Ceres

The 2025 Progress Report

Climate Risk Reporting in the U.S. Insurance Sector

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Acknowledgments

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About Ceres

Ceres is a nonprofit advocacy organization working to accelerate the transition to a cleaner, more just, and resilient economy. With data-driven research and expert analysis, we inspire investors and companies to act on the world's sustainability challenges and advocate for market and policy solutions. Together, our efforts transform industries, unlock new business opportunities, and foster innovation and job growth—proving that sustainability is the bottom line. For more information, visit ceres.org.

About Ceres Accelerator for Sustainable Capital Markets

The Ceres Accelerator for Sustainable Capital Markets is a center within Ceres that aims to improve the practices and policies that govern capital markets by engaging federal and state regulators, financial institutions, investors, and corporate boards to act on climate change as a systemic financial risk. For more information, visit ceres.org/accelerator.

Contents

Foreword

Bringing Climate Risk into Focus: The TCFD and U.S. Insurance Regulation

As mandated corporate disclosure evolves across the United States and globally, U.S. insurance regulators and insurers have demonstrated notable leadership in this area. In April 2022, the National Association of Insurance Commissioners (NAIC) took a significant step forward by mandating that insurers with $100 million or more in premiums in participating states must file Climate Risk Disclosure Surveys aligned with the Task Force on Climate-related Financial Disclosures (TCFD), the global standard for climate risk disclosure.

Figure 1 • TCFD Recommendations for Disclosing Climate-Related Risks and Opportunities

1

Governance

Describe the board's oversight

Describe management's assessment and management role

2

Strategy

Describe the identification of short-, medium-, and long-term risks and opportunities

Describe the impact of risks and opportunities on the organization's businesses, strategy, and financial planning

Describe the resilience of the organization's strategy, taking into consideration the different climate-related scenarios

3

Risk Management

Describe the organization's processes for identifying and assessing risks

Describe the processes for managing risks

Describe how processes for identifying, assessing, and managing risks are integrated into overall risk management

4

Metrics and Targets

Disclose which metrics are used to assess risks and opportunities in line with the organization's strategy and risk management process

Disclose scope 1, scope 2, and—if appropriate—scope 3 greenhouse gas emissions, and related risks

Describe the targets used to manage risks and opportunities and performance against targets

The NAIC Climate Risk Disclosure Survey plays a crucial role in promoting transparency and enabling regulators and other stakeholders to assess the insurance industry's preparedness for climate risk impacts.

Initially adopted by 15 jurisdictions, this requirement now applies to 29 states and territories, covering around 85% of the insurance market in the U.S. This expansion reflects the growing regulatory recognition of climate risk's importance to the insurance sector. Today, more U.S. insurers publish TCFD reports than the rest of the world combined—a clear signal of U.S. leadership in this space.

- The TCFD is structured around four core categories: governance, strategy, risk management, and metrics and targets. These categories encompass 11 specific recommendations detailing the actions and processes companies should disclose.
- The TCFD's recommendations are fully incorporated into the International Sustainability Standards Board's (ISSB) IFRS S1 and S2 standards. In October 2023, the TCFD's responsibilities were integrated into the ISSB, marking a culmination of the TCFD's work and a step toward global standardization of climate reporting.

About This Report

This report by Ceres analyzes and presents findings from insurance company responses to the National Association of Insurance Commissioners' reporting year 2023 Climate Disclosure Survey. These reports were submitted to the California Department of Insurance in the fall of 2024. This report provides insights that may be valuable to insurance regulators, insurers, and other stakeholders. Ceres hopes this analysis will encourage continual improvement in the comprehensiveness and usefulness of climate-related disclosures in future years. Ceres commissioned AI-powered software provider Manifest Climate to measure TCFD-alignment with a machine learning-based algorithm.

To search for a specific NAIC Climate Risk Disclosure Survey submission, refer to the California Department of Insurance Results site.

Our interactive dashboard provides comprehensive TCFD pillar, recommendation, and action item results by company, group, and line of business. The dashboard offers a user-friendly interface to explore and analyze the data.

Executive Summary

The U.S. insurance industry stands at a critical inflection point. As climate-driven catastrophes continue to break records in frequency, severity, and economic impact, traditional risk assessment models, the foundation of insurance underwriting, are increasingly challenged by a rapidly shifting risk landscape.

These rising insurance risks associated with climate impacts stem from complex global factors beyond any single industry's control, with many insurers already actively implementing diverse mitigation strategies and resilience measures to manage these evolving impacts. However, we are also seeing some insurers respond by retreating from high-risk markets, raising premiums to unsustainable levels, or imposing restrictive coverage limitations. This market constriction has triggered regulatory interventions, creating tension between ensuring market availability and maintaining industry financial stability.

This report, the third annual analysis Ceres has conducted of U.S. insurers' climate risk strategies, examines the disclosures from 526 insurance groups representing 1,723 individual companies, capturing 85% of the U.S. insurance market and over $2 trillion in direct written premium in 2023. These disclosures were submitted to the California Department of Insurance (CDI) under the National Association of Insurance Commissioners (NAIC) Climate Risk Disclosure Survey, which aligns with the Task Force on Climate-related Disclosures (TCFD) framework. Our analysis was conducted with Manifest Climate.

Our analysis reveals progress, with nearly all reporting groups providing information on risk management processes, with strong showings in strategy and governance disclosures, but with a persistent critical gap in reporting on Metrics and Targets. Among insurance groups reporting consistently over the past three years, we observed year-over-year improvement in the integration of climate into risk management processes, the identification of climate-related risks and opportunities, and reporting on greenhouse gas (GHG) emissions.

As regulators begin incorporating climate disclosures into financial examinations, the industry is evolving from the question of whether to report to more advanced considerations about how to report effectively. This evolution coincides with growing international attention on insurance-specific

climate transition frameworks, including the UN Environment Programme's recent guidance. The emergence of these resources highlights the unique position insurers hold in supporting climate resilience through their underwriting and investment activities.

From Disclosure to Action

With climate impacts intensifying at an alarming rate, reporting alone cannot be the end goal—rather, it must serve as the foundation for strategic transformation. Strong disclosure practices, particularly in the critically underreported Metrics and Targets pillar, enable insurers to identify vulnerabilities, establish measurable goals, and implement target solutions.

Insurers who leverage their TCFD reporting as a springboard for developing robust climate transition plans will be better positioned to navigate emerging risks and capitalize on opportunities in a rapidly evolving marketplace. These transition plans should comprehensively address both underwriting and investing activities, with clear pathways for decarbonization aligned with science-based targets and effective governance structures for accountability.

As regulatory oversight intensifies and stakeholder expectations rise, forward-thinking insurers will move beyond mere compliance to embrace climate resilience as a competitive advantage and fiduciary responsibility. The most successful companies will be those that transform their climate disclosures into actionable transition strategies that protect both their business models and the communities they serve.

Key Findings

1. **Only 29% reported on metrics and targets**, a critical gap that limits the industry's ability to demonstrate measurable progress against financial stability goals driven by growing climate risk. The continuing low performance in the metrics and targets area represents an urgent concern. Without measurable targets and metrics, stakeholders cannot effectively assess insurers' progress or hold companies accountable for their climate risk goals. This finding is particularly significant given 2024's unprecedented weather events, which included **27 billion-dollar disasters** totaling $182.7 billion in damages, underscoring the urgent need for robust climate risk management. This is all before the Los Angeles fires that caused an economic loss totaling over **$250 billion** in early 2025.
2. **99% of the 526 insurance groups are reporting on risk management**, 97% on strategy, 87% on governance, and 29% on metrics and targets. Overall, just 28% of the 526 insurance groups reported on all four TCFD pillars while 59% disclosed on three of the four.
3. **Among insurance groups that reported in each of the past three years**, there was year-over-year improvement in the integration of climate into risk management processes, the identification of climate-related risks and opportunities, and reporting on Scope 1, 2, and 3 emissions.
4. **The increasing adoption of climate scenario analysis by insurers is encouraging**, as it demonstrates a growing recognition of the importance of assessing the potential long-term

impacts over 5-year, 10-year, 30-year outlooks, and beyond of climate change on insurers' business models and financial performance.

5 **Lack of transparency on GHG reductions** hinders the ability of regulators, investors, and other stakeholders to fully understand the carbon footprint of companies and their exposure to risks.

Highlights of 2023 Responses Compared with 2022, Same Carrier Reporting*

*The report includes analysis of the reports filed from 526 groups representing 1,723 individual companies this reporting cycle, and of the comparable reports filed over the past three years. To ensure a fair and accurate comparison, in this section, the same analytical methodology was applied to both the 2022 and 2023 submissions of all 469 groups reporting in both years. Percentages reported for 2022 figures are based on the 418 comparison groups between reporting years 2021 and 2022.

TCFD Pillars

- **Risk Management Disclosures** Across all lines of business (property and casualty, life, health, title), there was minimal improvement in the number of companies disclosing risk management information, from 390 (93% of responding groups) in 2022 to 466 (99% of responding groups) in 2023. However, risk management remains the strongest overall reporting area across both Survey years and over all lines of business.
- **Strategy Disclosures** The total number of companies disclosing climate-related strategies increased from 364 (87%) to 457 (97%), with improvements demonstrated by all lines of business.
- **Governance Disclosures** There was an increase in the number of companies disclosing governance oversight of climate-related issues, growing from 337 (81%) in 2022 to 410 (87%) in 2023, with all lines of business showing improvement.
- **Metrics and Targets Disclosures** The total number of companies disclosing climate-related metrics and targets continued to be very low and the area most in need of attention. Negligible movement, from 135 (32%) to 146 (31%), across all lines of business, highlights this pillar as an area of continued concern.

TCFD Pillar Recommendations

The year-to-year analysis of the 11 TCFD recommendations reveals mixed results, with improvements in some areas and stagnation in others. Overall, there is a positive trend towards more disclosure and alignment with the TCFD framework, while metrics and targets progress remains flat year-over-year and well below insurers' reporting on other TCFD pillars.

- The risk management pillar saw the highest number of disclosures in line with the TCFD recommendations, with climate risk management process being the most reported recommendation in both years, showing an increase from 357 (76%) in 2022 to 464 (99%) in 2023. Climate risk categorization showed improvement as well, increasing from 289 (62%) to 400 (85%) groups reporting discussion in this area.

- The strategy pillar also demonstrated some progress, with climate impact on organization increasing from 333 (71%) to 444 (95%), and climate risks and opportunities identified showing a marked increase from 66% of groups to 93% reporting information. Climate scenario analysis, still relatively very low in absolute numbers, showed a slight decline from 28% in 2022 to 26% of company groups in 2023.
- In the governance pillar, board oversight saw an increase from 315 (67%) in the previous year to 399 (85%) in the current, while management's role experienced a relative flatlining of 262 (56%) to 268 (57%).
- The metrics and targets pillar, which generally had the lowest levels of disclosure between both reporting years, showed mixed results. Reporting of scopes 1, 2, and 3 GHG emissions rose slightly from 102 (22%) to 115 (26%) in 2023, and metrics in use decreased from 88 (19%) the previous year to 86 (18%) in the recent report. However, targets in use experienced a small increase, from 77 to 79.

The insurance industry has a long and distinguished history of catalyzing societal risk reduction, from promoting the first fire and electrical safety standards to advocating for mandatory seat belt legislation and building codes. This legacy of proactive leadership positions insurers to address the complex challenges of climate risk. By leveraging risk expertise, data capabilities, and financial influence, the insurance sector can continue this tradition of leadership through innovative climate risk assessment, incentivizing resilience measures, and supporting the transition to a net zero carbon economy.

Recommendations for Continued Industry Improvement

- **Improve emissions disclosure practices** Invest in tools and methodologies to accurately measure and report scopes 1, 2, and 3 emissions, with a particular focus on addressing financed emissions in underwriting and investment portfolios.
- **Expand industry collaboration on methodologies** Increase participation in industry initiatives to establish common methodologies and frameworks for climate risk assessment, particularly focusing on standardizing metrics for the insurance sector.
- **Develop comprehensive metrics frameworks** Prioritize development of industry-specific metrics that address both underwriting and investment portfolios, with special attention to measuring climate risk exposure in underwriting activities.
- **Set tangible targets with clear timelines** Accelerate adoption of science-based targets with specific interim milestones and clear baseline measurements that align with broader net-zero commitments.
- **Establish peer benchmarking processes** Develop processes to compare climate disclosure practices with industry peers to identify internal gaps and opportunities for improvement.
- **Build capacity in smaller insurers** Develop targeted resources and support mechanisms to help smaller insurers enhance their climate disclosure capabilities. If their portfolio is more geographically concentrated, they might be even more at risk than a larger, more diversified insurer.
- **Increase transparency on climate impacts** Provide more detailed disclosure on how climate risks specifically affect insurance operations, with quantified financial impacts where possible.
- **Engage constructively with regulators** Proactively participate in the evolution of climate risk disclosure requirements, providing input based on practical implementation experiences.
- **Progress from TCFD disclosures to actionable transition plans** Insurers should build upon their TCFD reporting frameworks to develop comprehensive climate transition plans. The structured approach of TCFD provides an ideal foundation for creating detailed transition plans. While disclosure focuses on transparency and risk, transition plans represent the next evolution toward implementing strategic climate action. These plans should translate climate risk insights from TCFD assessments into concrete business actions across underwriting, investments, product development, and operations.

Context

Beyond Weather Events: The Evolving Insurance Risk Landscape

The insurance industry faces unprecedented challenges as climate risk fundamentally reshapes the insurance and risk landscape. This transformation is not merely about the increasing frequency and severity of weather events but also represents a structural shift in how risk is distributed, priced, and transferred across the economy.

The protection gap (the difference between economic losses and insured coverage) is widening at an alarming rate. In 2025, the global protection gap is projected to increase by 5%, from $1.4 trillion in 2020 to $1.86 trillion. In the United States, this gap is creating profound market disruptions, with an estimated 8% of homeowners now forgoing insurance entirely due to affordability concerns, leaving $1.6 trillion in unprotected assets. This is especially concerning for working classes families, as 37% of U.S. families could not pay an unexpected bill of $400.

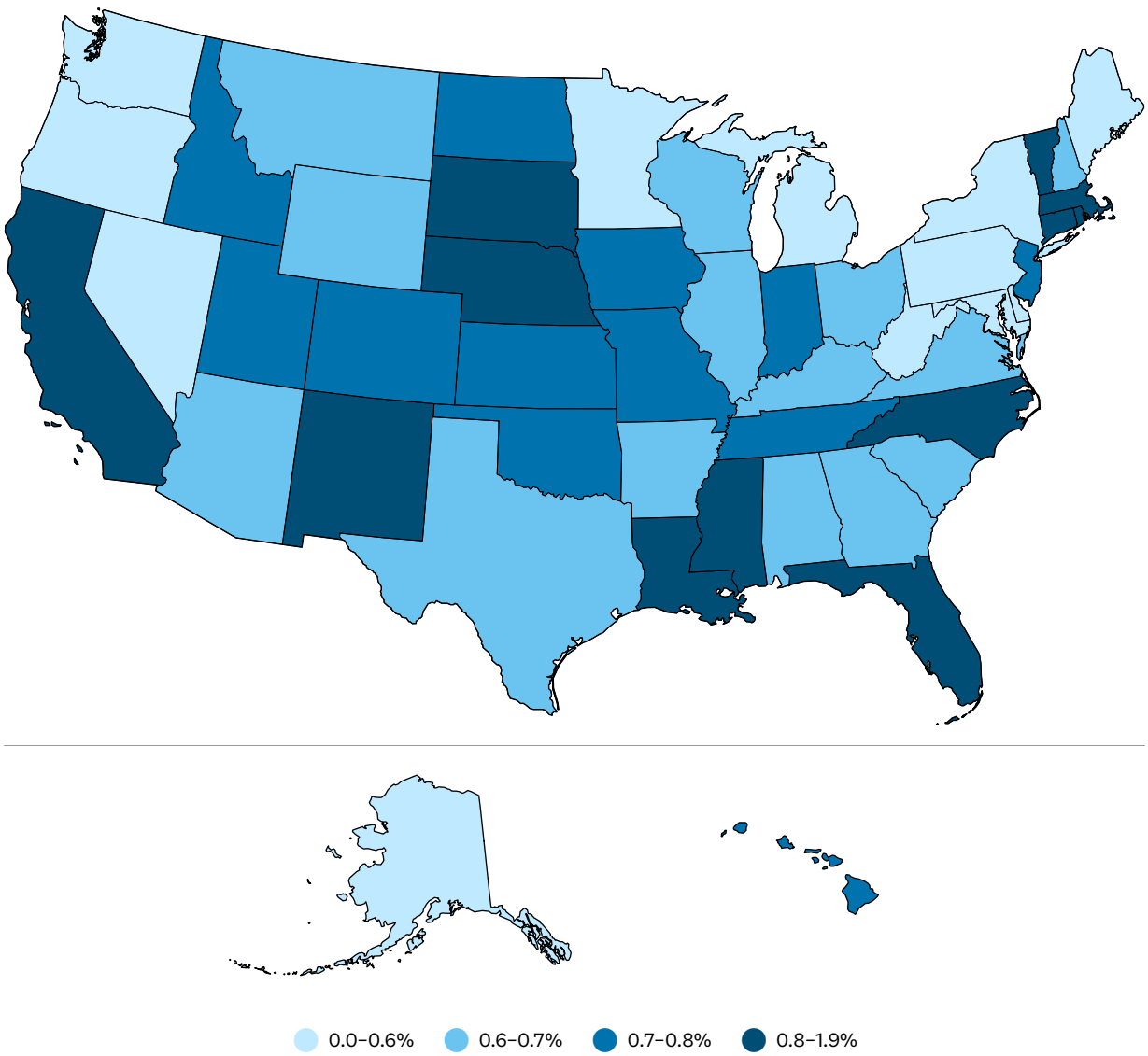
The financial strain is significant and growing:

- Climate-attributed losses are increasing at 6.5% annually, outpacing overall insured weather losses at 4.9%.
- Gradual temperature increases are disrupting agricultural yields and tourism seasons, with ripple effects through supply chains and regional economics.
- Climate-related diseases and health impacts are driving new mortality and morbidity patterns, creating unforeseen exposures for life and health insurers.
- Climate-related disasters are projected to cause economic losses amounting to $12.5 trillion worldwide by 2050.
- Research indicates the value at stake from climate-induced hazards could increase from approximately 2% of global GDP to more than 4% by 2050.

The insurance marketplace is undergoing a fundamental restructuring in response to climate risks:

1 **Market Retreat and Affordability Crisis** Insurance companies are strategically withdrawing from high-risk markets, creating "insurance deserts" where coverage is unavailable at any price. This represents a market signal about unmanageable climate risk that warrants urgent attention. Insurer withdrawals have expanded well beyond traditional high-risk coastal states like California and Florida to include states like Oklahoma, Colorado, and Minnesota.

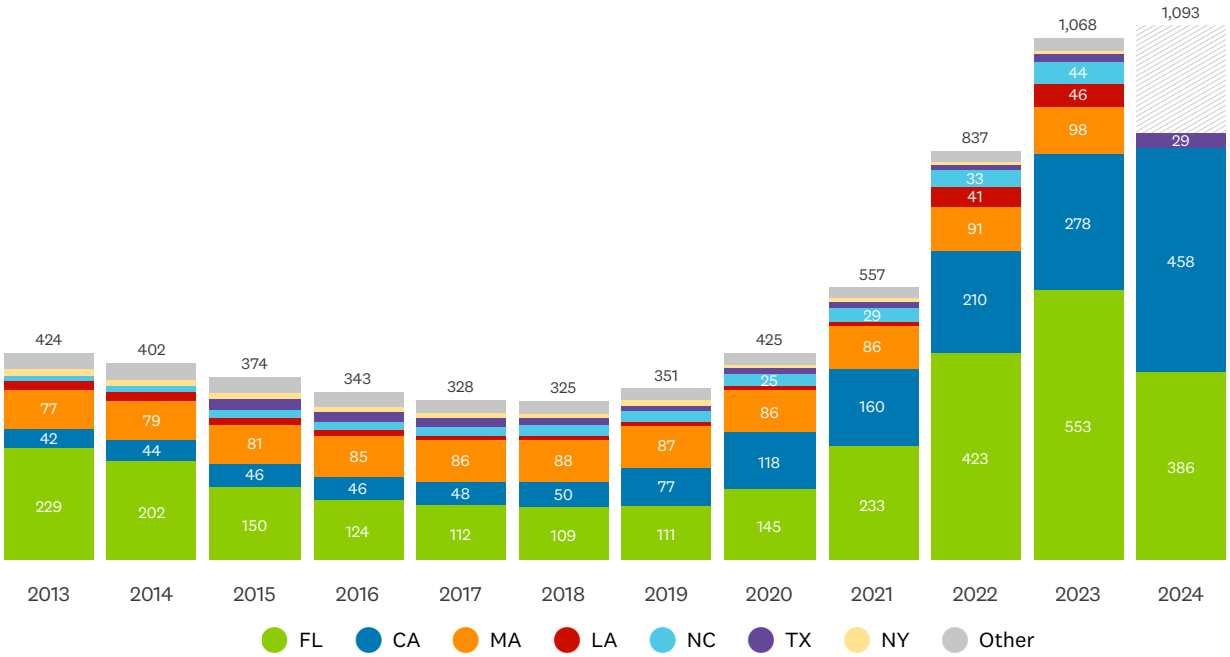
Figure 2 · Five-Year Average Homeowners Non-Renewal Rate by State (2019–2023)



2 **Shift to Residual Market Mechanisms** As private insurers retreat, state-backed insurers of last resort are becoming the primary market in many regions. Policyholder numbers for last resort plans doubled from 2018 to 2023 in Florida, California, and Louisiana, with Florida's insurer of last resort (Citizens) becoming the largest homeowner insurer in that state. These FAIR (Fair

Access to Insurance Requirements) plans typically provide less comprehensive coverage at higher rates than the private market and were designed as a temporary stopgap measure rather than permanent solutions for large segments of the population. The growing reliance on these limited programs represents a concerning deviation from their intended purpose and signals significant market disruption. Moreover, the ultimate burden will be felt by taxpayers already overwhelmed by affordability and availability issues.

Figure 3 • Annual Exposure in FAIR Plans (in Billions USD)



Forward-Looking Risk Landscape

The risk horizon is evolving beyond traditional perils to include:

1. **Climate Tipping Points** The insurance industry faces potential systemic shocks as climate risk approaches irreversible tipping points. With 2024 marking the first year to breach 1.5°C of warming (and being the warmest year on record), financial systems are now operating within the uncertainty range for five major climate tipping points with implications that are "impossible to price."
2. **Cascading and Compounding Risks** Climate risks increasingly manifest as interconnected systems rather than discrete events. What begins as property damage can cascade into business interruption, ecosystem degradation, and humanitarian crises, creating complex risk interdependencies that traditional models struggle to capture.
3. **Disproportionate Impact on Vulnerable Communities** Climate risks exacerbate existing socioeconomic vulnerabilities, creating a compounding effect where those with the fewest resources face the greatest exposure. Vulnerable populations, including low-income households, communities of color, and historically underserved regions often reside in areas with higher

physical climate risk exposure while having less financial capacity to adapt or recover. This dynamic threatens to widen socioeconomic disparities, as families without adequate insurance face potential displacement and wealth erosion following climate disasters. This perpetuates cycles of economic insecurity and limits resilience-building capacity across generations. There are further insights into these challenges and recommendations in these two Ceres reports.

The Critical Role of Climate Transparency

The dramatic reshaping of the insurance landscape presents both existential challenges and strategic opportunities for the industry. As insurers navigate this complex terrain, transparency about climate-related financial risks becomes not merely a regulatory obligation but a business imperative. The TCFD framework provides a structured approach for insurers to communicate how they identify, assess, and manage risks and opportunities. This transparency serves multiple critical functions:

- For insurers themselves, comprehensive disclosures drive strategic decision-making by ensuring climate considerations are embedded in governance structures, risk management processes, and business planning. By systematically evaluating climate impacts across underwriting, investment, and operations, insurers can develop more resilient business models and identify market opportunities.
- For regulators, these disclosures offer visibility into potential systemic risks and market vulnerabilities, allowing for more informed supervision and policy development. The standardized TCFD approach enables comparison across companies and markets, highlighting best practices and areas requiring closer attention.
- For investors, lenders and other stakeholders, comprehensive climate disclosures provide essential information for capital allocation decisions, helping to direct funding toward insurers with sophisticated climate risk management capabilities and away from those with concerning exposure profiles.
- For policyholders and communities, these disclosures shine light on which insurers are positioning themselves to maintain coverage availability and affordability in a climate-impacted world, providing crucial market signals about long-term resilience.

As climate impacts accelerate, the quality and comprehensiveness of these disclosures take on greater significance. Analysis of how insurers are adapting their governance, strategy, risk management, and metrics and targets reveals important insights into the industry's preparedness and the steps needed to close protection gaps and build resilience.

Methods in Brief

The TCFD Pillars and Recommended Disclosures

The TCFD framework is built upon four central themes, referred to as pillars: governance, strategy, risk management, and metrics and targets. Each of these pillars is reinforced by a set of key recommended disclosures that delve into specific aspects of an organization's approach to climate-related financial issues. These recommended 11 disclosures provide a more comprehensive and detailed view of how reporting entities perceive, evaluate, and manage risks and opportunities, offering valuable insights to investors and other stakeholders seeking to understand the organization's climate strategy and resilience.

Figure 4 • TCFD Recommendations and Supporting Recommended Disclosures

Governance	Strategy	Risk Management	Metrics and Targets
Disclose the company's governance around climate-related risks and opportunities.	Disclose the actual and potential impacts of climate-related risks and opportunities on the company's businesses, strategy, and financial planning where such information is material.	Disclose how the company identifies, assesses, and manages climate-related risks.	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.
a Describe the board's oversight of climate-related risks and opportunities.	a Describe the climate-related risks and opportunities the company has identified over the short, medium, and long term.	a Describe the company's processes for identifying and assessing climate-related risks.	a Disclose the metrics used by the company to assess climate-related risks and opportunities in line with its strategy and risk management process.
b Describe management's role in assessing and managing climate-related risks and opportunities.	b Describe the impact of climate-related risks and opportunities on the company's businesses, strategy, and financial planning.	b Describe the company's processes for managing climate-related risks.	b Disclose scope 1, scope 2, and, if appropriate, scope 3 greenhouse gas (GHG) emissions, and the related risks.
	c Describe the resilience of the company's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	c Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the company's overall risk management	c Describe the targets used by the company to manage climate-related risks and opportunities and performance against targets.

Adapted from Task Force on Climate-related Financial Disclosures

In addition to assessing insurance groups' reporting under the TCFD pillars and recommendations, Ceres expanded the analysis by including Manifest Climate's proprietary 41 specific action items, which are mapped to the TCFD recommendations and other global climate-related financial reporting frameworks. These 41 items are actions that an organization can take to improve its overall climate response. Ceres highlighted these action items to provide more granular insights into the steps insurers are taking to support and implement the TCFD recommendations effectively. This deeper level of analysis enables the identification of areas where insurers are demonstrating leadership and best practices, as well as opportunities for further development and improvement. By providing this additional layer of insight, Ceres hopes to support the continued evolution and maturation of climate related disclosures and management of risk in the insurance sector.

Methods Overview

The study used a machine learning-based approach that provides an indicator for whether a given report includes any information related to each of the 11 detailed TCFD recommended disclosures and 41 action items. The machine learning analysis was performed by Manifest Climate and commissioned by Ceres. A complete description of the methodology can be found here.

Results

Overview

To understand how and to what extent U.S. insurance companies are aligning their Climate Risk Disclosure Survey responses with each of the recommendations of the TCFD framework, nearly 5,000 pages of survey submissions from 526 insurance groups representing 1,723 individual companies were examined using machine learning. In this report, the results are presented a) in comparison with other sectors and geographies using published information from the TCFD 2024 Status Report, b) by type of insurer (for instance, life, property and casualty (P&C), health, title), and c) by company size.

Of the submissions, approximately half of the responses (290) are from P&C insurers, a third (176) are from life insurers, 100 are from health insurers, and 12 are from title insurers. Some groups of insurers cover multiple lines of business, with the most common combination being groups that have both life and P&C companies. This reflects the insurers with $100 million in premiums in one or more of the 29 states and territories that require this.

Number of Reports Containing Each of the TCFD Recommended Disclosures (ML Approach)

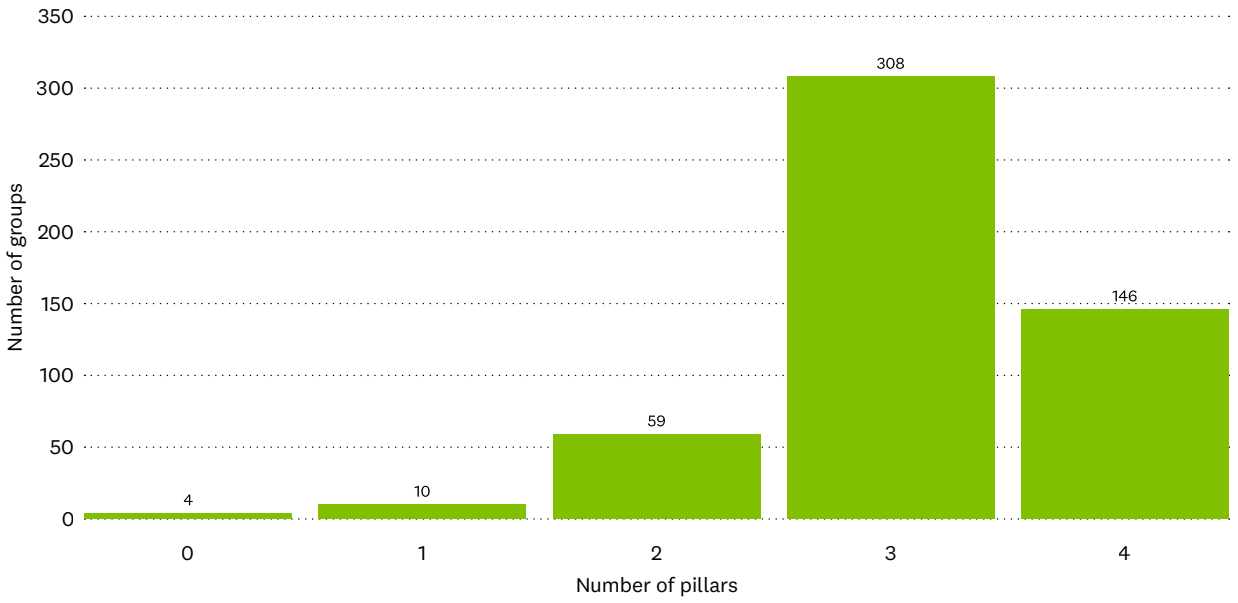
The machine learning-based analysis provides an indicator of whether the report included any information related to a given recommended disclosure of the TCFD Framework, regardless of the level of detail provided for that recommended disclosure.

Current Year Analysis

In this year's reporting, analysis of insurance group alignment within the TCFD framework demonstrates notable improvement, with stronger adherence to the four pillars and 11 recommendations compared to previous years. Approximately 28% of groups now address all four pillars (up from 25%), while nearly 59% report across three pillars, bringing the total percentage of groups addressing at least three pillars to 86%, compared to 70% the previous year.

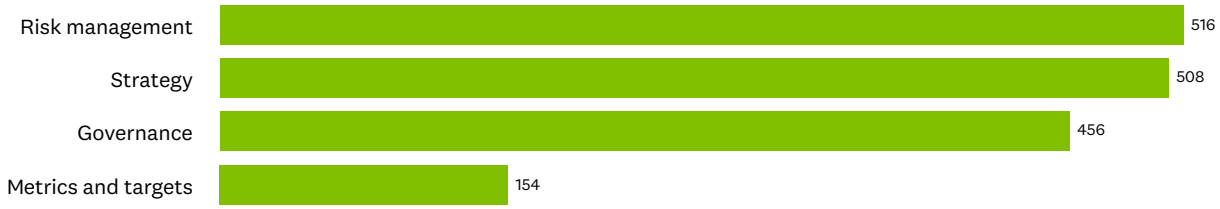
This significant increase suggests the insurance sector is making substantial progress in recognizing and reporting on climate-related financial risks and opportunities.

Figure 5 • Pillar Index



Of the 11 TCFD recommendations, approximately 76% (394) of insurance groups reported in six or more recommendations (up from 57% in the previous year) while 12% (63 groups) managed to address 10 or more recommendations.

Figure 6 • Named Pillar Total Count



This represents a significant improvement across the sector in overall alignment with the recommendations, with more groups demonstrating broader coverage of the TCFD framework.

Figure 7 • Current Reporting Year Distribution

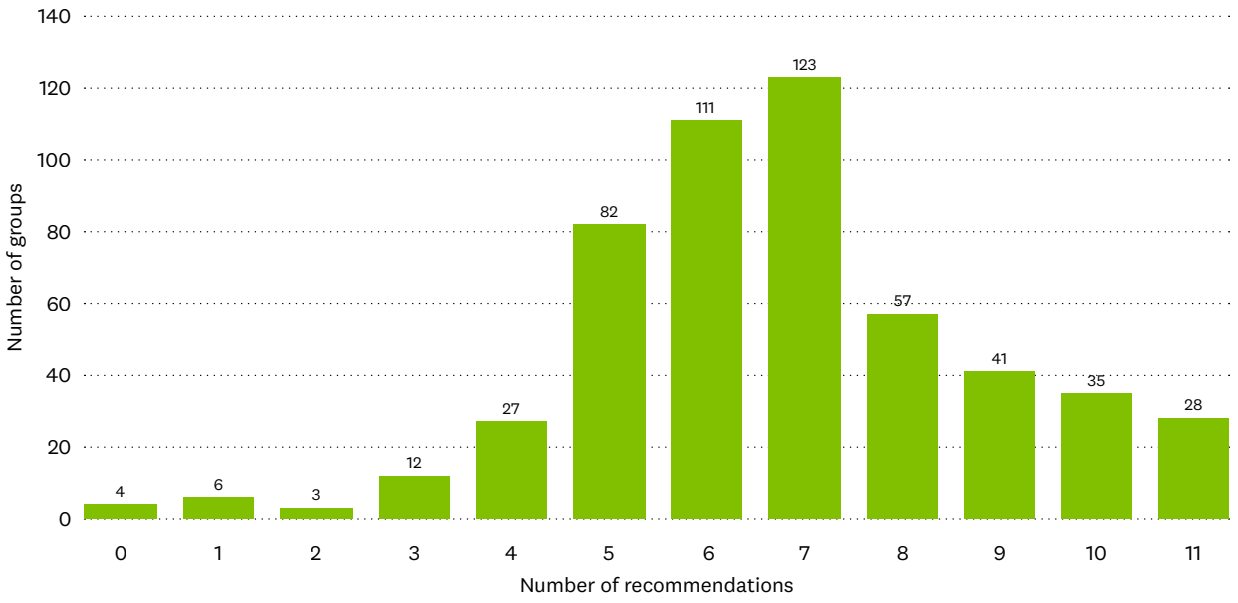
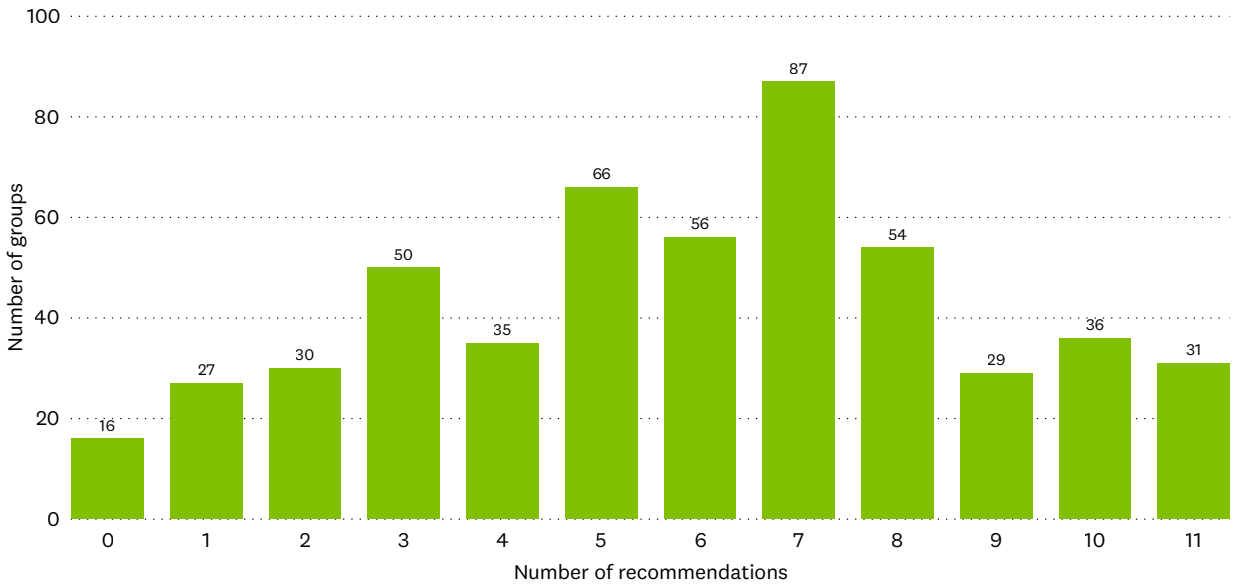


Figure 8 • Previous Reporting Year Distribution



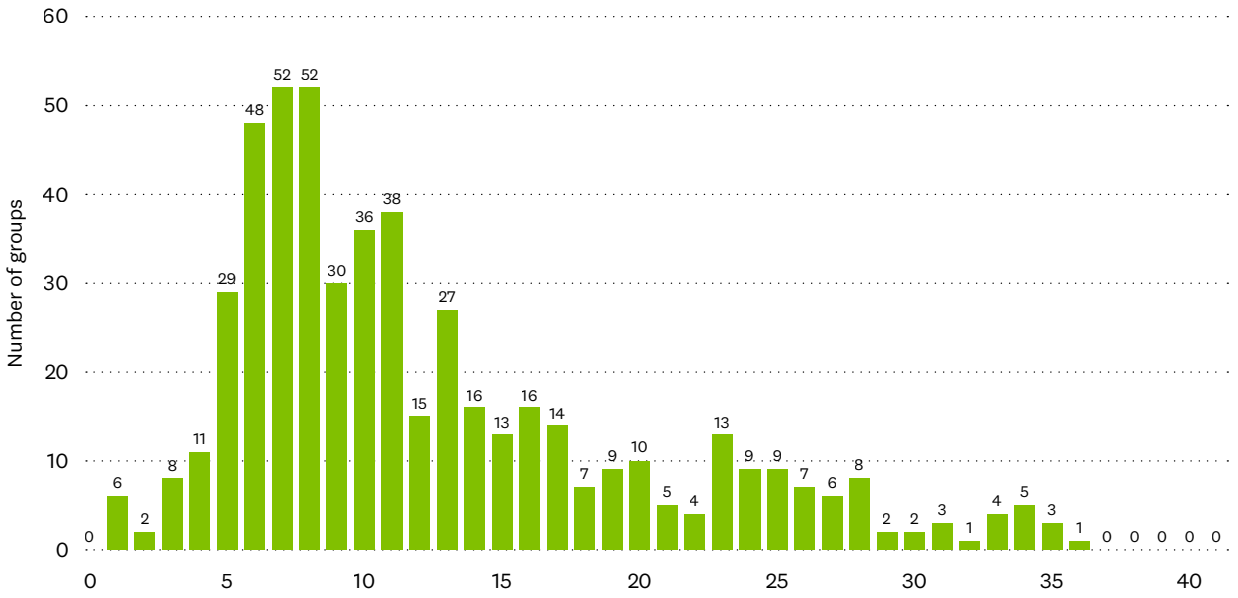
The distribution pattern shows a positive shift compared to last year, with the peak moving from the middle range toward a higher number of recommendations addressed. Specifically, the most common compliance level is now seven recommendations, (with 123 groups), followed by six recommendations (111 groups).

An examination of individual pillar adoption rates reveals stark disparities in implementation. The risk management pillar leads with near-universal adoption at 99% (516 groups), closely followed by the strategy pillar at 97% (508 groups). The governance pillar also shows strong response rates at 87% (455 groups). However, there remains a critical gap in the metrics and targets pillar, with only

29% (154 groups) providing relevant disclosures, the same reporting performance within this pillar as in previous years.

The persistent weakness in metrics and targets disclosure is particularly concerning as it represents a fundamental obstacle to effective climate-related financial risk management. Without strong metrics, quantifiable targets, and transition plans, insurance companies cannot adequately measure their progress, set meaningful goals, or effectively manage their exposure to risks. The ability to quantify impacts and establish clear pathways for improvement is imperative not only for regulatory compliance but for the long-term financial resilience of the sector in a rapidly changing climate landscape.

Figure 9 • Action Item Index



Of the 41 action items, the analysis reveals a continued long-tail distribution, though with notable improvement from the previous year. While no insurer fully covers all 41 items, there is a marked shift toward higher response rates, with the peak frequency occurring at eight action items (52 groups), followed by seven items (51 groups) and six items (48 groups). The distribution shows a more developed middle range than last year, with 304 groups (58%) now addressing between 6 and 15 action items, demonstrating that a significant minority of insurers are implementing more comprehensive disclosure practices.

Similar to last year, risk integration and risk management processes remain the most disclosed action items; however, materiality assessment, climate response planning, and carbon pricing continue to be rarely mentioned. This persistent pattern suggests that while insurers have improved in addressing some action items, they still struggle with implementing and disclosing the more forward-looking and quantitative aspects of climate risk management.

This overall improvement, while positive, still indicates that most insurance groups have considerable room for growth in implementing the full range of best practices needed to effectively disclose and, by extension, incorporate climate-related risks and opportunities. To achieve more

comprehensive and decision-useful disclosures, insurers should focus on expanding their approaches to include forward-looking assessments, scenario analysis, and quantitative metrics that can better inform stakeholders about their climate resilience strategies.

For a more comprehensive exploration of the current year's TCFD reporting landscape click here. This in-depth interactive dashboard breaks down climate risk disclosure patterns across different segments, offering granular insights by group, company, state of domicile, line of business, and company size. These detailed findings provide stakeholders with a nuanced understanding of how various factors influence risk reporting practices throughout the insurance industry, highlighting both leaders and areas where improvement is needed. Click here for a dashboard navigation tutorial.

Methodological Note on Cross-Year Comparisons

To ensure accurate year-over-year analysis, our report uses controlled comparison groups rather than total population figures. For the 2021–2022 comparison, we analyzed 418 insurance companies that reported in both years, allowing for direct assessment of disclosure changes. For the 2022–2023 comparison, we examined 469 companies from the 2023 reporting population (out of 518 total) that could be directly compared with 2022 data. This methodology eliminates potential distortions from changing population samples and provides a more accurate picture of how the same insurers have evolved their disclosures over time. The percentage increases noted throughout this report reflect real improvements in disclosure practices rather than shifts in the composition of reporting companies.

Comparative Analysis of Survey Responses (Reporting Years 2021 through 2023)

The reporting year 2023 Climate Risk Disclosure Survey responses demonstrate continued positive momentum in alignment with TCFD recommendations, building upon improvements made in previous years. This progress is notable, considering that prior to 2021 U.S. insurers were not required to report TCFD climate disclosures.

When comparing across reporting years, it is important to note that the analysis included 418 groups for the 2021–2022 comparison and 469 groups for the 2022–2023 comparison. Accounting for these different sample sizes, the percentage-based comparison reveals:

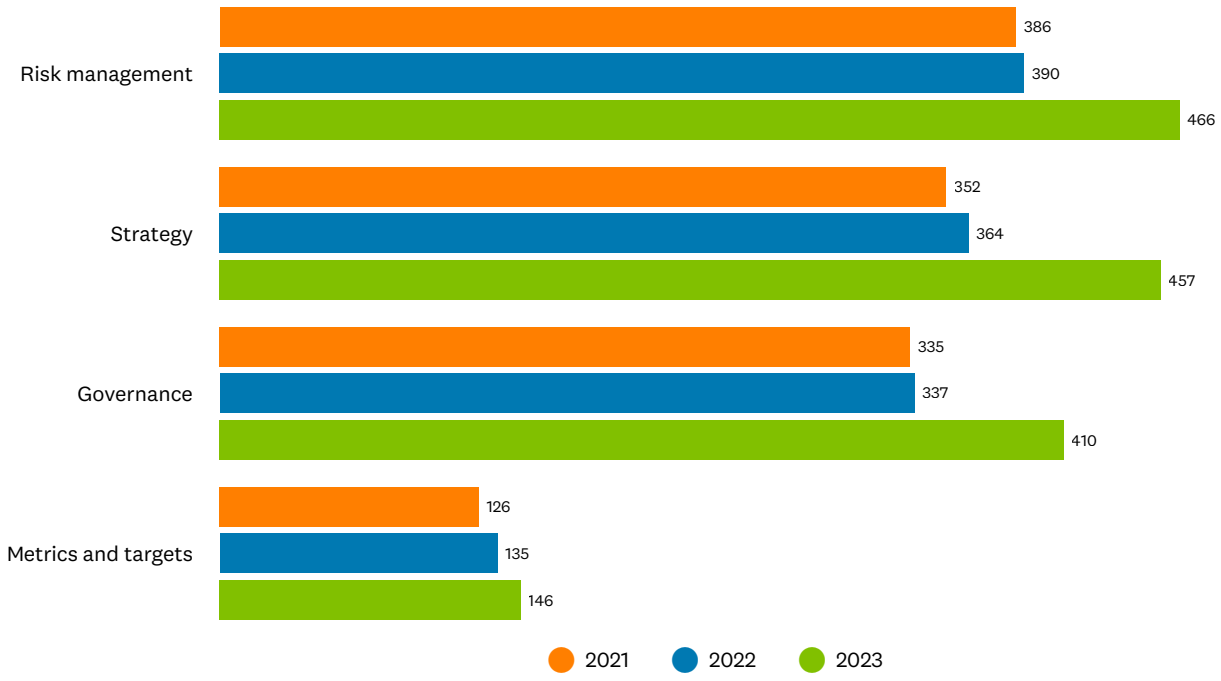
2022 vs. 2023 (469 groups):

- **Risk Management** Responses increased from 83% in 2022 to 99% in 2023.
- **Strategy** Responses increased from 78% in 2022 to 97% in 2023.
- **Governance** Responses increased from 72% in 2022 to 87% in 2023.
- **Metrics and Targets** Responses increased from 29% in 2022 to 31% in 2023.

2021 vs. 2023 (comparing percentages):

- **Risk Management** Responses increased from 92% in 2021 to 99% in 2023.
- **Strategy** Responses increased from 84% in 2021 to 97% in 2023.
- **Governance** Responses increased from 80% in 2021 to 87% in 2023.
- **Metrics and Targets** Responses very slightly increased from 30% in 2021 to 31% in 2023.

Figure 10 • Year-Over-Year Pillar (Number of Groups)



This three-year comparison highlights progress across most TCFD pillars since reporting began in the U.S. insurance sector. Strategy (97%) has experienced the most improvement (13 percentage points), with risk management (99%) and governance (87%) also showing substantial gains. Troublingly, the metrics and targets pillar remains quite flat, hovering at only about a third of insurers providing information in this area, despite significant progress across the other pillars over all reporting years. This stark contrast to the near-universal adoption of risk management and strategy pillar disclosures represents a significant gap that undermines the sector's overall climate risk management efforts.

TCFD Pillar: Risk Management

The TCFD framework's risk management pillar recommends that organizations disclose their processes for identifying, assessing, and managing climate-related risks. The Climate Risk Disclosure Survey prompts insurers to provide information on their underwriting exposure to climate-related risks, actions taken to encourage policyholders to manage their physical and transition climate risks, and the impact of climate change on their investment portfolios. Insurers are also asked to disclose whether they address these risks through their enterprise risk management process or a separate process and if they use climate scenarios to evaluate underwriting and investment risks.

In addition to the general TCFD recommendations, the supplemental guidance for insurance companies suggests that insurers and reinsurers should describe their risk management processes for their underwriting portfolios, covering physical risks, liability and litigation risks, and transition risks. These transition risks may arise from factors such as a reduction in insurable interest due to declining asset values, changes in energy costs, or the implementation of carbon regulations. For asset owners,

the supplemental guidance recommends describing their engagement efforts with investee companies to encourage better disclosure and practices related to risks and to improve data availability.

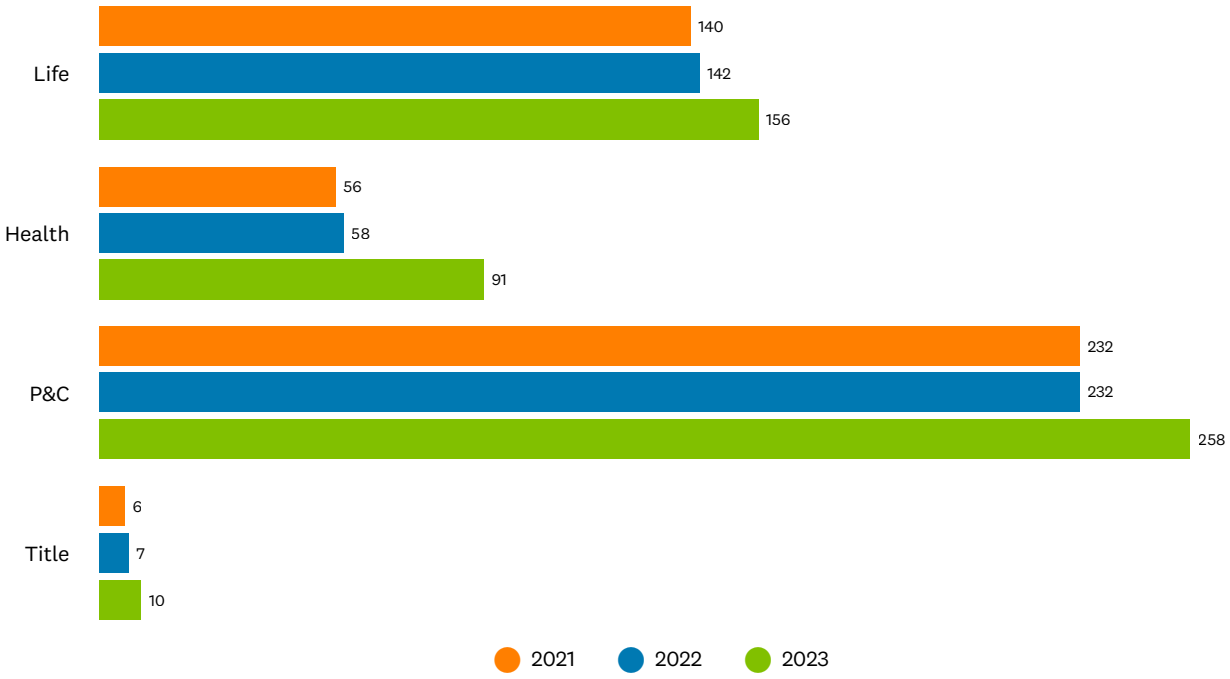
Results

The risk management pillar continued to be the most widely addressed area across the TCFD framework. Among the 418 companies compared between 2021 and 2022, 386 companies (92% of the comparison group) disclosed information aligned with risk management recommendations in 2021, increasing to 390 companies (93% of the same comparison group) in 2022. For the 469 companies compared between 2022 and 2023, this rose to 461 companies (98% of the comparison group) in 2023, representing a five percentage point increase from the previous year.

By line of business (based on comparison groups):

- **Property and casualty companies** maintained consistent levels, with 232 companies (95% of P&C insurers in the comparison group) disclosing risk management information in both 2021 and 2022, increasing to approximately 255 companies (99% of P&C insurers in the comparison group) in 2023.
- **Life insurers** showed minimal change from 140 companies (93% of life insurers in the comparison group) in 2021 to 142 (94%) in 2022, improving to approximately 150 companies (100% of life insurers in the comparison group) in 2023.
- **Health insurers** increased from 56 companies (90% of health insurers in the comparison group) in 2021 to 58 (94%) in 2022, and further to approximately 85 companies (100% of health insurers in the comparison group) in 2023.
- **Title insurers** improved from six companies (55% of title insurers in the comparison group) in 2021 to 7 (64%) in 2022 and reached approximately 10 companies (100% of title insurers in the comparison group) in 2023.

Figure 11 • Risk Management Pillar by Line of Business, 2021–2023 (Number of Groups)



This three-year analysis reveals that all lines of business have made substantial progress in implementing and disclosing their climate-related risk management processes, with virtually all insurers now addressing this pillar. The near-universal adoption of the risk management pillar across all insurance sectors demonstrates that climate risk identification, assessment, and management have become standard practice throughout the industry. This positive trend reflects an increased recognition of climate change as a material risk factor requiring systematic management approaches and integration into broader enterprise risk management frameworks.

Risk Management Pillar Recommendations

Risk Identification and Assessment Process

Our year-over-year analysis of the risk identification and assessment process recommendation shows mixed results. After an initial decline from 364 insurers in 2021 to 357 in 2022, we observed a significant improvement in 2023, with a total of 513 insurers demonstrating engagement with this metric. Property and casualty insurers showed the strongest improvement, increasing from 220 groups in 2022 to 258 in 2023. Health insurers experienced the most dramatic growth, nearly doubling from 50 groups in 2022 to 91 in 2023. Life insurers also showed substantial improvement, rising from 128 to 154 groups, while title insurers doubled their participation from five to 10 groups.

This upturn reverses the concerning downward trend observed between 2021 and 2022 and suggests a growing recognition of climate risk assessment's importance across the industry.

Figure 12 • Risk Identification: Best Practices

	Identify Systematic approach, data-driven	**Assess** Comprehensive scope, integrated approach	**Prioritize** Stakeholder engagement	**Integrate** Forward-looking, multiple time horizons
TCFD pillar	Governance	Metrics & Targets	Risk Management	Strategy
Risk categories	Liability	Transition	Physical	Transition
Insurance focus	Operations	Underwriting and investments	Underwriting	Investments
Implementation success factors	Executive sponsorship	Cross-functional teams	Clear documentation	Regular reviews

Risk Management Categorization

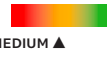
The disclosure of processes for identifying and quantifying climate-related risks continued its upward trajectory in 2023. Following a modest increase from 284 groups in 2021 to 289 in 2022, 2023 saw substantial growth to 444 total groups. Property and casualty insurers led with 223 groups (up from 176 in 2022), while health insurers showed the most dramatic improvement, increasing from 42 to 74 groups. Life insurers demonstrated significant progress with 138 groups (up from 111), and title insurers more than doubled their participation from four to nine groups.

This accelerated improvement indicates growing industry attention to climate risk categorization methodologies, which is particularly noteworthy after the relatively minor gains observed in the previous reporting period.

Figure 13 • Climate Risk Response Catalogue

Standardized approaches to managing climate-related risks by type and severity

Physical risks	**Transition risks**	**Liability risks**
Low severity • Monitoring weather patterns • Basic risk assessments • Climate research partnerships • Annual risk reviews	**Low severity** • ESG policy development • Carbon footprint tracking • Regulatory monitoring • Stakeholder education	**Low severity** • Climate disclosure reviews • Legal trend monitoring • Compliance assessment • Disclosure transparency
Medium severity • Geographic diversification • Enhanced underwriting criteria • Regional exposure limits • Catastrophe modeling	**Medium severity** • Portfolio decarbonization • Green product development • Low-carbon investments • Climate transition planning	**Medium severity** • Scenario-based litigation risk • D&O coverage reviews • Climate litigation monitoring • TCFD implementation
High severity • Portfolio restructuring • Specialized reinsurance • Risk-based pricing • Client resilience incentives	**High severity** • High-carbon exposure limits • Stress testing for carbon taxes • Net zero transition planning • Climate scenario analysis	**High severity** • Climate litigation provisions • Exclusion of high-risk sectors • Client disclosure requirements • Legal defense preparation

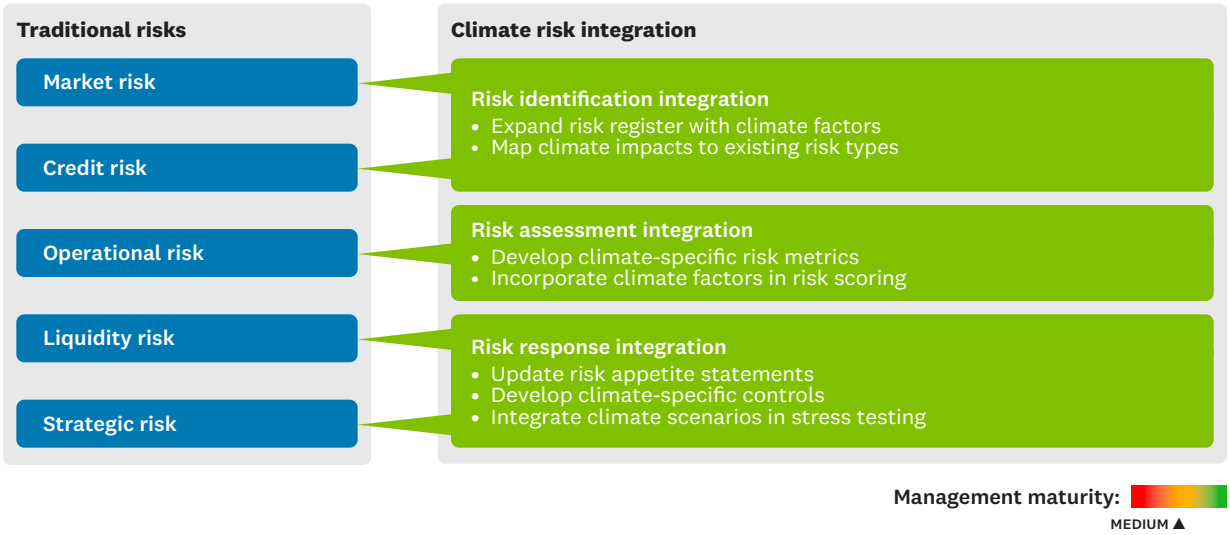


Integration into Overall Risk Management

The incorporation of climate-related considerations into comprehensive risk management frameworks continued to strengthen in 2023. Building on the 5% improvement seen from 2021 (336 groups) to 2022 (354 groups), 2023 data reveals further progress, with 479 total groups addressing this recommendation. Property and casualty insurers increased from 211 to 240 groups, while health insurers saw substantial growth from 52 to 86 groups. Life insurers improved from 133 to 144 groups, and title insurers expanded from seven to nine groups.

The continued advancement in this area is particularly encouraging, as it demonstrates insurers' commitment to embed climate considerations within their existing risk management infrastructure rather than treating them as a separate risk category. This integration approach suggests a maturing understanding of climate risk's cross-cutting nature and its potential to amplify traditional insurance risks across investment portfolios, underwriting practices, and operational resilience.

Figure 14 • Climate Risk Integration Framework



TCFD Pillar: Strategy

The strategy pillar recommends that organizations disclose the actual and potential impacts of climate-related risks and opportunities on their businesses, strategy, and financial planning, if such information is deemed material. The Climate Risk Disclosure Survey asks insurers to provide more information on the steps they have taken to engage key stakeholders on climate risk and resilience. Insurers are also requested to disclose their plans for reducing greenhouse gas emissions within their operations and to assess the resilience of their strategies under a scenario where global warming is limited to 2°C or less. The Survey also asks insurers to disclose any products or services they offer that support the transition to a low-carbon economy or that help their customers adapt to climate-related risks. This information is crucial for understanding how insurers are positioning themselves in response to the challenges and opportunities presented by climate change and the global effort to mitigate its effects.

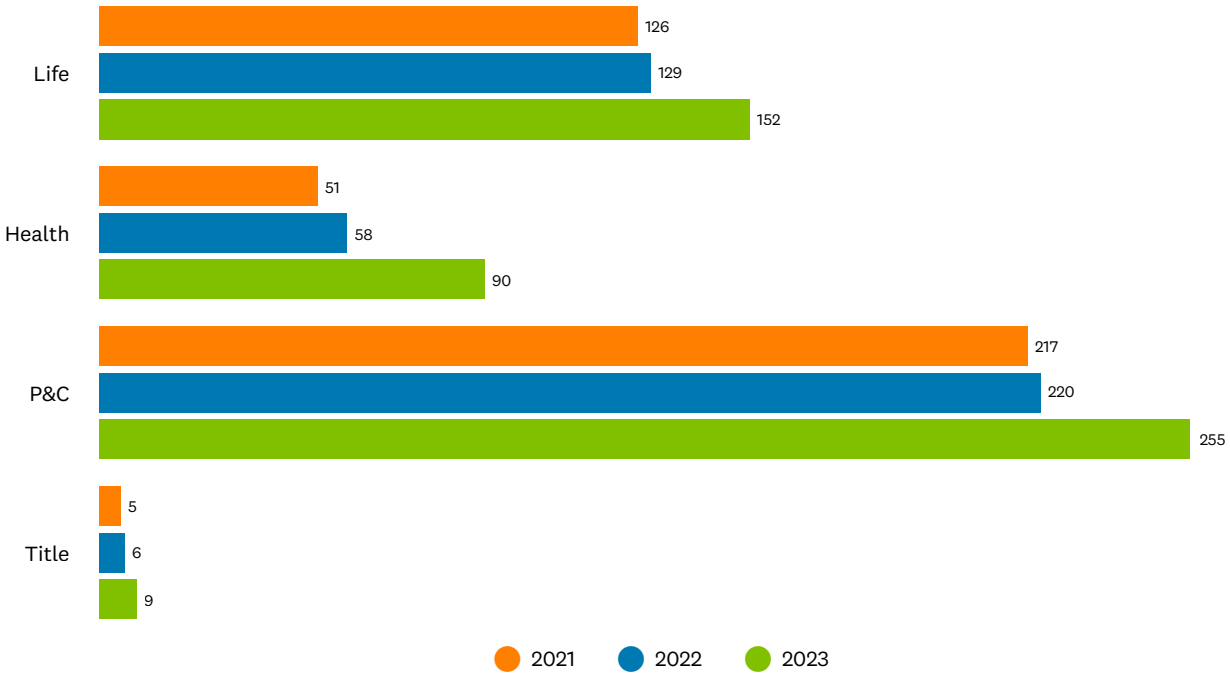
Results

The strategy pillar showed modest improvement between 2021 and 2022, with 352 companies (84% of the 418 comparison group) providing strategy disclosures in 2021, rising to 364 companies (87% of the same comparison group) in 2022. For the 469 companies compared between 2022 and 2023, strategy disclosures increased significantly to 450 companies (96% of the comparison group) in 2023, representing a nine percentage point increase from the previous year.

By line of business (based on comparison groups):

- **Property and casualty companies** progressed from 217 disclosing in 2021 to 220 (approximately 90%) in 2022, with a significant jump to approximately 240 companies (98% of P&C insurers in the comparison group) in 2023.
- **Health insurers** demonstrated growth from 51 disclosing in 2021 to 58 (approximately 94%) in 2022, and a further increase to approximately 80 companies (99% of health insurers in the comparison group) in 2023.
- **Life insurers** increased from 126 in 2021 to 129 (approximately 85%) in 2022, with further growth to approximately 135 companies (97% of life insurers in the comparison group) in 2023.
- **Title insurers** showed improvement from five companies in 2021 to six (approximately 55%) in 2022 and increased to approximately nine companies (90% of title insurers in the comparison group) in 2023.

Figure 15 · Strategy Pillar by Line of Business, 2021–2023 (Number of Groups)



Strategy Pillar Recommendations

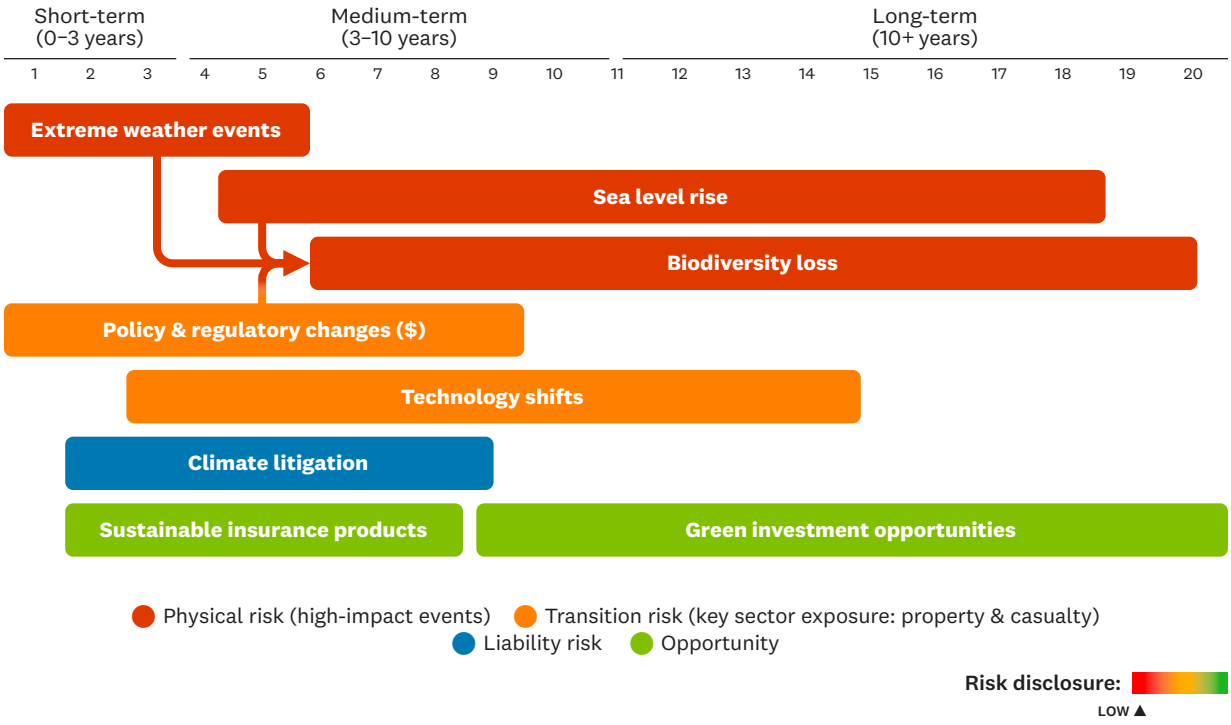
Risks and Opportunities Identified

The strategy pillar's assessment of climate risks and opportunities identification shows consistent year-over-year improvement. Following a significant increase from 283 groups in 2021 to 310 in 2022, we observed continued substantial growth in 2023, with 485 total insurance groups addressing this recommendation.

Property and casualty insurers demonstrated robust improvement, increasing from 195 groups in 2022 to 247 in 2023. Health carriers nearly doubled their participation, growing from 47 to 83 groups. Life insurers similarly showed strong advancement, rising from 111 to 147 groups, while title insurers expanded from five to eight groups.

Figure 16 • Temporal Risk Mapping

How climate risks and opportunities evolve over time horizons



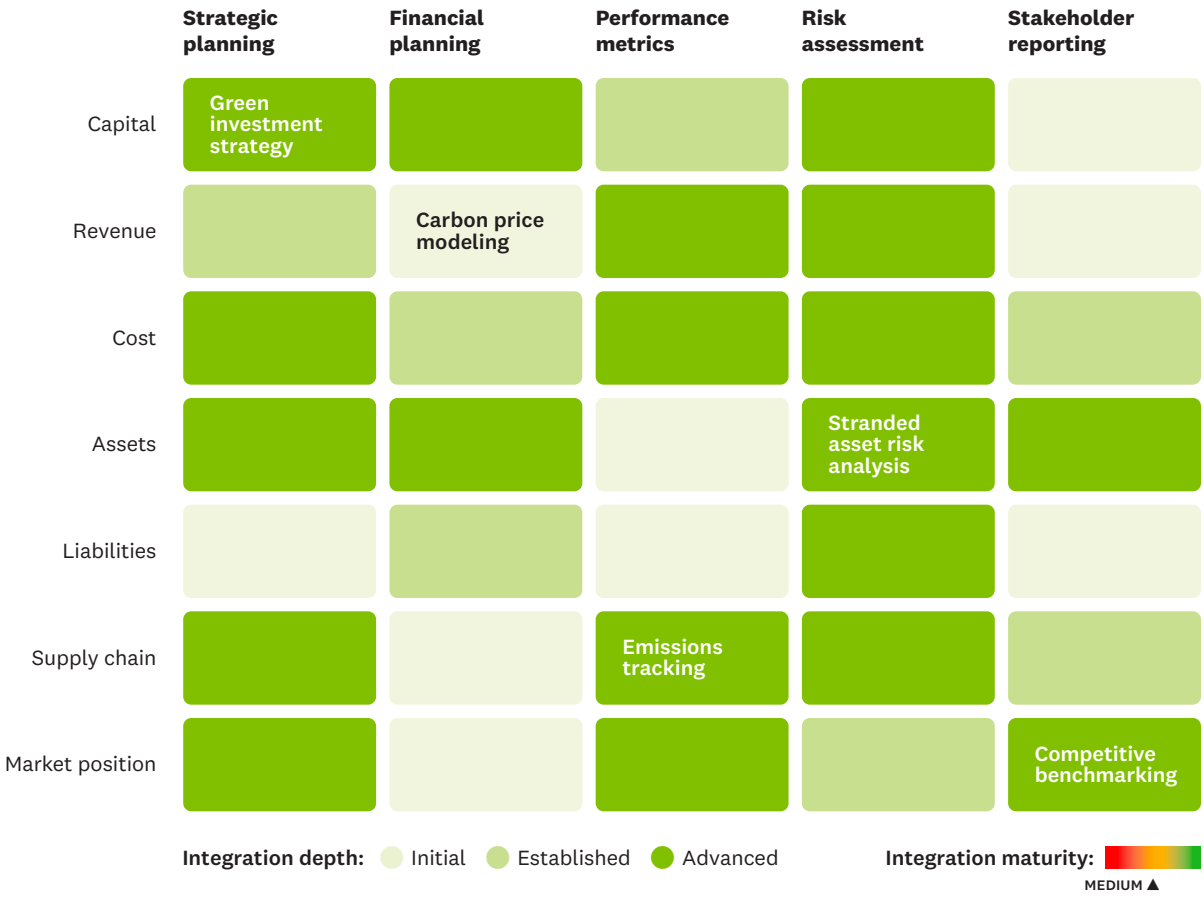
Impacts on Organization

The disclosure of actual and potential climate-related impacts on business operations, strategies, and financial planning continued its positive trajectory in 2023. Building on modest growth from 321 groups in 2021 to 333 in 2022, 2023 data reveal significant advancement, with 492 groups addressing this recommendation.

Property and casualty insurers increased from 199 to 249 groups, while health insurers saw growth from 52 to 86 groups. Life insurers demonstrated continued progress, expanding from 124 to 149 groups, and title insurers improved from six to eight groups.

Figure 17 • Financial Integration Heat Map

Climate considerations in business strategy and financial planning



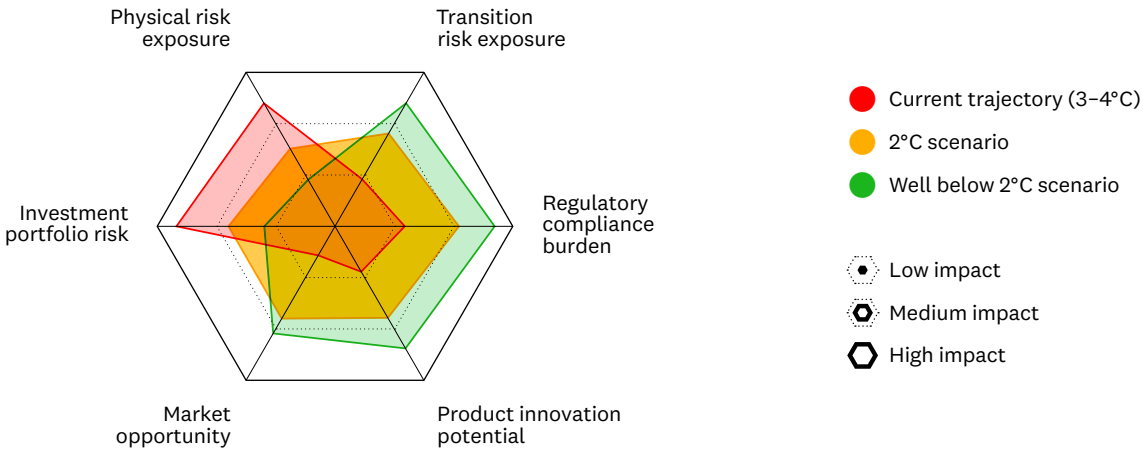
Resilience of Strategy: Climate Scenario Analysis

Climate scenario analysis remains the most challenging area within the strategy pillar, though we continue to see small incremental progress. After a 25% increase from 93 groups in 2021 to 116 in 2022, the 2023 data reveal mixed results across groups in different lines of business but a generally upward trend, with 148 total groups incorporating climate scenario analysis in their reporting.

Property and casualty insurers showed small advancement, growing from 63 to 79 groups. However, health insurers experienced a decline from 17 to 10 groups, suggesting potential methodological challenges specific to this sector. Life insurers maintained steady participation at 58 groups, while title insurers decreased from three to one group.

Despite overall numerical growth, the percentage of insurers conducting relevant climate scenario analysis remains concerning. The technical complexity of modeling future climate conditions, combined with data limitations and methodological uncertainties, continues to present significant barriers. As climate impacts intensify, developing these analytical capabilities becomes increasingly critical for effective business planning and regulatory compliance. Industry collaboration, standardized frameworks, and improved data will be essential to advance practices in this crucial area.

Figure 18 • Business Impact Assessment under Different Climate Scenarios



TCFD Pillar: Governance

The TCFD framework emphasizes the importance of climate risk assessment and awareness for insurance companies to develop robust risk management strategies. The governance pillar specifically recommends that organizations disclose their governance structures and processes for managing risks and opportunities. The Climate Risk Disclosure Survey directly aligns with the TCFD's recommendations under this pillar, requesting insurers provide information on how they govern and oversee climate-related issues. This includes disclosing the roles and responsibilities of the board and management in assessing and managing these risks and opportunities, as well as the processes in place to ensure that these risks are effectively integrated into the organization's overall governance framework. By providing transparent disclosures on their governance practices related to climate change, insurers can demonstrate to stakeholders that they are proactively addressing this critical issue and are well-prepared to navigate the complex and evolving landscape.

Results

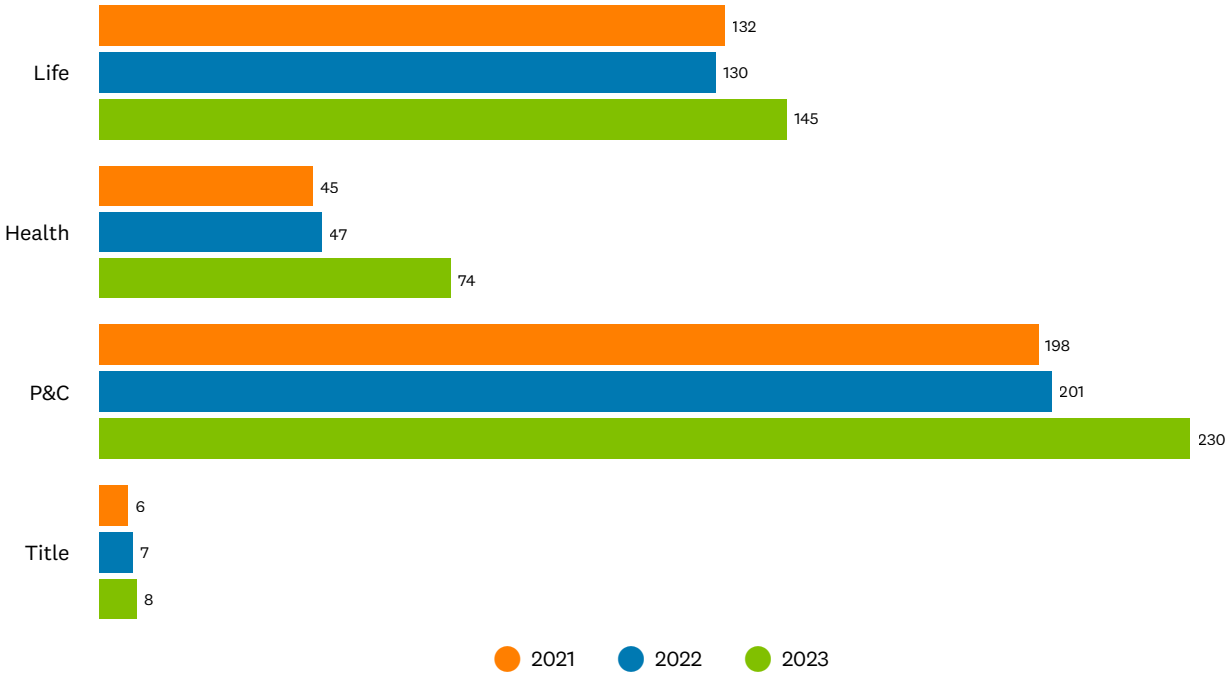
Disclosures related to governance oversight and management of climate issues were essentially level between 2021 and 2022, with 335 companies (80% of the 418 comparison group) in 2021 and 337 companies (81% of the same comparison group) in 2022. For the 469 companies compared between 2022 and 2023, governance disclosures increased substantially to 415 companies (88% of the comparison group) in 2023, representing an eight percentage point increase from the previous year.

By line of business (based on comparison groups):

- **Property and casualty companies** increased slightly from 198 disclosing governance oversight in 2021 to 201 (approximately 82%) in 2022, with a further increase to approximately 215 companies (88% of P&C insurers in the 2022–2023 comparison group) in 2023.

- **Health insurers** rose from 45 in 2021 to 47 (approximately 76%) in 2022 and then increased to 65 companies (81% of health insurers in the comparison group) in 2023.
- **Life insurers** initially decreased marginally from 132 disclosing in 2021 to 130 (approximately 86%) in 2022 but then improved to approximately 127 companies (93% of life insurers in the comparison group) in 2023.
- **Title insurers** increased from six in 2021 to seven (64%) in 2022, and further to eight companies (80% of title insurers in the comparison group) in 2023.

Figure 19 · Governance Pillar by Line of Business, 2021–2023 (Number of Groups)



Governance Pillar Recommendations

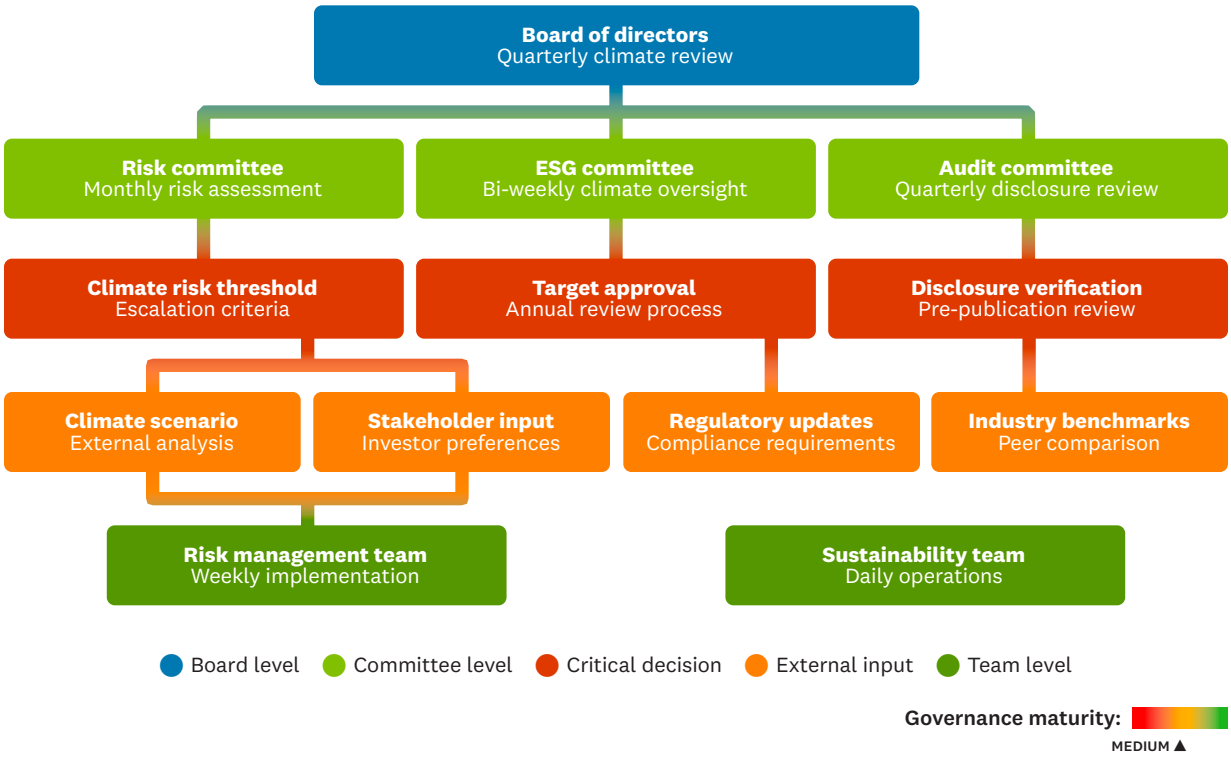
Role of Governing Board Oversight

The disclosure of board-level oversight for climate-related risks and opportunities showed contrasting trends across reporting periods. After minimal improvement from 309 groups in 2021 to 315 in 2022, we observed substantial progress in 2023, with 445 total insurance groups addressing this recommendation.

Property and casualty insurers demonstrated significant advancement, increasing from 187 groups in 2022 to 223 in 2023. Health insurers showed significant improvement, growing from 44 to 72 groups. Life insurers reversed their previous decline, rising from 122 to 142 groups, while title insurers expanded from seven to eight groups.

Figure 20 • Board Oversight: Climate Governance Decision Tree

How climate decisions flow through governance structures



Role of Senior Management Oversight

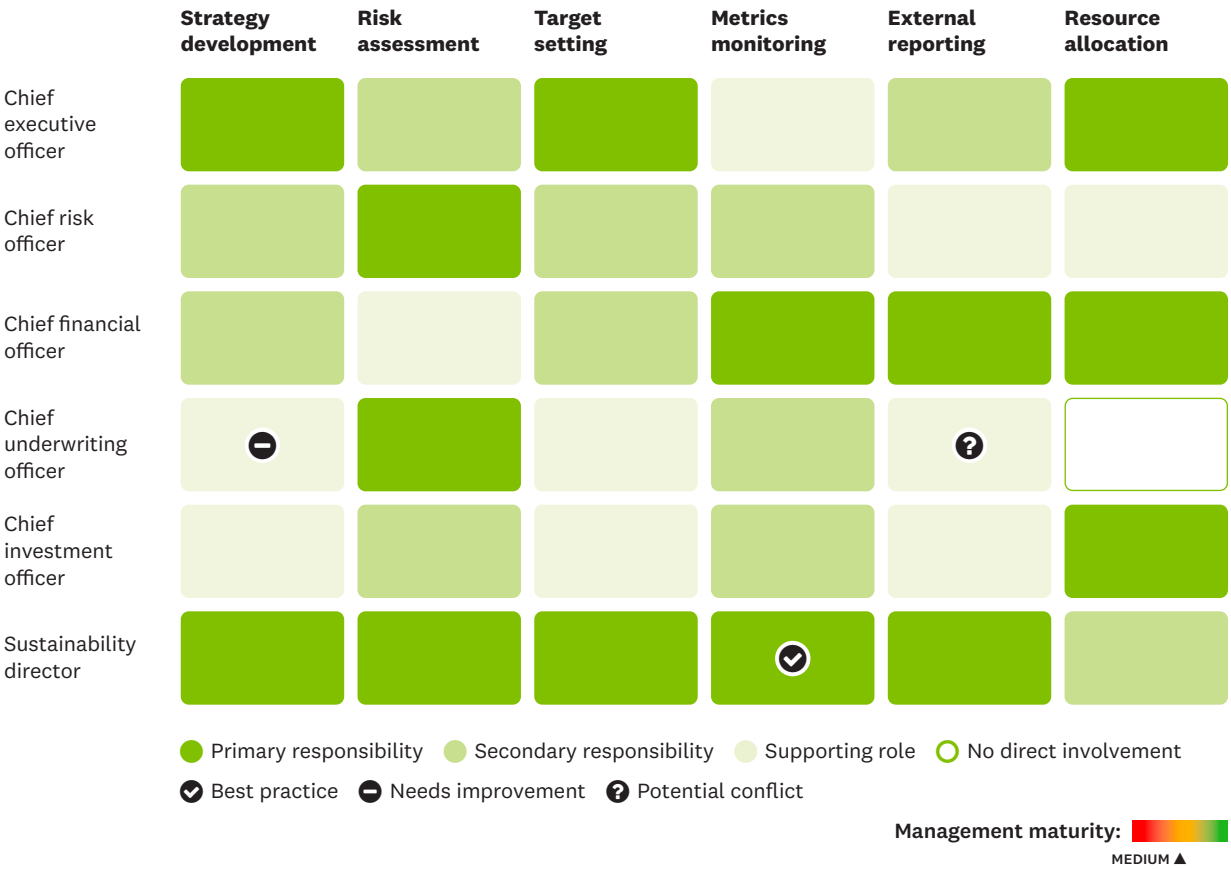
The disclosure of management's role in assessing and managing climate-related issues presents a concerning pattern. After declining from 275 groups in 2021 to 262 in 2022, the 2023 data reveal continued challenges, with only 306 total groups providing information on management oversight structures.

Property and casualty insurers showed moderate improvement, increasing from 157 to 163 groups. Health insurers demonstrated slight progress, growing from 32 to 34 groups. However, life insurers continued their downward trend, decreasing from 111 to 104 groups, while title insurers remained unchanged at five groups.

This stagnation in management oversight reporting is particularly troubling, given the growing regulatory focus on climate risk governance. The disconnect between improving board oversight and lagging management engagement suggests potential gaps in the implementation of climate strategies. Effective climate risk management requires clear accountability at both the board and executive levels, with well-defined processes for monitoring, assessment, and strategic decision-making.

Figure 21 • Management's Role: Climate Responsibility Matrix

Climate-related management responsibilities across management levels



Strengthening management oversight practices and their transparent disclosure should be a priority for insurers seeking to demonstrate robust climate governance to regulators, investors, and other stakeholders.

TCFD Pillar: Metrics and Targets

The metrics and targets pillar advises organizations to disclose the metrics and targets they use to assess and manage relevant climate-related risks and opportunities, provided that such information is considered material. The supplemental guidance for insurance companies and asset owners provides more specific recommendations on what types of metrics and targets should be disclosed.

For insurers and reinsurers, the supplemental guidance suggests disclosing aggregated risk exposure to weather-related catastrophes and the extent to which their underwriting activities align with a scenario where global warming is limited to well below 2°C. Where data and methodologies allow, insurers and reinsurers are also encouraged to disclose weighted average carbon intensity or greenhouse gas emissions associated with their commercial property and specialty lines of business.

Asset owners, including insurance companies, are advised to provide metrics used for making investment decisions related to climate risk and disclose how their investment portfolios align with a well below 2°C scenario. The supplemental guidance also recommends that asset owners disclose the

greenhouse gas emissions associated with the assets they own and the weighted carbon intensity of their investments, calculated using the Global Greenhouse Gas Accounting and Reporting Standard.

By providing these specific metrics and targets, insurers and asset owners can offer stakeholders valuable insights into their both their underwriting and investing exposures to climate-related risks, their progress in aligning their activities with global climate goals, and their efforts to manage and mitigate the potential impacts of climate change on their business.

Results

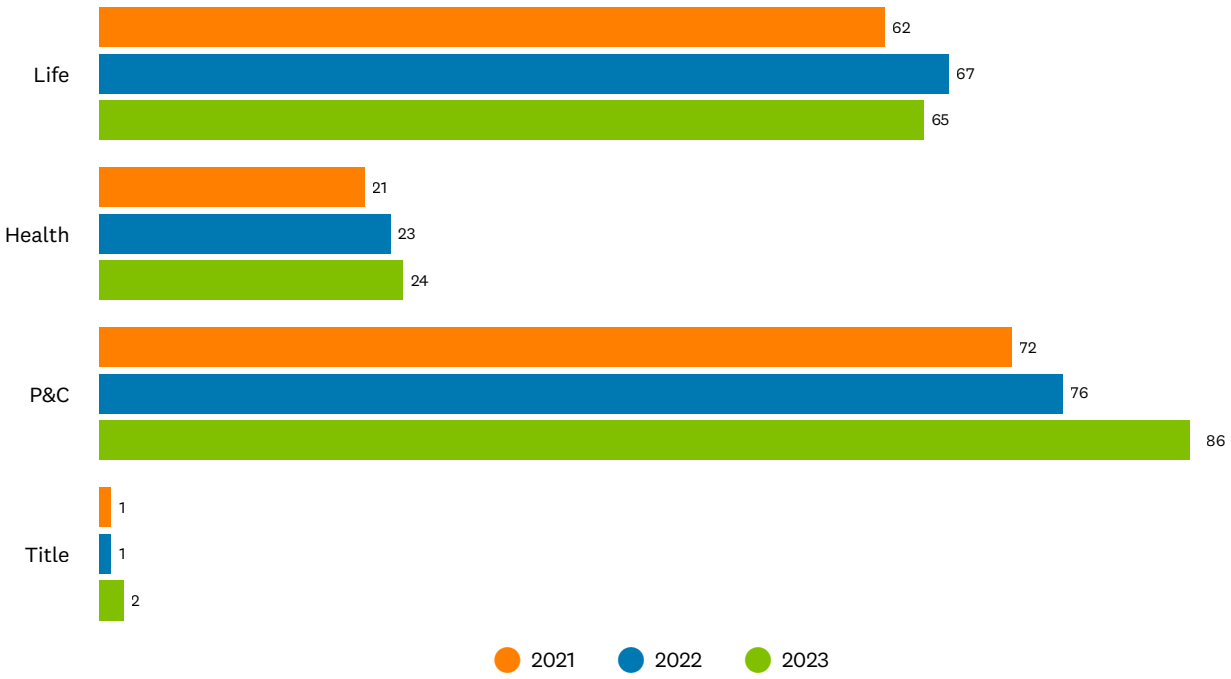
Results indicate very modest improvement in the metrics and targets pillar, although the results remain sobering as the least developed reporting area overall. When looking at the 418 companies that reported in both 2021 and 2022, the number disclosing climate-related metrics and targets increased from 126 companies (30% of the comparison group) in 2021 to 135 companies (32% of the comparison group) in 2022. For the 469 companies compared between 2022 and 2023, this figure rose to 177 companies (38% of the comparison group) in 2023.

Notably, when viewing each year's data independently within its own reporting context, the metrics and targets pillar consistently hovers around 30% adoption across the industry. This persistent pattern suggests a structural challenge in this area of disclosure, despite the modest improvements observed year over year.

By line of business (based on comparison groups):

- **Property and casualty companies** increased from 72 disclosing metrics and targets in 2021 to 76 (31%) in 2022, with further growth to 86 in 2023 (33% of P&C insurers in the comparison group).
- **Health insurers** showed minimal growth from 21 in 2021 to 23 (37%) disclosing in 2022 and remained proportionally similar in 2023, with approximately 24 companies (around 30% of health insurers in the comparison group).
- **Life insurers** climbed from 62 in 2021 to 67 (44%) in 2022, with similar proportional representation in 2023 at 65 companies (about 42% of life insurers in the comparison group).
- **Title insurers** remained at very low levels, with just one company disclosing in 2021, one in 2022, and increasing slightly to two in 2023 (about 20% of title insurers in the comparison group).

Figure 22 • Metrics & Targets Pillar by Line of Business, 2021–2023 (Number of Groups)



Despite some improvements in absolute numbers, the metrics and targets pillar continues to lag significantly behind the other TCFD pillars, with only about one-third of insurers providing these disclosures. This suggests that while companies are increasingly acknowledging climate risks and establishing governance and risk management processes, there remains a substantial gap in quantifying these risks and setting measurable targets for addressing them.

Metrics and Targets Recommendations

Metrics in Use

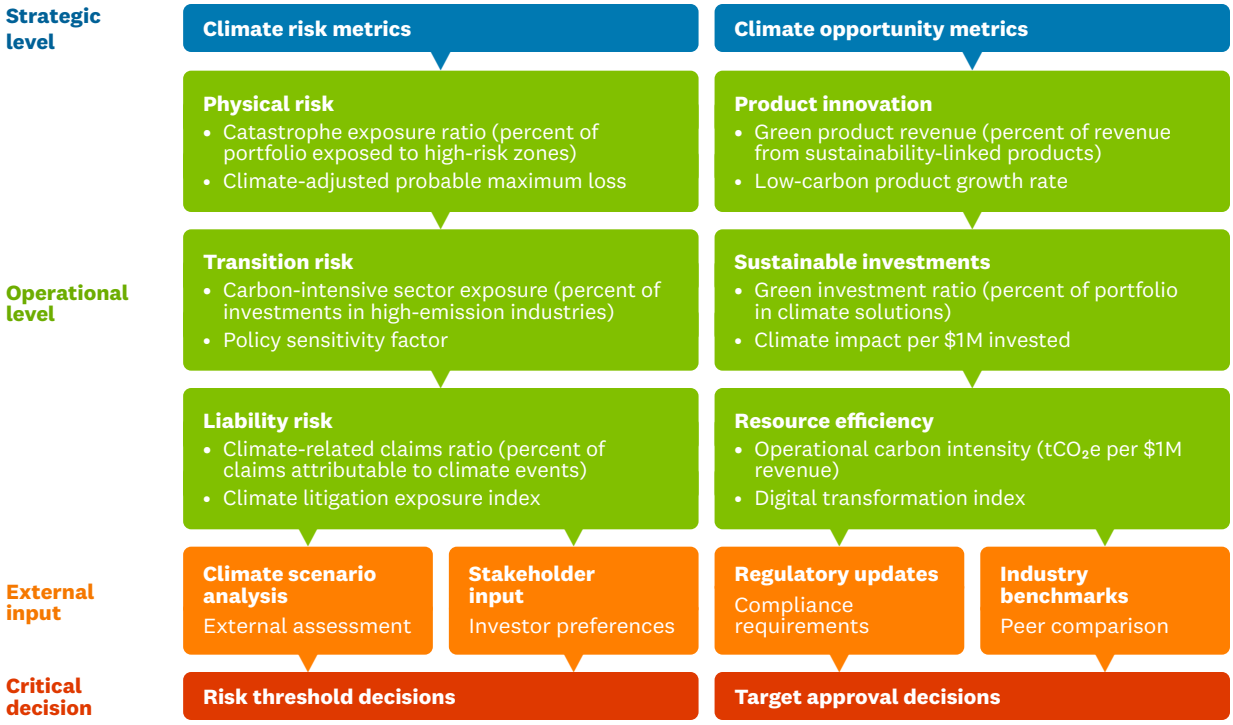
The evaluation of metrics used to assess climate-related risks and opportunities also reveals concerning patterns. After modest improvement from 78 groups in 2021 to 88 groups (21%) in 2022, the 2023 data shows a slight increase but continued underperformance, with only 104 total insurance groups addressing this recommendation.

Property and casualty insurers demonstrated limited progress, increasing from 49 groups in 2022 to 54 in 2023. Health insurers showed minimal change, decreasing from 12 to 11 groups. More unsettling, life insurers experienced a significant decline from 46 to 39 groups, while title insurers regressed completely, with zero groups reporting on climate metrics in 2023.

The continuing underperformance in this area suggests fundamental challenges in quantifying climate impacts across insurance operations. Despite growing regulatory pressure and stakeholder interest, insurers continue to struggle with developing comprehensive metrics that effectively capture their climate risk exposure and opportunity potential.

Figure 23 · Climate Metrics Framework

Quantifiable metrics to evaluate climate risks and opportunities



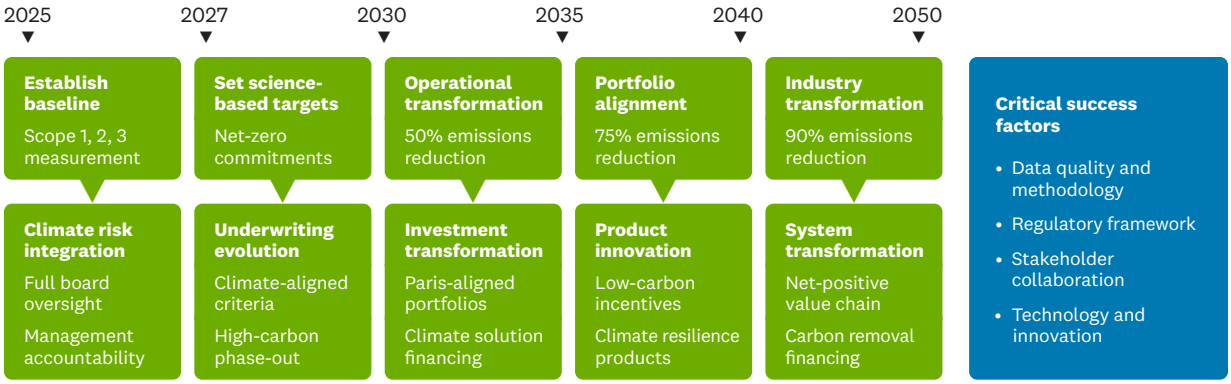
Targets in Use

The disclosure of climate-related targets showed varied outcomes in 2023, continuing a pattern of industry-wide challenges. Following a decline from 100 total groups in 2021 to 99 (24%) in 2022, the 2023 data reveal minimal improvement, with 98 total insurers reporting on climate targets.

Property and casualty insurers showed modest growth, increasing from 44 to 46 groups. Health insurers demonstrated a slight lag, falling from 15 to 14 groups. Life insurers also continued a downward trend, decreasing from 41 to 38 groups, while title insurers remained at zero for the third consecutive year.

This stagnation is especially worrisome, given the growing importance of target-setting in demonstrating climate commitment to act on climate risks and opportunities to regulators and stakeholders. The absence of measurable targets may indicate underlying difficulties in translating climate awareness into actionable business objectives and performance metrics.

Figure 24 · Climate Target Achievement Pathway



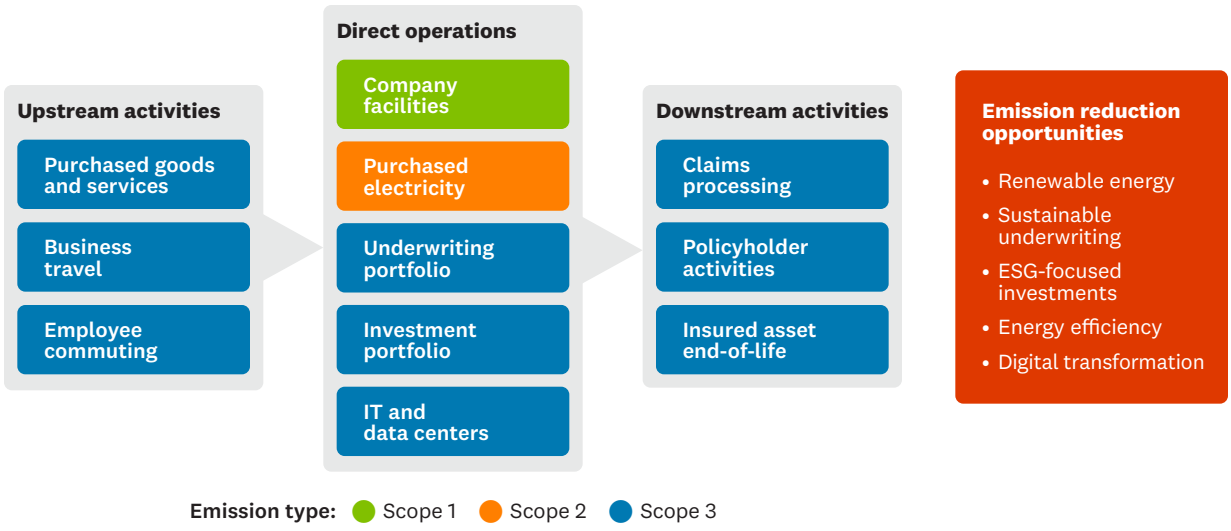
Scope 1, 2, 3 GHG Emissions

The disclosure of greenhouse gas emissions across operational and value chain activities showed the most substantial improvement within the metrics and targets pillar. Building on progress from 89 groups in 2021 to 102 (24%) in 2022, the 2023 data reveals continued advancement, with 141 total insurers reporting on emissions.

Property and casualty insurers led with an increase from 56 to 65 groups. Health insurers reversed their previous decline, growing from 14 to 18 groups. Life insurers showed minimal change, decreasing slightly from 57 to 56 groups, while title insurers doubled their participation from one to two groups.

Figure 25 · Insurance Industry GHG Emissions Value Chain

Scope 1, 2, and 3 emissions with reduction opportunities



Scope 3 greenhouse gas emissions for insurers represent the indirect emissions that occur throughout their value chain but that the insurer doesn't directly control. These include emissions from both upstream and downstream activities outside the insurer's scope 1 (direct) and scope 2

(purchased energy) boundaries. For insurance companies, these emissions are particularly significant, as they include insurance-associated emissions or financed emissions from the activities and companies they underwrite and invest in.

Disclosure of these emissions is crucial since they reveal an insurer's true climate risk exposure, which can be substantial, such as when an insurance firm specializes in covering oil and gas operations. Examples of insurer scope 3 emissions include emissions from underwriting, portfolios covering carbon-intensive industries like fossil fuels, manufacturing, or transportation, investment portfolios that finance high-emission activities, claims-related activities such as property repairs and replacements, and business travel and employee commuting. By disclosing scope 3 emissions, insurers provide investors and other stakeholders with more complete information about their exposure to financial risks across their entire business value chain. This transparency is increasingly important as regulatory requirements for scope 3 disclosure expand globally, with frameworks such as the EU's Corporate Sustainability Reporting Directive and California's Corporate Climate Data Act mandating disclosure.

Summary and Recommendations

Overview of Progress and Persistent Challenges

Our comparative analysis of TCFD-aligned disclosures across the insurance industry reveals incremental improvement in certain areas, particularly in integrating climate considerations into governance structures and risk management frameworks Insurers and the state regulators deserve credit for moving beyond the question of "if there should be disclosure" to focusing more on what the disclosure shows. Still, critical gaps remain, and the quality and depth of disclosures remain inconsistent across the industry.

It's important to note that our machine learning assessment establishes only baseline measurements of disclosure presence and does not fully capture the qualitative sophistication of these disclosures.

Critical Areas Requiring Immediate Attention

Metrics and Targets: A Concerning Pattern of Underperformance

The metrics and targets pillar continues to display alarmingly deficient disclosure levels across all insurance lines of business. Despite slight increases in GHG emissions reporting (141 groups in 2023, up from 102 in 2022), the industry's adoption of clear, measurable climate targets remains unacceptably low at just 98 total groups. This represents less than 30% of reporting insurers, a figure that has remained virtually unchanged over three consecutive reporting years.

This persistent failure to establish and disclose quantifiable metrics is profoundly concerning, given intensifying climate impacts and regulatory scrutiny. Without robust measurement frameworks, insurers cannot credibly demonstrate progress in addressing climate risks or capitalizing on emerging opportunities. The industry must treat metrics development as an urgent strategic priority, not a compliance exercise.

Climate Scenario Analysis: Growing but Inadequate

While adoption of climate scenario analysis has improved (148 groups in 2023, up from 116 in 2022), this represents merely incremental progress of less than a third of the reporting insurers in a critically important area. The continuing gap in forward-looking climate analysis leaves insurers vulnerable to unforeseen climate shocks across their investment portfolios, underwriting practices, and operational structures.

The industry must accelerate adoption of Paris Agreement-aligned scenario modeling that incorporates both transition and physical risks across varying time horizons. Particularly concerning is the regression in scenario analysis observed in health and title insurance lines, suggesting potential methodological challenges that require targeted industry guidance.

Advancing Industry Climate Preparedness

Enhancing Disclosure Quality and Specificity

Insurance disclosures continue to vary widely in their depth and specificity. While many insurers now nominally address TCFD recommendations, many lack concrete examples and specific decision-useful information. Insurers should prioritize providing detailed information on how climate considerations influence capital allocation decisions, risk pricing methodologies, and investment strategies. This should include specific metrics, methodologies, and decision-making frameworks that facilitate meaningful comparison across the industry.

Expanding Stakeholder Engagement

Insurers can strengthen their climate response by expanding engagement with policyholders, regulators, and industry associations. This should include transparent communication about risk transfer mechanisms, customer educational initiatives, and collaborative regulatory approaches. Companies should also disclose how they're engaging with policyholders on resilience measures and how these engagements inform underwriting and product development strategies.

Adapting to the Evolving Climate Risk Landscape

The insurance industry faces an increasingly complex climate risk environment marked by regulatory acceleration, investor scrutiny, and escalating physical impacts. Companies must adopt more dynamic and forward-looking approaches to disclosure. This includes regular reassessment of materiality determinations, integration of emerging climate science into risk assessment protocols, and proactive communication with stakeholders about evolving climate strategies.

These findings align with and reinforce the recommendations outlined in Ceres' 10 Point Plan for the Insurance Industry, which identifies climate risk as an existential threat requiring a fundamental reimagining of insurance frameworks.

The persistent gaps in metrics, targets, and scenario analysis highlighted in our assessment directly correspond to critical areas emphasized in the Ceres framework, particularly around risk assessment and modeling, and transparent climate transition planning. As the 10 Point Plan notes, insurers have a unique opportunity to leverage their economic influence and risk expertise to drive stronger climate resilience. Implementing robust TCFD-aligned disclosures represents a foundational step in this broader transformation, enabling insurers to better anticipate climate risks, identify emerging opportunities, and fulfill their evolving roles as both risk managers and influential advocates for action.

Appendix

Action Item Matrix

Figure 26 • Manifest Climate's Proprietary Set of Action Items

Governance Pillar	
Board Oversight Recommendation	
Board review cadence	Establish processes so the board reviews climate-related matters regularly
Board responsibility	Assign clear climate-related oversight responsibilities to board members
Information sharing	Establish processes to share climate information with the board and to enable board oversight of climate goals/targets
Organizational decision-making	Integrate climate-related matters into key areas of organizational decision-making
Organizational engagement	Ensure the board, management, and broader organization have access to, or promote, the competencies needed to engage on climate matters
Management's Role Recommendation	
Management reporting cadence	Establish processes so management reports regularly to the board on climate-related matters
Management delegation	Delegate clear and appropriate authority to managers to support the organization's response to climate change
Information sharing (management)	Establish processes to share climate information with managers
Cross-functional communication	Establish cross-functional communication across the organization to manage climate change
Strategy Pillar	
Climate Risks & Opportunities Identified Recommendation	
Organizational time horizons	Establish short-, medium-, and/or long-term time horizons in the context of climate-related matters
Impact of opportunities	Understand where climate-related opportunities impact the organization
Climate Impact on Organization Recommendation	
Impact of transition risks	Understand where climate-related transition risks impact the organization
Impact of physical risks	Understand where climate-related physical risks impact the organization

Figure 26 • Manifest Climate's Proprietary Set of Action Items

Strategy Pillar, continued

Climate Impact on Organization Recommendation	
Impact of transition risks	Understand where climate-related transition risks impact the organization
Impact of physical risks	Understand where climate-related physical risks impact the organization
Risk and opportunity analysis	Understand the strategic, financial, and/or operational impact of climate-related risks and opportunities on the organization
Climate response planning	Develop a plan to respond to climate-related transition risks and/or physical risks and opportunities

Climate Scenario Analysis Recommendation	
Scenario analysis	Conduct climate-related scenario analysis to test the resilience of the organization's climate strategy

Risk Management Pillar

Climate Risk Management Processes Recommendation	
Materiality assessment process	Document the organizational process of conducting climate-related materiality assessments
Risk management process	Establish processes to manage climate-related risks
Policy and legal risks	Assess and/or manage climate-related policy and legal risks facing the organization
Market risks	Assess and/or manage climate-related market risks facing the organization
Technology risks	Assess and/or manage climate-related technology risks facing the organization
Reputational risks	Assess and/or manage climate-related reputational risks facing the organization
Acute physical risks	Assess and/or manage climate-related acute physical risks facing the organization
Chronic physical risks	Assess and/or manage climate-related chronic physical risks facing the organization

Climate Risk Categorization Recommendation	
Risk assessment process	Establish processes to identify and assess climate-related risks
Climate methodologies	Adopt methodologies to promote consistency and accuracy in climate-related data

Climate Risk Integration Recommendation	
Risk Integration	Integrate processes to identify, assess, and manage climate-related risks into the organization's broader risk management system

Metrics and Targets Pillar

Metrics in Use Recommendation	
Non-GHG climate metrics	Use non-GHG climate metrics to measure climate-related risks and opportunities beyond GHGs
Intensity metrics	Use, if appropriate, intensity metrics to measure climate-related risks and opportunities
Historical data for metrics	Use historical data to identify trends in climate-related metrics

Figure 26 • Manifest Climate's Proprietary Set of Action Items

Metrics and Targets Pillar, continued

Targets in Use Recommendation	
Climate-linked pay	Incorporate climate-related performance metrics into remuneration policies
GHG targets	Develop GHG targets to effect organizational change
Non-GHG targets	Develop non-GHG climate-related targets to effect organizational change
Target time horizons	Set appropriate time horizons for climate-related targets
Target baselines	Establish clear base periods for climate-related targets
Interim milestones	Set appropriate interim milestones / goals climate-related targets

Scope 1,2,3 GHG Emissions Recommendation	
Scope 1 emissions metric	Track organizational Scope 1 emissions
Scope 2 emissions metric	Track organizational Scope 2 emissions
Scope 3 emissions metric	Track organizational Scope 3 emissions
Carbon pricing	Understand how carbon pricing affects the business and how carbon pricing can motivate change over time
Carbon offsets	Understand the role of carbon offsets, including how offsets impact climate-related targets

Methodology

Machine Learning Approach

Manifest Climate uses advanced machine learning coupled with proprietary modeling to assess organizational alignment to different disclosure frameworks and standards. Based on these assessments, Manifest Climate can recommend 41 specific actions (Action Items) that an organization can take to improve its overall climate response.

Manifest Climate's alignment model examines whether an organization's disclosures broadly address the information to demonstrate alignment with each Action Item. It can then overlay those findings against selected frameworks and standards.

For Ceres, the model was trained to identify whether an organization's disclosures generally trend toward alignment with the recommended disclosures of the TCFD, first by assessing disclosures against Manifest Climate's 41 Action Items, and then by mapping those findings onto the 11 recommended disclosures of the TCFD.

The Manifest Climate models take advantage of a dataset of climate-related disclosures from a variety of sources. These disclosures have been labeled by experts to indicate whether the human reader thought that it counted towards the recommended disclosure or not. Then the algorithm scans the Climate Risk Disclosure Survey responses (in this case) at a high level and uses natural language processing and machine learning to recognize patterns (words, phrases, and sentence structures) that would be expected if the reviewed organization was aligning to each of the Action Items, and

by extension, the 11 recommended disclosures of the TCFD framework. The algorithm uses these patterns to replicate this labeling. The result of the alignment model is a one (or a zero) for each of the 11 TCFD recommendations depending upon whether the report does (or does not) include information related to that recommendation. As valuable as the machine learning process is, Ceres recommends that this analysis be supplemented by human review of key documents.

As an example, 1 below would be labeled "1" or "yes" for a description of board oversight, but "0" or "no" for outlining management's role. And 2 would be labeled "0" or "no" for board oversight and "1" or "yes" for management's role.

1 The Board of Directors reviews the Group Sustainability performance and programs twice annually as a minimum, in addition to any specific review related to a Sustainability topic that falls within the remit of each of the Committees (i.e., the Nomination Committee's review of diversity and inclusion performance, the Audit Committee's of climate-related risks factors, and the Strategic Committee orientation and monitoring of the SustainAgility program).

2 Through the CCT, I am overseeing the implementation of the climate strategy we introduced in December 2020, and monitoring the Group's progress against the seven pathways to delivering our targets and net zero ambition.

Treatment of Climate Risk Disclosure Survey Responses

In 2024, insurance companies were given the option to submit their TCFD-aligned Climate Risk Disclosure Surveys to the participating US state regulators through the California Department of Insurance (CDI) managed public database through an online portal either by uploading a PDF document or responding to a survey with text boxes corresponding to questions based on each TCFD pillar.

Companies licensed in any of the participating states and jurisdictions making a $100 million and above in direct written premiums (DWPs) during their reporting year were required to submit responses individually to the database. There is, however, a notable occurrence of submissions with identical responses among multiple companies, especially among companies within the same group, reflecting a common practice of centralized climate risk management strategies at the group level.

For 2024, 526 unique reports were submitted, an increase from the previous year's 521 submissions. This uptick can be attributed to an expansion in the survey's reach, encompassing more companies because of the participation of additional states and jurisdictions. Upon request from Manifest Climate and Ceres, CDI compiled the 2024 reports, which are publicly accessible, and provided them to Manifest Climate for this analysis. This compilation excluded duplicates and converted text box entries into a machine-readable PDF format. In addition, CDI also provided files mapping report names to their corresponding company name and NAIC code, group name and codes, line of business, states of domicile, and DWPs.

To ensure clarity among reporting years, CDI also provided Manifest Climate a list correlating the file names from the 2024 survey (reflecting RY 2023 data) with those from both the 2023 data (reflecting RY 2022) and the 2022 survey (reflecting RY 2021 data). Of these, 434 reports were directly matched. However, due to differences in reporting practices between the three years, such as companies submitting as individuals one year and as part of a group the next, only 418 reports

were determined to be directly comparable in submission for years 2021 and 2022. This adjustment accounted for variations, including 14 companies shifting from individual to group submissions and two companies making the opposite transition. Additionally, 29 companies that filed in 2022 did not report in 2023. 469 groups were directly matched from the 2022 to 2023 reporting years.

The methodologies used by Manifest Climate to assess climate-related disclosures evolve year on year, in response to new standards and refinements in machine learning and modeling. For this year:

1. **Enhanced Focus on Action Items** Manifest Climate has focused on 41 action items, which are designed to provide indicative detail on organizational alignment to multiple standards, and targeted recommendations for improving climate action. This contrasts with the previous year's focus on a broader alignment assessment that used fewer climate frameworks, such as the TCFD recommendations.
2. **Integration with Proprietary Modeling** The introduction of proprietary modeling alongside advanced machine learning techniques represents a significant development in Manifest Climate's approach to assessments. This integration is designed to deliver faster and more accurate assessments at a level that is more granular than the TCFD recommendations. It does this by completing a preliminary assessment using Manifest Climate's Action Items, before mapping that assessment onto the TCFD recommendations.
3. **Dataset and Algorithm Adjustments** While both years' methodologies rely on a dataset of expert-labeled climate-related disclosures and the use of natural language processing and machine learning to recognize patterns indicative of alignment with the TCFD, this year's approach benefits from refinements in the algorithm and updates to the dataset. These adjustments aim to improve the precision of alignment assessments, making them more reflective of current expectations and standards.

Due to these methodological changes, direct comparisons between findings from the two reporting years are not straightforward, as the basis for evaluation has evolved. However, to enable comparison, the Comparative Analysis charts use this year's methodology for all three data sets. This approach is intended to allow an apples-to-apples comparison and to observe directional trends and changes over time.