innovate, test and deliver new products will allow insurers to understand the viability of new ideas and products. Capgemini has the robust capability to help with determining optimal areas for investment, facilitate partnerships, build and run incubation environments, facilitate and drive product design capabilities, and help organizations embed innovation into their operating model and portfolio.

3. Engage Stakeholders and Meet Customer Demands

As the market for sustainable lifestyle products and services grow, leading insurers must work to close the gap between consumer demand and insurance product supply. Greenwashing is no longer cutting it; consumers now expect sustainability to run deeper within an insurer's values. Insurers not only need to meet customer demand, but must also work to change customer behavior. Their products need to incentivize sustainable behavior in personal and commercial line insurances, across P&C, in addition to life and health.

Intelligent communication with stakeholders is essential to enhance commitments and promote sustainability initiatives. Insurers must position themselves as influencers, leveraging their enterprises to organize events and develop an ecosystem of partners and interlocutors to enrich their strategy and meet growing customer expectations.

Moreover, this external influence starts with a strong change management program to train and engage employees, both to

attract and retain talent, and to ignite a sustainability mindset and foster innovation. Capgemini's North Star experience strategy and execution capabilities can help drive stakeholder and customer experience to meet eco-friendly user demands.

4. Drive Responsible Operations and Processes

True change always comes from within. An insurer, or any corporation, cannot claim to value sustainable practices without incorporating sustainability-focused processes into their internal organization. Capgemini has demonstrated a commitment to becoming a leader in sustainability by reducing our key environmental impacts (business travel and energy consumption in offices and data centers), as well as committing to being carbon neutral operational by no later than 2025, and a net zero business by 2030. Led from the top, ESG ambitions are now at the core of our operating strategy and the Group's purpose – to build an inclusive and sustainable future for all, enabled by technology, drawing on the energy of our talents and the talents of our customers and partners.





Some leading insurance organizations have outlined aggressive timelines and plans to decarbonize their operations to stick to their climate strategy. They can rely on partners like Capgemini to help them achieve their high-set goals. Whether players want to strengthen their climate-centricity through the deployment of green operations and processes, supply chain, investments, or underwriting portfolios, it is important to have a partner who can help them remain committed to these goals.

5. Invest in Green IT Practices

Green Information Technologies reduce the environmental impacts associated with conventional IT. Green IT includes server virtualization, energy efficient hardware and data centers, and monitoring systems. Green infrastructure should also be considered, with the likes of green

buildings and green supplies, to enable best practices. Insurers who successfully achieve a green IT transformation will be able to enjoy the benefits of savings in their energy bills, improving their operational efficiency, more efficient products, and financial gains related to technology optimization and usage streamlining. Capgemini has robust capabilities to help insurers focus on replacing their carbon-intensive habits with the help of technology and optimizing their existing models and systems with more responsible solutions.

6. Use Data to Drive the Sustainability Agenda

Leveraging new technologies is key to enhancing operating and monitoring capabilities, particularly in risk analytics. Data and analytics technologies can address the challenge of tracking the many

streams of sustainability data coming from the news, government regulations, social media, and company reports. They can collect and analyze data on sustainability-related factors such as scope 1, 2, and 3 emissions, supply chain performance, and energy and resource use. Companies able to generate deep insights in their sustainability metrics can use these insights to guide their sustainability initiatives, improve their resource efficiency, develop relevant products and be well equipped for climate-related reporting efforts. Advanced analytics are integral to identifying and proactively mitigating future risks in areas such as resource use, labor practices and environmental impact. Organizations can rely on Capgemini's expertise in this area to support the build of these capabilities.

Figure 10. Cargemini Invent’s transition assessment criteria

	BASIC	IN TRANSITION	FRONT RUNNER
VISION, STRATEGY & GOVERNANCE	<ul style="list-style-type: none"> Compliant with current regulations Sustainability transition is a small part of the vision and strategy 	<ul style="list-style-type: none"> Strategic vision is clearly defined: engagement, business model, risk management, IT Implemented a clear governance structure, with the creation or assignment of dedicated roles to evaluate the potential impacts of climate-related risks 	<ul style="list-style-type: none"> Embedded ongoing climate risk assessment and mitigation efforts across the company, including underwriting, pricing, reserving, investing, and in new product development Management structure associated with risk management, setting an appropriate risk culture and ensuring a common risk language across the firm
ENGAGEMENT	<ul style="list-style-type: none"> Immature sustainability culture Tactical external communication 	<ul style="list-style-type: none"> Raises business partners’ and policy holders’ awareness about sustainability issues to promote investments in the sustainable economy Takes steps to better demonstrate the insurance climate readiness to regulators, analysts, and customers 	<ul style="list-style-type: none"> Has strong internal sustainability culture Leads its ecosystem towards the transition Discloses publicly progress in implementing principles for sustainable finance
BUSINESS MODEL	<ul style="list-style-type: none"> Fairness in data collection, development of risk models and pricing Management of the aggregate risk to control insolvency exposure Fortify the assessment of climate-related risks while taking long-term actions to alleviate and mitigate such exposures Few sustainability-focused projects 	<ul style="list-style-type: none"> Integrates ESG factors in the computation of the financial solvency rate (the risk of a bond as well as the risk of the issuer) Uses a holistic approach toward managing climate-related risks by integrating them as a part of their enterprise risk management efforts 	<ul style="list-style-type: none"> Climate risk assessment included in the broader enterprise risk management (ERM) framework to identify and correlate impacts across different lines of business as well as investments Implements organization-wide stress tests of a broad range of climate change scenarios to determine and anticipate capital and liquidity implications Leverages new technologies to create new distribution models
GREEN IT	<ul style="list-style-type: none"> Diagnostic done (infrastructure, applications and equipment..) and some initiatives around paperless or sourcing have been launched Determine a vision and objectives for the IT department 	<ul style="list-style-type: none"> Many high impact initiatives around green IT practices and sustainable design Rationalized application landscape Adapts the Business Continuity Plan to include emerging risks 	<ul style="list-style-type: none"> State of the art green IT (infrastructure, apps, culture) aligns with planet centric design principles across the insurance IT landscape
OPERATIONS	<ul style="list-style-type: none"> Has launched some initiatives around green sourcing to leverage suppliers to decrease its carbon footprint 	<ul style="list-style-type: none"> Support innovation to build new offerings: sustainable insurance solutions, emerging customers solutions and asset management solutions Define product pricing to incentivize clients to invest their capital in green assets Consider ESG factors in selection of asset managers Implement energy efficient business practices to decrease the footprint of insurance operations 	<ul style="list-style-type: none"> Leads in ESG compliant offerings development, anticipate market trends Focused on closing the protection gap for more people and provide access to affordable financial services tailored to their needs Includes sustainable finance in the early underwriting process Rebuilt the customer experience
MEASURE	<ul style="list-style-type: none"> Tactical data collection and reports Automate dashboard and reporting 	<ul style="list-style-type: none"> Reviews the loss projections model to remain current about the latest data and loss control advances Implement advanced analytics to improve risk selection and pricing Augment climate change models with big data information 	<ul style="list-style-type: none"> Appropriately includes climate change consideration in forward looking emerging risk assessment, current Key Risk Indicator (KRI) assessment and backward looking ‘lessons learned’ from unexpected losses or control failures Appropriately includes climate change in the Risk Tolerance Statement

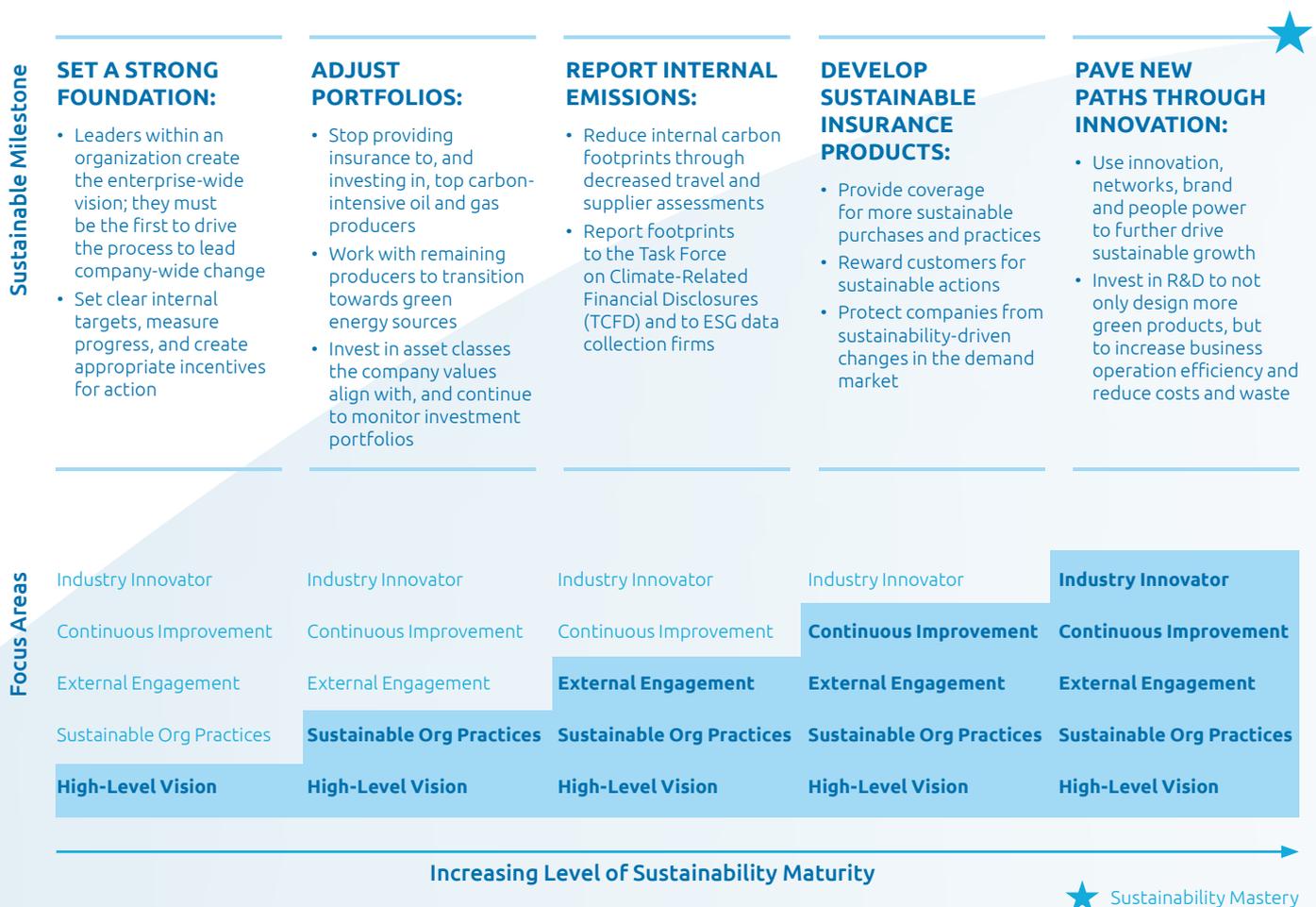
SUSTAINABILITY MASTERY IS A JOURNEY

The journey to sustainability mastery begins with building a strong foundation, driven by a clear and actionable enterprise-wide vision. For insurers, it is important to move both investment and underwriting portfolios away from declining asset classes such as oil and gas.

To remain proactive and keep ahead of government mandates, insurers who intend to stay market leaders should also start developing frameworks for effectively reporting internal emissions, understanding the roles of internal and external risks, and carrying out financial reporting that may be

directly impacted by climate issues. A sound climate strategy and vision can also drive the development of new and innovative insurance products, targeting new customers. P&C insurers are truly in a position to drive the sustainability agenda

Figure 11. An illustrative journey of sustainable transformation



For additional information regarding Capgemini Invent’s sustainability offering, please reach out to your country lead or local champion.

REFERENCES

1. <https://www.climate.gov/news-features/blogs/beyond-data/2020-us-billion-dollar-weather-and-climate-disasters-historical>
2. <https://www.scientificamerican.com/article/texas-power-outage-underscores-looming-climate-tests/#>
3. <https://www.aon.com/unitedkingdom/insights/Weather-Climate-Catastrophe-Insight-2019-Report.jsp#:~:text=Aon's%20recently%20published%20Weather%2C%20Climate,hit%20USD200%20billion%20or%20higher>
4. <https://www.climate.gov/news-features/blogs/beyond-data/2020-us-billion-dollar-weather-and-climate-disasters-historical#:~:text=The%20number%20and%20cost%20of%20weather%20and%20climate%20disasters%20are,and%20the%20fact%20that%20climate>
5. <https://worldinsurancereport.com/resources/world-insurance-report-2019/>
6. <https://www.munichre.com/en/risks/natural-disasters-losses-are-trending-upwards.html#1995343501>
7. <https://www.swissre.com/media/news-releases/nr-20191219-global-catastrophes-estimate.html>
8. <https://www.thecroforum.org/wp-content/uploads/2019/01/CROF-ERI-2019-The-heat-is-on-Position-paper-1.pdf>
9. <https://www.air-worldwide.com/blog/posts/2016/8/kumamoto-after-the-earthquakes-recovery-and-resilience/>
10. <https://www.air-worldwide.com/publications/white-papers/The-Global-Protection-Gap/>
11. <https://theconversation.com/in-fire-prone-california-many-residents-cant-afford-wildfire-insurance-119451>
12. [https://www.environmental-finance.com/content/news/zurichs-green-bond-portfolio-hits-\\$3.5bn.html](https://www.environmental-finance.com/content/news/zurichs-green-bond-portfolio-hits-$3.5bn.html)
13. <https://www.barrons.com/articles/two-thirds-of-north-americans-prefer-eco-friendly-brands-study-finds-51578661728>
14. <https://www.weforum.org/agenda/2020/09/how-sustainability-stand-out-from-crowd/>
15. <https://www.forbes.com/sites/forbesnycouncil/2018/11/21/do-customers-really-care-about-your-environmental-impact/?sh=3107be59240d>
16. <https://hipinvestor.com/wp-content/uploads/Investing-For-Social-and-Environmental-Impact.pdf>
17. <https://www.aviva.com/newsroom/news-releases/2019/11/aviva-strengthens-support-for-renewable-energy-with-the-launch-of-specialised-insurance/>
18. <https://www.credit-agricole.com/en/responsible-and-committed/our-csr-strategy-be-an-actor-of-a-sustainable-society/our-actions/market-and-climate-support-for-farmers-and-their-risks>
19. <https://www.eia.gov/todayinenergy/detail.php?id=41433>
20. https://www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/new+ifc+report+points+to+%2423+trillion+of+climate-smart+investment+opportunities+in+emerging+markets+by+2030
21. <https://www.swissre.com/media/news-releases/nr-20201215-sigma-full-year-2020-preliminary-natcat-loss-estimates.html>
22. <https://www.fsb-tcfd.org/publications/>
23. <https://www.insurancebusinessmag.com/us/news/breaking-news/tesla-insurance-could-potentially-be-americas-biggest-auto-insurer-237195.aspx>
24. <https://www.lemonade.com/blog/zero-to-100/>
25. <https://www.globenewswire.com/news-release/2020/11/24/2132624/0/en/Metromile-a-Leading-Digital-Insurance-Platform-to-Become-Public-Company.html>

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