

Insurance Practice

Capturing the climate opportunity in insurance

The world's transition to net-zero emissions will cost trillions of dollars and present new kinds of risks. Here's the role insurers can play.

This article is a collaborative effort by Kia Javanmardian, Sylvain Johansson, Christie McNeill, Sophie Ru, and Ashish Srivastava, representing views from McKinsey's Insurance practice.



The world is at an inflection point in its climate transition efforts. As governments and companies worldwide pledge to achieve net-zero greenhouse gas emissions, the transition is poised to spark the greatest capital reallocation in a century, requiring an estimated annual investment of more than \$9.2 trillion in energy and land-use systems.¹

It's a transformational moment for insurers, with significant climate-related risks and opportunities on both sides of the balance sheet. Taking an offensive approach will be critical for insurance carriers to unlock growth and remain relevant in a net-zero future.

What the net-zero transition means for insurers

As the net-zero transition unfolds, new forms of volatility are emerging. Capital reallocation to low-carbon technologies is rapidly reshaping industries. New technologies face business cases with uncertain economic viability and scalability. Companies face increasing demands for transparency on climate risk and emissions, driven by regulatory requirements and investor and consumer advocacy. The risk of litigation for climate inaction is also growing. And against this backdrop, rising physical risk continues to affect communities and economies.

Insurers have a once-in-a-generation opportunity to address these new forms of volatility—and help catalyze an orderly transition to net-zero emissions—through product and solution innovation. Yet in our experience, climate aspirations are often disconnected from commercial strategies, leading to a lack of a cohesive approach on two fronts: identifying and prioritizing climate-focused commercial opportunities, and taking a go-to-market approach to better source, underwrite, and share new types of risks.

1. Identifying and prioritizing climate-focused commercial opportunities

Insurers have opportunities to identify and develop climate-focused solutions in three major areas: insuring the net-zero transition, creating new risk

transfer solutions for rising physical risks, and providing adaptation and resilience services. Within each area, there is room to offer traditional property and casualty coverage as well as to develop new and innovative products to meet emerging market demand.

Insuring the net-zero transition

Across high-emitting sectors, technology is a crucial decarbonization lever alongside demand reduction and business model changes. By our estimates, annual global capital expenditures in the top climate technologies could account for more than \$800 billion by 2030, corresponding to roughly \$10 billion to \$15 billion in insurance premiums on capital expenditures alone (exhibit). Based on current technology maturity, supporting infrastructure and favorable policies, and projected investment flows, the highest potential near-term target markets for insurers are likely in proven renewable-power assets and established green technologies including solar, on- and off-shore wind, electric-vehicle (EV) batteries, and EV charging infrastructure (EVCI). In the next several years, emissions-intensive asset transformations will also become a major market, along with various emerging technologies that catalyze the decarbonization of emissions-intensive assets—such as heat pump retrofitting; carbon capture, utilization, and storage (CCUS); and green hydrogen and electrolyzers.

In addition, insurers could play an important role in catalyzing new markets that are not yet proven. For example, insurers could accelerate the development of voluntary carbon markets (which could reach up to \$30 billion by 2030²) by providing protection to both buyers (for example, should an offset become invalid) and sellers (for example, should a nature-based solution such as a forest experience loss from pest infestation or wildfire).

Demand for insurance will grow in line with investment in these technologies. In addition to standard coverages—such as construction, surety, and liability—new opportunities will emerge for insurance to support derisking along the value chain,

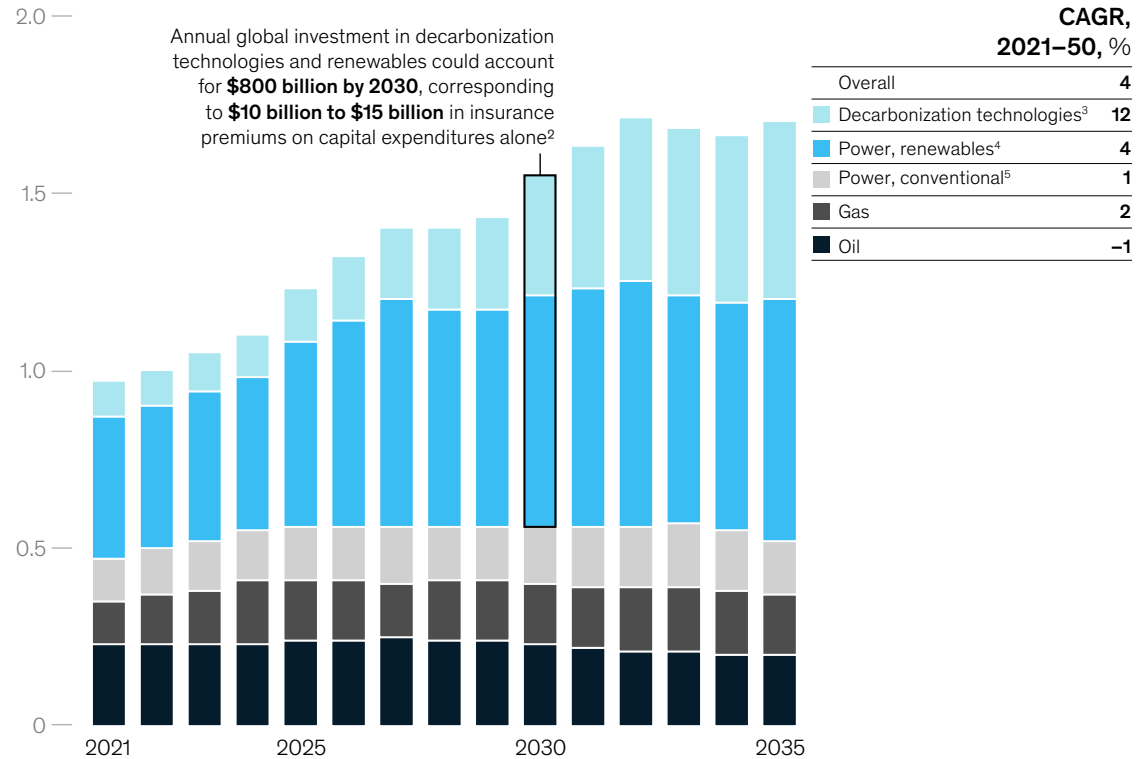
¹ "The net-zero transition: What it would cost, what it could bring," McKinsey Global Institute, January 2022.

² "Putting carbon markets to work on the path to net zero," McKinsey, October 28, 2021.

Exhibit

Growth in decarbonization technologies and renewables represents a significant growth opportunity for insurers.

Global investment in the energy sector,¹ \$ trillion



¹Based on the Further Acceleration scenario, in which transition is accelerated by technology and regulatory evolution (though financial and technical constraints remain). For the oil and gas segments, the 2021 Accelerated Transition Scenario is used in combination with Further Acceleration, Achieved Commitments, and the 2021 Reference Case Scenario with Current Trajectory.

²Estimated insurance premiums on capital expenditures, with rates varying by technology

³Includes sustainable fuels; carbon capture, utilization, and storage; hydrogen; and electric-vehicle charging.

⁴Includes solar, onshore wind, offshore wind, hydro, and other.

⁵Includes coal, gas, nuclear, and other.

Source: IEA, *World energy investment*, April 2022; IEA, *World energy outlook 2021*; McKinsey Energy Insights Energy Value Pools Model

from manufacturing to deployment to production. For example, a hydrogen developer may be more likely to pursue a project if there is protection in the event the offtaker³ becomes insolvent. Likewise, the offtaker may benefit from coverage in the event of reduced production from a green asset (for example, due to grid traffic).

Creating new risk transfer solutions for rising physical risks

Parametric solutions for adverse weather events are well established. We anticipate greater demand as extreme weather increases in both frequency

and severity—making indemnity coverage less affordable—and because many climate-related assets (such as solar and wind) are built in climate-exposed areas. In addition to coverage for natural catastrophes, parametric policies can be used for income loss on renewable assets (for example, cloud-cover protection for solar fields) as well as to address the impacts of chronic weather shifts on climate-exposed sectors (such as heat stress on power grids and drought leading to crop loss in the energy and agriculture sectors). The development of multiyear parametric policies could be a mechanism to provide more predictable, affordable coverage

³ Offtakers in project financing are buyers of the resources produced by completed and operating projects. Offtakers contractually agree in an offtake agreement to purchase all, or substantially all, of the future production from a project.

while also pricing in a way that considers rising physical risk. Unlocking the parametric opportunity at scale will require an industry-wide effort to develop simple, standardized parametric coverages; reduce basis risk through improved risk modeling; and build awareness and interest among insured clients. Rising physical risk will continue to affect communities and will require collaborative innovation from the public and private sectors to address protection gaps and ensure affordable coverage. Even in moderate warming scenarios, in the coming decades more than 50 percent of the global population will be exposed to climate hazards such as heat stress, drought, riverine and coastal flooding, and water stress.⁴ A growing number of public–private partnerships are emerging to provide protection for communities and ecosystems. That said, the pace and scale of this challenge are enormous, and insurers need to increase their focus if they are to play a more significant role in protecting the populations most vulnerable to climate risk.

Providing adaptation and resilience services

Insurers and industry players may offer advisory and risk-engineering services to manage and reduce clients' exposure to climate risks and enable more effective responses to climate-related losses. Examples of such services include risk assessments and engineering for natural hazards, preconstruction risk advisory, and post-loss incentives to rebuild with improved resilience or in less vulnerable locations. We believe the industry could play a much more significant role in reducing risk and losses and that climate-focused risk engineering is an attractive entry point for insurers to increase their relevance and promote continued affordability and access. Partnerships with third-party data and analytics providers and value-added services (such as forward-looking risk modeling for physical assets) can strengthen and differentiate carrier offerings.

While the impact of climate change and the net-zero transition will unfold over a period of decades, insurers must act now if they wish to make tangible progress. Establishing a concrete growth aspiration underpinned by a prioritized set of opportunities can

create clarity on the scale of the opportunity and what will be required to get there—such as hiring new underwriting talent or adopting new go-to-market approaches.

2. Establishing go-to-market approaches to better source, underwrite, and diversify

Despite the enormous growth opportunity that the net-zero transition represents, insurers may find market entry challenging due to a lack of underwriting data, loss history, and pattern recognition among underwriting teams. In addition, well-established technologies may have mixed track records. These are understandable hurdles, but they're not insurmountable. Rather than taking an incremental, wait-and-see approach, we encourage insurers to proactively build climate capabilities (such as forward-looking climate risk modeling) and to explore new approaches to establish a foothold in emerging opportunity areas. Partnerships are a promising avenue to address challenges and accelerate learning and opportunities. Such partnerships may include the following:

- *Upstream partnerships with asset owners.* Partnerships with infrastructure funds, private-equity funds, and other institutional investors can diversify insurers' risks while providing access to data and technical expertise. Given that many new technologies carry less loss history but demand near-term investment and protection, investors and insurers could explore diversification through pooling of green assets with different risk characteristics (such as different geographies, underlying technologies, or asset operators). These partnerships may also give insurers access to the technological data and expertise of asset owners, enhancing the ability to underwrite new technologies. Brokers can play an important role in establishing partnerships and bringing insurance carriers to the table.
- *Marketplace partnerships that enable portfolio underwriting.* Portfolio underwriting may reduce the idiosyncratic nature of transferring individual risks and enable exploration of new opportunities without costly infrastructure

⁴ "Climate risk and response: Physical hazards and socioeconomic impacts," McKinsey Global Institute, January 16, 2020.

and capability development. Managing general agents (MGAs) and managing general underwriters (MGUs) enable this; they are high-value potential partners because they allow insurance carriers to enter new markets without building new internal infrastructure and capabilities. MGAs and MGUs can provide underwriting sophistication and expertise (for example, in artificial intelligence and machine learning) for new lines of climate-related business and unlock access to new clients and geographies an insurer may otherwise be unable to reach. The success of this approach rests on partnering with MGAs and MGUs that have a distinctive ability to assess and originate climate-related insurance products based on their track records and data or technology sources.

Some other partnership approaches to consider include forming syndicates with other insurers and tapping alternative sources of capital (via capital markets) for reinsurance. The former allows insurers to lower costs by collaboratively sourcing, underwriting, and insuring climate-related risks on newer technologies with risks that are difficult

to diversify or effectively price. The latter enables insurers to expand their capital optimization and risk-sharing options, though this approach is likely viable only for established green technologies and insurance products with short-tail or parametric (limit-defined) risks. In addition, insurers could strive to partner with developers, venture-capital funds, and start-up companies at the front line of the climate transition to build innovative solutions to emerging risks.

The momentum toward net-zero emissions is undeniable. It will shift value pools, creating new winners and losers in the process. We believe there is significant first-mover advantage for insurers that establish themselves in the ecosystem early. While insurers should always be prudent in approaching unfamiliar markets and risks, those that wish to lead in the net-zero transition should act now to accelerate green growth and build a resilient portfolio for the future.

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Note: Any actions taken in forming syndicates with other insurers may relate to conduct in the marketplace and may be governed by antitrust and competition laws of the jurisdictions where you operate. The identified options and our analyses are in no way meant to imply any steps should be taken contrary to any applicable laws and expect readers will undertake their own antitrust analysis to ensure compliance with all applicable laws. We do not render legal advice; if you have any legal questions relating to the work product we provide, we recommend you seek legal advice prior to taking action.

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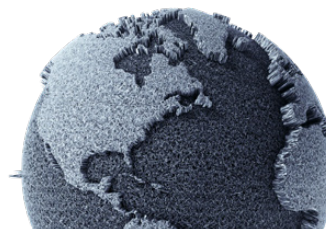
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