

Stand-alone

Integrated sustainability disclosure

The Integrated Sustainability Disclosure (ISD) is part of the Annual Report 2022 of Zurich Insurance Group¹. This document only includes the ISD for reasons of convenience, as the main part of the index tables presented on this webpage are covered in this part of the Annual Report.

Please note that the page numbers in this document align with the overall Annual Report, with the ISD starting as of page 112. The complete Annual Report is disclosed on our website and can be consulted via the following webpage: [About us/Zurich Insurance](#)

¹ Comprising Zurich Insurance Group Ltd and its subsidiaries.



At Zurich, we believe in being clear about what our company stands for and how the organization as a whole considers the interests of all stakeholders. We want to do business in a way that builds resilience.

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Executive message on sustainability



The change begins with us: with doing the right thing by our planet, our customers and our employees.

Dear Shareholder,

Sustainability is how we do business. We balance present and future needs of our business with the aim to create long-term sustainable value. We help weave a safety net for individuals, corporate customers and society. Our expertise gathered over 150 years helps provide innovative solutions on both reducing risk and transferring it.

But our ambitions run much deeper. We aspire to be one of the most responsible and impactful businesses in the world.

This change begins with us: with doing the right thing by our planet, our customers and our employees.

Updated sustainability goals

We have come a long way since we set out to create a sustainability plan in 2018 to guide us in building a resilient organization. Our efforts are reflected in our own operations, our underwriting and our investments.

The need for action is increasingly urgent and we're building on our existing achievements by focusing our sustainability priorities where we can make a difference.

Planet

A sustainable company must care for the planet. Climate change is the most pressing challenge of our time and we're committed to tackling it with every means available, as an insurer, an investor and an employer.

We will accelerate emissions reductions and help regenerate nature. For instance, through our Zurich Forest Project, we are helping to restore a unique and biodiverse ecosystem in Brazil's Atlantic Forest.

We also want to do what we can to help decarbonize our economies. That's why we committed to reduce the carbon intensity of our underwriting and investment portfolios to net-zero by 2050.

Championing
transparency



Executive message on sustainability (continued)

At the end of December 2022, Zurich's impact investment portfolio of USD 6.3 billion helped avoid 3.2 million metric tons of CO₂-equivalent (CO₂e) emissions and improved the lives of 4.7 million people.

Across our own operations, we have already reduced emissions by 73 percent in 2021 compared to our 2019 baseline and intend to achieve net-zero by 2030, 20 years ahead of target. It is one of the reasons why independent studies rate us a leader among global peers on climate risk mitigation initiatives.

Customer

Our focus is always on helping and inspiring our customers to join us on our journey to net-zero. We believe it is better to engage with our customers and investee companies to check that they have viable credible transition plans rather than simply divest or end a relationship.

We also offer products and services to enable sustainable choices and outcomes. Examples include the take up of electric vehicles, the development of renewable energy and investment in responsible funds.

In 2021, we launched the insurance industry's first carbon-neutral equity fund.

Through our Climate Change Resilience Services consultancy, we help commercial customers build resilience and adapt to climate change and support their net-zero transition.

But customer sustainability goes beyond just a focus on climate. We listen and adapt to emerging and evolving needs, whether that's through developing accident insurance for the gig economy or our data commitment to reassure customers that we will never sell their personal data.

Employees

Finally, as a global employer, we are constantly striving to foster a culture of inclusiveness in our workplace. We also focus on building a caring environment that enables our people to improve their physical, mental, emotional and financial wellbeing.

Through our focus on work sustainability we are building a learning organization that helps our employees to grow their talents.

The need for transparency and accountability

Supporting our customers and society at large to build resilience against some of the most challenging environmental and social risks is at the heart of our purpose to create a brighter future together. These ambitions, however, are meaningless if we cannot measure the impact of our work. We must match ambition with appropriate ways to gauge our progress, champion transparency and hold ourselves, our industry and stakeholders to account.

In this second year of publishing the integrated sustainability disclosure (ISD), we are providing greater transparency on how we are measuring progress toward our sustainability goals.

As an advocate, adviser and role model, we want to support individuals and organizations to thrive today and flourish tomorrow.



Alison Martin

CEO EMEA (Europe, Middle East & Africa) and Bank Distribution

Sustainability highlights 2022

USD 566m

revenues from sustainable solutions¹

-12%

reduced intensity in financed corporate CO₂e emissions²

3.2m

metric tons CO₂e avoided through climate-related impact investments³

USD 8.7bn

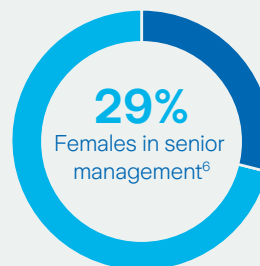
investments in climate solutions

-73%

in 2021 reduction in CO₂e emissions from our own operations⁴

6.9-point

increase in our overall transactional net promoter system (TNPS) score⁵



Internal hire ratio of
71%

USD 8.8bn

tax contribution⁷

72%

of our procurement spend⁸ is in compliance to our supplier code of conduct

USD 41.5m

donated via the Z Zurich Foundation⁹

¹ Based on our internal definition.

² Compared to our 2019 baseline.

³ Impact number include methodology upgrade, as explained in Zurich's impact measurement methodology paper www.zurich.com/-/media/project/zurich/dotcom/sustainability/docs/zurich-impact-measurement-framework.pdf

⁴ Compared to our 2019 baseline. Cover-More, Farmers Group, Inc. and its subsidiaries, joint ventures and third party vendors are out of scope.

⁵ TNPS is a specific indicator that is calculated as part of the NPS program – with NPS being the global best practice standard for customer experience measurement.

⁶ Senior management represents the combination of career levels D and E.

⁷ Tax contribution comprises the tax borne by shareholders in 2021 and taxes collected in 2021.

⁸ The spend of approximately USD 2 billion annually managed by Zurich's Procurement and Vendor Management function according to the 2020 baseline on goods and services that are required to enable Zurich to maintain and develop its operations, excluding suppliers no longer active in 2022.

⁹ The Z Zurich Foundation is a Swiss-based charitable foundation established by members of the Group. It is the main vehicle by which Zurich delivers on its global community investment strategy.

Integrated sustainability disclosure

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1. Introduction

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Introduction

As an insurer, a key component of our Group¹ success is the trust built through doing the right things, in the right way, and measuring and reporting the effects of those actions. In this light, we continue to embed sustainability across our business through accountable, transparent, measurable initiatives. We strongly believe in the need to disclose clear, comprehensive, and high-quality information on our performance against key sustainability indicators, covering environmental, social and governance (ESG) areas.



At Zurich, sustainability is integral to how we conduct business and measure success.

George Quinn
Group Chief Financial Officer



Globally recognized and generally accepted reporting principles on sustainability don't exist yet, however industry alliances and standard setters are taking positive action to address this gap. The insurance industry has moved further in taking concrete actions to support the efforts against climate change. As a founding member of the Net-Zero Insurance Alliance (NZIA), we worked intensively with other members to deliver the target-setting protocol (TSP) issued in January 2023. The TSP sets out the minimum requirements for all members to set their initial interim targets. It allows NZIA member organizations to individually set science-based targets for their underwriting portfolios in line with a 1.5°C, net-zero transition pathway.

While actively contributing to these initiatives, we have progressed further in leveraging our expertise in financial accounting and reporting to establish our sustainability measurement and reporting processes. Globally, sustainability has become a standard agenda topic for finance and its leaders. We all have an important role in making sustainability disclosures transparent and comparable.

About this report

We have endeavored to create a meaningful disclosure based on good practices, sustainability regulations and external reporting frameworks. Accordingly, this report has adopted a combination of existing frameworks to provide insights into the most material topics for our business and our key stakeholders. In addition, this report includes reporting on our targets under the three pillars of our [sustainability framework](#)² and the indicators we use to measure progress on them.

Frameworks followed

We continue to disclose in line with the recommendations from the Task Force on Climate-related Financial Disclosure (TCFD), which allows us to understand the resilience of our strategy to climate risks. It also provides insights into the sustainability risks and opportunities our business faces. Read more about it in the planet section ([pages 131 to 169](#)). Additionally, we have considered the 21 core World Economic Forum (WEF) Stakeholder Capitalism Metrics and the Sustainability Accounting Standards Board (SASB) standard for the insurance industry. We follow a 'disclose or explain' approach as in prior years. All the indicators material to us are included directly in the integrated sustainability disclosure (ISD), and we address less material indicators in the index table.

Climate risk assessment

We perform our scenario-based climate risk assessment with three focus areas – underwriting and investment portfolios as well as our own operations. The heatmap of our underwriting portfolio remains unchanged compared to 2021, as the business mix did not change significantly in 2022. We monitor this closely and have prioritized strategic actions in our underwriting portfolio. On the investment side, we have extended the scope of the scenario analysis to additional asset classes, covering a bigger portion of the balance sheet. In our own operations, we reviewed further risks, including the impact of climate change on our distributed workforce and supply chain. The outcomes of these analyses are used to determine appropriate responses and confirm the resilience of our strategy.

Other enhancements in ISD 2022

We have included several new KPIs or extended the scope of previously disclosed KPIs. The financed emissions are now split between equities and corporate bonds and our engagement actions with our top 10 emitters without science-based targets, are now shown by sector and region providing additional transparency. We have provided the coverage ratio and new targets for green-certified buildings in our real estate portfolio. Disclosure of monetary losses arising from natural catastrophes has been extended to include net losses by type of event and region. Our customer-related KPIs have been extended to include additional countries. We now show the absolute customer retention rate aligning with the SASB framework. On social matters, a human rights risk assessment was performed on our supply chain which has been included. Training related KPIs on data security have been added.

We have set ourselves ambitious targets and have taken clear positions on several issues (see section 2.2, [pages 119 to 120](#)) and remain focussed on being one of the most responsible and impactful businesses in the world.

Note: The indicators included in this report cover the period from January 1 to December 31, 2022, unless stated otherwise. Some data may be collected and reported as at an earlier date in the year. Certain cases are extrapolated for the remaining months of the year based on the Group's internal methodology and are indicated by footnotes in the respective tables.

For a detailed overview, please see the index tables related to the frameworks SASB, WEF IBC, Zurich sustainability pillars, as well as the [index table related to the key metrics](#)³ of our planet section on our website. Furthermore, we have used references to the Global Reporting Initiative (GRI), without adhering to the standards listed in the [index](#)⁴ in its entirety.

¹ Comprising Zurich Insurance Group Ltd and its subsidiaries (the Group or Zurich or we).

² www.zurich.com/sustainability/strategy-and-governance/strategy

³ www.zurich.com/sustainability/reporting

⁴ www.zurich.com/sustainability/reporting

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Figure 1

Our ESG reporting monitors strategy execution, meeting stakeholders' needs while ensuring compliance



Zurich sustainability strategy and objectives

Strategy execution metrics for our sustainability objectives (i.e., our 1.5°C future, confidence in a digital society, work sustainability).



Reporting standards adopted; stakeholder relevance

Standards that we decided to adopt and that are of relevance to our stakeholders, especially investors (e.g., WEF IBC, SASB).



Upcoming corporate law requirements

Reporting requirements, such as FINMA disclosure requirements on climate risks and non-financial reporting requirements under the Swiss Code of Obligations.

Our three ESG sustainability pillars call out the transformational themes that impact our business most. They are the cornerstone of our sustainability strategy and guide us in building a resilient organization that responds to the needs of our time.

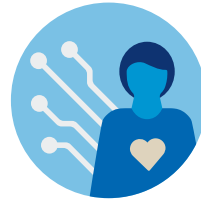
Figure 2

Our three sustainability pillars – selected highlights from 2022



Our 1.5°C future

- Net-Zero delivery in investments and operations underway.¹
- Thermal coal and oil sands exclusion concluded, review of oil and gas transition plans.
- As of the end of 2022, we confirmed that 71.5 percent of our managed procurement spend (MPS)² is with suppliers that meet or exceed the key expectations of our supplier code of conduct.³



Confidence in a digital society

- Data commitment rolled out to more than 90% of business.
- Artificial intelligence (AI) assurance framework rolled out in 2022, with end of 2023 as implementation target.



Work sustainability

- 26 hours of learning per employee in 2022.
- Females share in senior management roles is 29 percent in 2022 (up by 7 ppts since 2017).
- Internal hire rate of 71 percent.

Indicators discussed in this report are labelled to identify the sustainability pillar and standard to which the reporting is linked. Please note that indicators might impact several areas across environment, social and governance. In this case, we highlight the most relevant impact area only.

Legend of icons used

External frameworks and our standards				Impact area		
TCFD	WEF IBC	SASB	Zurich sustainability pillars	Environmental impact	Social impact	Governance impact

¹ Includes retail and commercial customers.

² The spend of approximately USD 2 billion annually managed by Zurich's Procurement and Vendor Management function according to the 2020 baseline on goods and services that are required to enable Zurich to maintain and develop its operations, excluding suppliers no longer active in 2022.

³ By completing suppliers' self-assessment.

2. Creating positive impact for stakeholders

2.1 Our purpose



Our purpose is to create a brighter future together. We do not strive to realize a static ideal, but rather to be an enabler for evolution and continuous improvement. Over a century and a half, we have refined our business model to make the most of our resources and generate value in a way that considers all our stakeholders and the physical and social environment around us. We are proud of our heritage and understand that protecting our reputation and our assets is critical to our long-term success. When looking to the future, we are confident we will thrive based on our tradition and grow based on our purpose.

We are convinced that living up to our purpose will strengthen our core business and have a positive impact on our performance as an underwriter and investor. With changing customer expectations and an increasing demand for social and environmental engagement, sustainability is increasingly becoming a driver for value creation. Evolving legislation and the increasingly visible impacts of climate change underline the urgency of the topic.

We are supporting our customers who face these risks and we are enhancing preventative advisory solutions to complement traditional underwriting services. In Chapter 5 ([pages 170 to 180](#)), you can read about the innovative and sustainable solutions we offer to our customers to enhance resilience and advocate for prevention or minimization of damage and harm from climate-related perils. We continue to focus on the development of insurance and risk management solutions for new technologies, business models and approaches that are needed to achieve a climate-neutral economy. Additionally, we continue to develop new solutions and increase revenues associated with sustainable products and services.

The ownership and management of assets carries broad responsibilities. In addition to traditional financial considerations, we have established a responsible investment approach which covers climate risk and integrates environmental and social metrics to assess our performance in sustainability. Accordingly, our climate-related strategy must be understood as feeding into a broader sustainable approach to investment management. For more details, please see Chapter 4 ([pages 131 to 169](#)) of this report.

2.2 Our targets and positions

We believe social responsibility and care for our planet are aligned with shareholders' interests. Sustainability is a business opportunity as well as an urgent global imperative. Our ambition is to be one of the most responsible and impactful businesses in the world. This means creating positive outcomes for all stakeholders, taking economic, social and environmental considerations into account.

We have set ourselves ambitious targets and report transparently about our progress throughout the year. Moreover, additional targets were set in 2022 and underline our ambition.

Investment management

Our areas of focus	Our progress			Our targets		
	2020 to 2022			2025	2050	Targets without a deadline

Reduction of financed emissions

Our areas of focus	Our progress			Our targets		
	2020	2021	2022	2025	2050	Targets without a deadline
Reduce emissions intensity of listed equity and corporate bond investments (metric tons CO ₂ e/USD million invested) (compared to 2019)	-6%	-21%	-12%	-25%	Net-zero investment portfolio	
Reduce emissions intensity of direct real estate investments (kgCO ₂ e/m ²) (compared to 2019)	-6%	-20%		-30%		

Engagement targets – Climate action

Our areas of focus	Our progress			Our targets		
	2020	2021	2022	2025	2050	Targets without a deadline
Engage companies producing 65% of portfolio emissions and lacking targets aligned with Paris Agreement (PA)		46%	54%	65%		

2. Creating positive impact for stakeholders (continued)

Investment management (continued)

Our areas of focus	Our progress		Our targets		
	2020 to 2022		2025	2050	Targets without a deadline

Financing the transition – Impact investment

Our areas of focus	2021		2022		2025	2050	Targets without a deadline
	2020	2021	2022	2022			
Avoid CO ₂ e emissions through climate-related impact investment organization (per year)		4.6 million metric tons CO ₂ e		3.2 million metric tons CO ₂ e			Avoid 5 million metric tons CO ₂ e
People to benefit from a positive contribution to their lives and livelihood (per year)		3.6 million people		4.7 million people			5 million people
Increase allocation to climate solution investments (compared to 2019)	2020 +9%	2021 +11%	2022 +17%				
Increase invested assets in impact investments	2020 2.5%	2021 3.3%	2022 3.8%		5%		

Underwriting

Our areas of focus	Our targets		
	2030	2040	2050
Full phase out of thermal coal from underwriting portfolio organization	OECD and EU ¹	Rest of the world ¹	Net-zero UWR portfolio

Own operations²

Our areas of focus	Our progress		Our targets			
	2020 to 2022		2022	2025	2029	2030
Absolute reduction in all operational emissions (compared to 2019)	2020 -60% ³	2021 -73%		Reduced by 60%	Reduced by 70%	Net-zero operational emissions
Reduction of scope 1 and 2 emissions (compared to 2019)	2020 -41% ³	2021 -56%		Reduced by 62%	Reduced by 80%	
Reduction of scope 3 emissions ⁴ (compared to 2019)	2020 -67% ³	2021 -80%		Reduced by 60%	Reduced by 67%	
% of MPS that is in compliance with, or exceeds our SCOC expectations ^{5,6} (2020 baseline)		2021 55%	2022 72%	75% completed		

Customer data

Our areas of focus	Our progress
	2022 onwards
Keep customers' data safe	<p>Never sell customers' personal data.</p> <p>Not share customers' personal data without being transparent about it.</p> <p>Put customers' data to work so Zurich can better protect them and so they can get the most out of life.</p>

¹ Unless the company has formally approved science-based targets in place, which are approved by either SBTi or a similar scientifically accredited body.

² Cover-More, Farmers Group, Inc. and its subsidiaries, joint ventures and third party vendors are out of scope.

³ The 2020 numbers were restated as a number of data quality improvement opportunities were revealed during the assurance process. For a detailed overview, please see: www.zurich.com/-/media/project/zurich/dotcom/sustainability/docs/Zurich-environmental-performance-data-2021.xlsx

⁴ Resulting from air, rental and rail business travel, employee commuting, strategic data centers, printed paper and waste, as well as indirect energy impact.

⁵ The spend of approximately USD 2 billion annually managed by Zurich's Procurement and Vendor Management function according to the 2020 baseline on goods and services that are required to enable Zurich to maintain and develop its operations, excluding suppliers no longer active in 2022.

⁶ By completing suppliers' self-assessment.

2. Creating positive impact for stakeholders (continued)

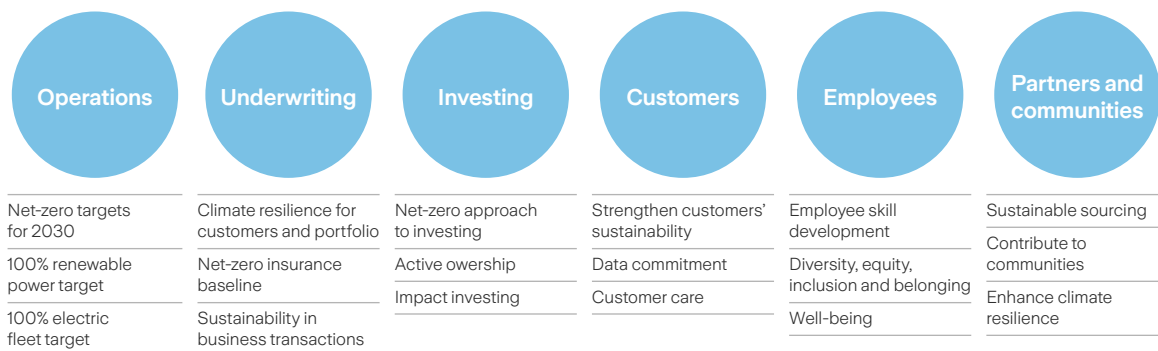
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2.3 Sustainability at the core of our organization

We continuously work to identify new challenges and opportunities to ensure we invest our resources where we can make the biggest impact. We strive to understand the environment around us and look for ways to capture the opportunities it presents for our business. We believe that taking an integrated approach is the key to our success, hence we place sustainability at the core of our organization and stakeholder interactions.

We are conscious of the impact we have on people and planet and we keep this in mind in our own operations, investment portfolio and underwriting. As well as embedding sustainability across all functional units, we also set high expectations for all our business units around the world. We combine top-down and bottom-up initiatives to engage all regions. Through this hybrid approach, we ensure all countries can contribute toward the same goals.

Figure 3
Sustainability is integrated in everything we do



As a founding member of the Net-zero Insurance Alliance (NZIA) Zurich has committed to "Transitioning all operational and attributable greenhouse gas (GHG) emissions from its insurance and reinsurance underwriting portfolios to net-zero emissions by 2050 consistent with a maximum temperature rise of 1.5°C above pre-industrial levels by 2100 in order to contribute to the implementation of the COP21 Paris Agreement." We were heavily involved in developing the common methodology and target setting protocol (TSP) that will allow NZIA member organizations to individually set science-based targets for their underwriting portfolios in line with a 1.5°C net-zero transition pathway. The TSP sets out the minimum requirements for all members to set their initial interim targets, with one target to be set by the end of July 2023 and targets in all three categories defined by the protocol by the end of July 2024. The TSP structures targets into three areas:

- Engagement with customers.
- Portfolio emission reductions.
- Insuring the transition.

2.3.1 Assessing materiality



We want to work together with our employees, customers, investors and society to create a brighter future. To do this, it is necessary to involve these stakeholder groups in our decision-making process – and to understand what issues matter most to them. As the field of sustainability is rapidly evolving and we strive to have a clear view on the most material issues going forward, we conduct a full materiality assessment every three years as part of our strategic cycles.

In 2022, we carried out a complete update to our materiality assessment in order to understand which sustainability-related issues are most relevant to internal and external stakeholders. The 2022 assessment included both quantitative and qualitative analyses, insights generated from leading big data tools, and direct engagement with 10 different stakeholder groups including more than 8000 employees and 500 customers. Using this information, we identified 23 sustainability topics and prioritized them based on their importance to our stakeholders (y-axis) and their potential for future business impact (x-axis).

The outcomes of the 2022 materiality assessment were key inputs for creating our new strategic cycle and sustainability framework. This refreshed framework builds upon our previous three sustainability pillars¹ and will take effect in 2023. The results illustrated in the matrix below have been validated through numerous expert interviews. The purpose of these interviews was to validate the results and provide input to defining the next three-year strategic cycle for sustainability. A few topics were slightly moved to the right, meaning that the experts estimated the potential business impact to be higher than initially indicated by the surveys. As a final step, the Board endorsed the materiality matrix.

1 More information can be found in figure 2.

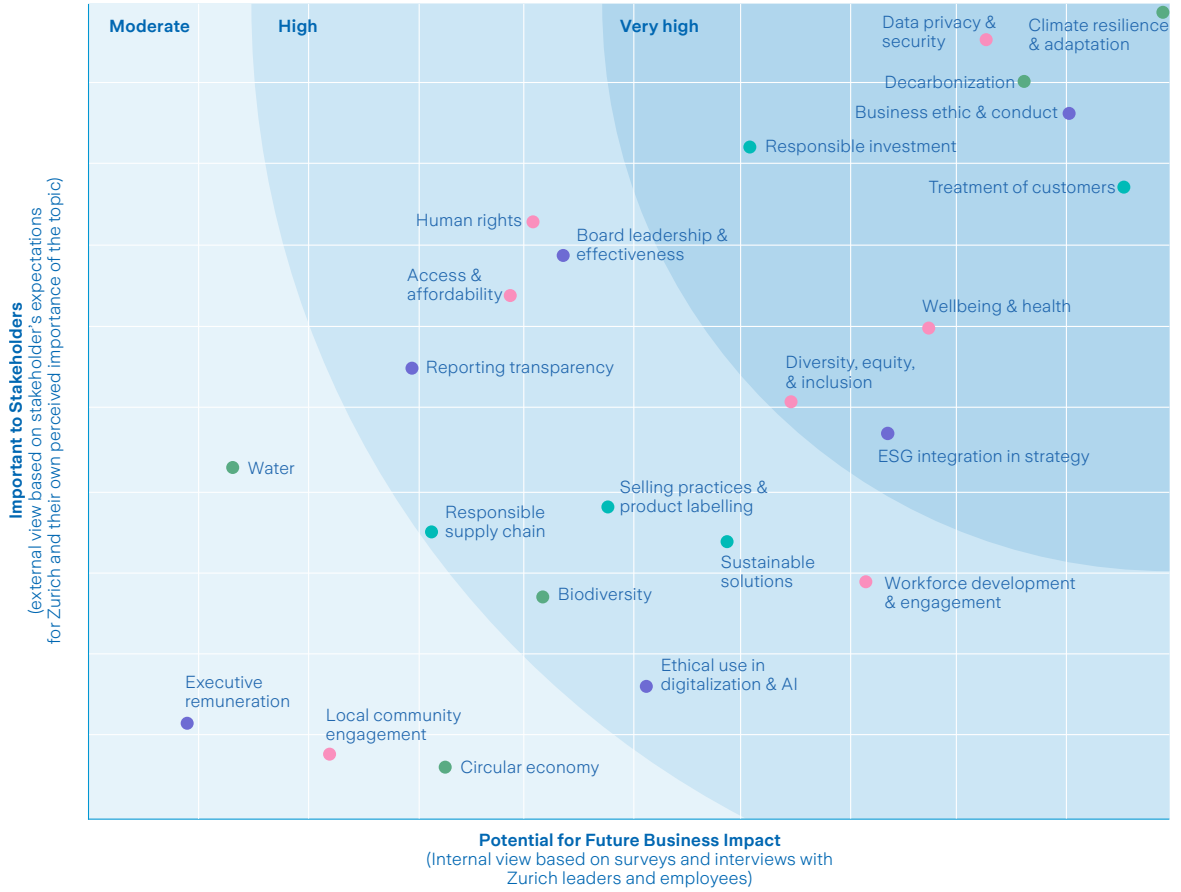
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2.3.1 Assessing materiality (continued)

Figure 4

Materiality matrix 2022



Issue category ● Environmental ● Social ● Governance ● Business Model

2. Creating positive impact for stakeholders (continued)

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2.3.1 Assessing materiality (continued)

Taking into account the future interests of our stakeholders and business, this updated overview of our material issues reaffirms the importance of areas we have been working on for many years, for example: climate resilience and adaptation; decarbonization; data privacy and security; and business ethics and conduct. Some new topics included in the 2022 assessment are among the highest ranking issues in the materiality matrix, for example: ESG integration in strategy; sustainable solutions; treatment of customers.

New topics confirmed to be of growing importance during the 2022 materiality assessment

Topic definition defines the exact meaning of each issue included in the materiality matrix. The definitions were shared in the stakeholder survey to ensure our respondents understand what each of the topics includes. Implications for our business describes the main, expected impact areas of each topic.

ESG integration in strategy

- Topic definition: The efforts taken to embed sustainability into the company's strategy and implementation across the business, including commitment from all levels and locations to contribute to group targets and efforts.
- Implications for our business: We will continue to integrate ESG into our strategy and across our business as we aim to create positive impact for our stakeholders, in line with our purpose.

Sustainable solutions

- Topic definition: Insurance products, add-on coverage, investment products and advisory services designed or adapted to support activities that generate positive environmental or social impacts and contribute to mitigating climate risks.
- Implications for our business: We will continue to grow our offering of sustainable solutions through innovation, risk transfer and collaboration with our customers to better understand their sustainability needs.



Read more about our sustainable solutions:

5.1 Customer experience and customer-centric solutions, pages 171 to 175.

Treatment of customers

- Topic definition: Fostering a customer-centric culture and putting in place controls in product development and claims processing to ensure we handle customer challenges or disputes in a caring, responsible way.
- Implications for our business: We will maintain our focus on ethically serving our customers through the Group-wide implementation of our claims blueprint and customer experience standards to foster empathy and compassion at all customer touchpoints.



Read more about our sustainable solutions:

5.3 Fair and transparent advice and engagement, pages 177 to 178.

2. Creating positive impact for stakeholders (continued)

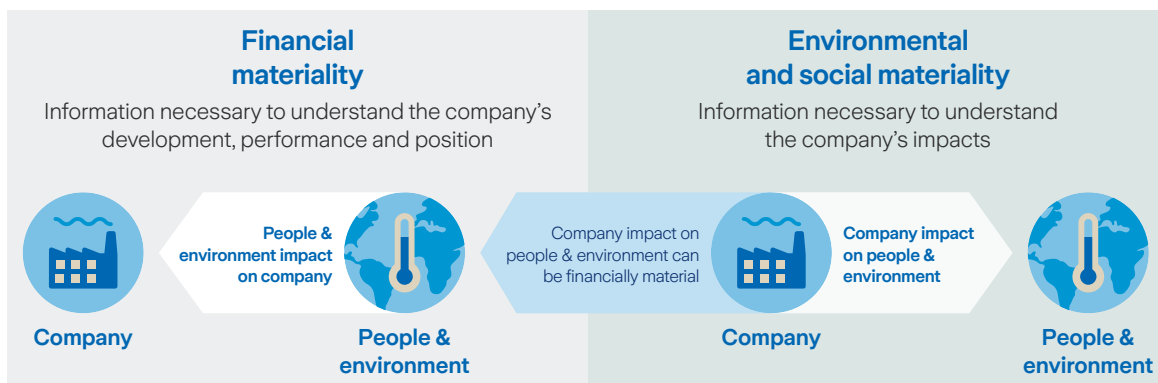
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2.3.2 Managing risks and opportunities



To carry out effective sustainability risk management, we consider the impact of our company on the planet and society (a so-called inside-out perspective), as well as the impact of climate and society on our company's core business (an outside-in perspective). Known as 'double materiality,' this approach helps us to understand sustainability risks, for example climate change, as a driver of the key risks in our risk taxonomy. It also enables us to establish a position on societal risks, such as the use of banned weapons, or forced or child labor (human rights risks). The sustainability risk framework addresses the process of identifying, assessing and mitigating risks largely from an inside-out perspective, whereas other approaches, such as scenario-based climate risk assessment (see Chapter 4), are used to understand the risks from an outside-in perspective.

Figure 5
Double materiality¹



Our risk management framework helps to protect our company against financial and reputational risks and supports the identification of potential business opportunities. ESG integration is a core pillar of our responsible investment strategy for these same reasons.

To help our business mitigate risks, maximize opportunities and manage the inside-out impact of our company, we have established a systematic and integrated approach to identifying and assessing the potential impact of sustainability issues. This approach also helps us to recommend proper response strategies, which can include the development of new products and services that support our customers in managing sustainability issues. The approach is applied across all Group activities and, in particular, in investment management and underwriting.

Figure 6
Risk management framework



We have used our proprietary risk-profiling methodology since 2012 to prioritize key sustainability risks that need to be monitored across all our business transactions. These include:

- Banned weapons, avoiding business involving the manufacture, sale, distribution or stockpiling of cluster weapons or anti-personnel mines.
- Thermal coal, oil sand and oil shale unless formally approved science-based targets are in place (and engagement on phase out of OECD and EU 27 by 2030 and rest of world by 2040).

For other sustainability issues, we believe that proactively integrating sustainability risks and opportunities – expressed in ESG factors in our investment decisions across asset classes and alongside traditional financial metrics and state-of-the-art risk management practices – will support us in our mission to achieve superior risk-adjusted long-term financial returns (ESG integration).

¹ The diagram represents the double materiality perspective of the EU Non-financial Reporting Directive. It is included here to illustrate double materiality.

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2.3.2 Managing risks and opportunities (continued)

Specifically for underwriting we also include monitoring of:

- New greenfield oil exploration projects (unless meaningful transition plans are in place).
- Respect for human rights, in particular avoiding business involving child labor, forced labor, poor health and safety conditions or unfair remuneration.
- Dam construction, avoiding unacceptable social, political or environmental risks of specific dam construction projects.
- Oil and gas operations and mining operations, avoiding risks involving damage to protected areas or critical natural habitats, corruption and human rights abuses.
- Oil and gas drilling and production in the Arctic.¹

The framework is also used to establish proper [response strategies](#),² for example, avoiding risks by divestment or underweighting [assets](#),³ or not underwriting certain activities, such as our thermal coal, oil sand and oil shale position.

Scenario-based climate risk assessment

First performed in 2021 and updated in 2022, it is our most prominent and detailed outside-in risk evaluation.

The assessment used a range of scenarios developed by the Network for Greening the Financial System (NGFS) and applied these across our core underwriting and investment portfolios to understand potential physical risks and risks associated with the transition to a net-zero economy. We understand a net-zero economy to be a world aligned with the Paris Agreement, where greenhouse gas emissions are reduced to as close to zero as possible, with any remaining emissions reabsorbed from the atmosphere by negative-emission technologies or by oceans or forests. The climate risk assessment demonstrates that, overall, the financial impact of transitioning in the mid-term (by 2030) is modelled to be relatively low under current scenarios. This is largely due to diversification across lines of business and regions with the exception of potential losses arising from physical climate change risks. However, these can be addressed through continued best-in-class climate modeling and a focus on reshaping property portfolios, should aspects of the more severe scenario begin to materialize.



Read more about our scenario based climate risk assessment:
in section 4.1.4 to 4.1.9 Portfolio-level climate risk scenario analysis, pages 138 to 153.

Supporting the transition

The assessment also helped us identify the lines of business in which we have an opportunity to support certain industries in their transition to net-zero, principally in the construction and energy industries. As a risk manager, we are positioned to play an important role in the energy transition, now further accelerated owing to the war in Ukraine, helping organizations understand risks and opportunities and make informed decisions that are aligned with net-zero and ESG commitments. We are doing this both through our alternative energy offerings as well as through our Zurich Resilience Solutions. Further opportunities arising from a proactive management of sustainability risks include, for example, on the life insurance side, an increased offering of unit-linked products investing in funds focused on sustainable environmental and social factors, e.g., USD 36 million invested in ESG funds. For further information on the impact and management of these risks, as well as the business opportunities they can bring, see the planet section ([page 131 to 169](#)) and the customer section ([page 171 to 175](#)).

2.4 Involving our stakeholders

The success of our sustainability strategy greatly depends on the willingness of our stakeholders to be involved in, and contribute to, our ambitions. For further details on our interactions with customers and employees, please see [pages 170 to 180](#) and [181 to 189](#), respectively. In addition, we strive to involve our investors, suppliers and vendors, as well as the communities in which we operate, in diverse ways. We frequently interact with groups such as regulators, NGOs and industry associations.

2.4.1 Investors

A demonstrable commitment to sustainability is of critical importance to many of our investors. We are proactive in developing and communicating our sustainability strategy, particularly on the topics that are most material to investors, such as climate resilience and adaptation, decarbonization, business ethics and conduct, and Board leadership and effectiveness.

We engage consistently and openly with investors, analysts, rating agencies and proxy advisors. As part of our outreach, we have established dedicated annual interactions between our Board and investors to explain our sustainability strategy and performance. In particular, we have set additional targets for the upcoming strategic cycle and will report on them. In our [ESG roadshow](#)⁴ conducted by the Chairman of the Board in November 2022, for example, we have highlighted that we are placing sustainability at the core of our organization and stakeholder interactions.

¹ Considered as anything north of 66 degrees latitude with the exception of the Norwegian Continental Shelf.

² www.zurich.com/sustainability/governance-and-policies/exclusion-policies

³ www.zurich.com/-/media/project/zurich/dotcom/sustainability/docs/responsible-investment-at-zurich.pdf

⁴ www.zurich.com/-/media/project/zurich/dotcom/investor-relations/docs/investors/2022-esg-presentation.pdf

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2.4.1 Investors (continued)

This engagement gives us invaluable insights into investors' rapidly developing expectations and supports the development of our strategy toward a more sustainable future.

2.4.2 Sustainable sourcing

We are expanding our efforts to interact with partners in a way that supports our values. As part of this, we have established a [sustainable sourcing program](#).¹ The program aims to enhance the resilience of our supply chain, supports our commitment to the Business Ambition for 1.5°C² and creates a positive social impact.

It comprises three pillars, which address environmental, social and ethical factors. Its objective is to embed these factors throughout the sourcing cycle, align suppliers with our values and be transparent about our expectations. We have developed a [supplier code of conduct \(SCOC\)](#)³ to lay a clear foundation for systematically integrating responsible business conduct in our supply chain.

By asking our suppliers to comply with this code, we aspire to use our influence as a significant buyer of goods and services to accelerate the adoption of sustainable business practices among our suppliers.

During 2022, we continued to engage suppliers with our SCOC, globally. The first step in our supplier engagement includes providing access to training videos and asking suppliers to carry out a self-assessment to determine how they perform against the expectations set out in the SCOC. We then review the self-assessment results and audit a sample of the responses internally. As of the end of 2022, we confirmed that 71.5 percent of our MPS⁴ is with suppliers that meet or exceed the key expectations of our SCOC, pursuant to their self-assessment. While this falls slightly short of our target of 75 percent, we remain committed to driving sustainability performance within our supply chain.

In 2023, we will offer additional tools and resources for suppliers to use within their own businesses to improve their sustainability performance, such as a carbon emissions calculator, training videos and policy statement templates. The tools are designed to address common areas in which multiple suppliers fall short of our expectations. We will continue to work with our suppliers to address these areas in the short to medium term. Where our engagement fails and suppliers cannot, or refuse to, embed the minimum standards, we will review the relationship and consider phasing it out to protect our commitment to doing the right thing.



Human rights risk assessment

We respect the protection of international human rights within our sphere of influence and work hard to avoid being complicit in human rights abuses.

To determine our exposure to potential human rights violations in our supply chain, we analyzed the fundamental human rights set out in the United Nations Universal Declaration of Human Rights (UDHR). Our analysis sought to identify which, if any, of these fundamental human rights presented a potential violation risk to suppliers within our tier-one supply chain, i.e. those suppliers with whom we have a direct buying contract. Our analysis identified a limited potential for violation of certain human rights, though our overall exposure to such incidents is considered low. Our analysis also concluded that the labor standards and workplace practices operated by our suppliers are a critical factor in the likelihood of a human rights violation occurring.

We then studied the types of supplier for whom the risk of violating these identified human rights was most significant. Using data and reports from reputable NGOs and our own internal expert judgement, we have identified high-risk countries and high-risk goods and services. Our assessment of high-risk goods and services categories is based upon the prevalence of human rights issues reported and an assessment of working practices at industry or sector level.

Our assessment of high-risk countries is based on:

- The reported prevalence of human rights issues.
- The degree of respect for worker rights, based upon local laws and actual practices.
- The extent of political freedom and civil liberties.
- The extent of corruption.

Figure 7
Sustainable sourcing program



¹ www.zurich.com/sustainability/planet/sustainable-sourcing

² UN Global Compact – Business Ambition for 1.5°C: www.unglobalcompact.org/take-action/events/climate-action-summit-2019/business-ambition

³ www.zurich.com/sustainability/planet/sustainable-sourcing

⁴ The spend of approximately USD 2 billion annually managed by Zurich's Procurement and Vendor Management function according to the 2020 baseline on goods and services that are required to enable Zurich to maintain and develop its operations, excluding suppliers no longer active in 2022.

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2.4.2 Sustainable sourcing (continued)



Human rights due diligence

The output from our risk assessment has been integrated into our third-party governance framework (TPGF), which provides a globally consistent framework of Group minimum standards that apply to the onboarding and management of third parties with which we work, including suppliers. The TPGF adopts a risk-based approach to ensure onboarding and management measures, such as third-party due diligence processes, are relevant and proportionate to the nature and risk of any particular transaction. We have started implementing the TPGF across the Group in 2022 and we expect to complete the implementation by the end of March 2023.

The aim of our due diligence is to seek assurance that the supplier has relevant measures in place to respect fundamental human rights. We have a referral process in place to investigate or resolve, as appropriate, any red flags identified during the due diligence process. We also use a software tool that uses artificial intelligence to screen news reports, social media posts and NGO reports to monitor potential ESG-related supply chain issues.

2.4.3 Responsible tax¹



We aim to be recognized as a responsible member of the communities in which we operate and as a contributor to their prosperity. Being a responsible taxpayer is one of the ways we support the economic and societal development of these communities. We consider effective and efficient tax compliance to be a key objective and allocate significant resources to ensure that the tax affairs of the Group are managed in a sustainable, well-governed and transparent manner.

Our approach to tax is guided by our purpose – create a brighter future together – and is supervised by the Board and executed by members of the Executive Committee (ExCo). The Group's code of conduct is embedded into our responsible tax strategy and requires compliance with laws and regulations of all countries where the Group operates.

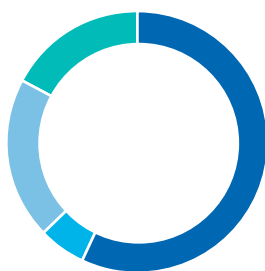
We are a significant contributor of taxes, both those borne by our shareholders as well as those collected on behalf of tax administrations.

Figure 8

Tax contribution 2021

Taxes borne by shareholders

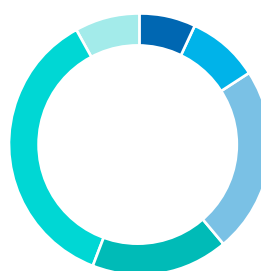
Total 2021: USD 2.2bn
(All numbers based on IFRS, excluding deferred income tax)



● Shareholder income tax	57%
● Stamp duty and other taxes	6%
● Employer social security	20%
● Irrecoverable VAT	17%

Taxes collected

Total 2021: USD 6.6bn
(All numbers based on IFRS, excluding deferred income tax)



● Employer social security	7%
● Policyholder income and other taxes	9%
● Other taxes (incl. withholding tax)	23%
● Payroll tax	17%
● Premium tax	36%
● VAT declared	8%

¹ Results are reported with a one-year time lag. The tax results are available on our website (see: www.zurich.com/sustainability/strategy-and-governance/policies-and-frameworks/being-a-responsible-taxpayer), including a more detailed view on our tax strategy. Our 2022 tax results will be communicated on our website in 2023.

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2.4.4 Community investment¹



Our community investment activities are mainly delivered through the Z Zurich Foundation (the Foundation), a charitable organization established by members of Zurich Insurance Group. It is creating a brighter future for vulnerable people with the aim to positively impact at least 11 million people worldwide by 2024.

In 2022, natural disasters have impacted thousands of people, adding to the challenges many continue to face as a result of the COVID-19 pandemic. In Europe, millions of people have fled the war in Ukraine.

The Foundation has continued to support the most vulnerable by providing tailored grants to support local disaster relief initiatives identified by our business units. Our employees also went above and beyond to support the most vulnerable, mobilizing their networks to best respond to crises. We are proud of our collective efforts and the Foundation's highlights for 2022 include:

- Dedicated response to support people fleeing Ukraine from the first day of the war, including a global and public fundraising campaign.
- The Foundation and UNICEF launched the Global Coalition for Youth Mental Well-being, which Zurich joined as a strategic member. Its first action was to raise funds for programs to support the mental well-being of young refugees who have fled Ukraine.
- An additional donation from the Foundation to UNICEF to help deliver COVID-19 vaccines to about 30 countries with vaccination rates below 15 percent.
- Significant developments of the Foundation's three strategic pillars: 'adapting to climate change', 'improving mental well-being' and 'enabling social equity'. These include signing new partnerships in countries where we have an existing commercial presence as well as those where we do not (e.g., Africa and India).
- Twenty-seven new multi-year grant programs to support projects under the Foundation's strategic areas.
- Twenty-five Community Hero Awards presented to recognize those Zurich employees who go above and beyond to support their communities.

In addition to the work driven by the Foundation, our local business units also hold smaller budgets to account for local needs and priorities.

Table 1

Employee fundraising and volunteering 2021 figures^{1,2}

	2021	2020	Change
Fundraising and donations (USD millions) ³	3.3	2.5	32%
Total time volunteered by workforce (business hours)	49,736	38,830	28%
of which skills-based hours	16,667	19,485	(14%)
Workforce actively volunteering (% of total headcount)	12.3%	9.3%	3 ppts

1 All figures exclude Farmers Exchanges. Zurich Insurance Group has no ownership interest in the Farmers Exchanges. Farmers Group, Inc., a wholly owned subsidiary of the Group, provides certain non-claims services and ancillary services to the Farmers Exchanges as attorney-in-fact and receives fees for its services.

2 Figures for 2022 will be disclosed in the Foundation's Annual Report published in June 2023.

3 Mostly includes fundraising and donations of Zurich employees. As the share of the Zurich business units' matching becomes negligible, the split of these two sub-categories is no longer reflected.

Table 2

Charitable cash contributions 2022 figures (USD millions)

	2022	2021	Change
Charitable cash contributions by Zurich business units ¹	29.2	15.6	82.2%
Charitable cash contributions by Zurich to Z Zurich Foundation ²	41.5	43.8	(5.2%)

1 Charitable cash contributions capture voluntary contributions from Zurich business units to charitable initiatives and organizations, excluding the Foundation. The significant increase in contribution between 2022 and 2021 can be mainly explained by a low contribution in 2021 caused by the COVID-19 pandemic.

2 Charitable cash contributions captures voluntary contributions from Zurich to the Foundation. The donation is made by various legal entities of the Zurich Insurance Group and amounted to CHF 39.6 million in 2022 and CHF 40.0 million in 2020 & 2021 each. The dollar amount decrease in the table above is due to foreign exchange rate movements and a smaller donation amount.

Please note that parentheses around percentages or points indicate a reduction.

1 Zurich Insurance Group and its employees contribute through fundraising, volunteering and cash contributions whereas the Foundation carries out community investment activities.

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Governance: Sustainability is embedded in our governance



The Board of Zurich Insurance Group Ltd has ultimate responsibility for the success of the Group and for delivering sustainable value within a framework of prudent and effective controls. It sets the Group's values and standards to meet the expectations of our stakeholders. As part of its strategic responsibility, the Board approves the Group's sustainability strategy and objectives, including related targets that have a material impact on the company or the Group. It is supported by its Board Committees within their respective core mandates:

- The Governance, Nominations and Sustainability Committee (GNSC) recommends the Group's sustainability strategy and objectives and exercises oversight on sustainability-related matters.
- The Audit Committee provides oversight on the integrated sustainability disclosure (ISD).
- The Risk and Investment Committee provides oversight of risks (including sustainability risks).
- The Remuneration Committee evaluates the Group's remuneration architecture, including incentive plans which are linked to appropriate performance criteria supporting the execution of the strategy of the Group.



Our governance structure supports a stakeholder-inclusive approach. Embedding sustainability throughout our business will enable us to maximize our impact. We treat sustainability as an integral part of our governing system.

Katja Roth Pellanda
Group General Counsel



The target card framework, used to assess individual performance of the ExCo members for the 2022 short-term incentive plan (STIP) awards, includes both financial and non-financial targets. The non-financial targets are related to customers and employees. In addition, consideration is given to execution against strategic priorities, including ESG factors and a risk-based review, to determine the final individual performance assessment outcome.



Read more in the remuneration report:
on pages 80 to 81, 85 to 87 and 99 to 100.



Read more on how sustainability will be further embedded in variable remuneration as of 2023:
in the outlook section of the remuneration report on page 108.



The Board of Zurich Insurance Group Ltd is a supervisory board in nature. Its members receive fixed remuneration as an annual fee, of which half of the basic fee is paid in cash and half in five-year sales-restricted shares which are not subject to the achievement of any specific performance conditions.



Read more on Board fees in the remuneration report:
on pages 93 to 97.

At management level, accountability for different areas of expertise, including sustainability aspects related to each of these areas, is assigned to an ExCo member or a Group CEO direct report. In addition, the Group CEO has designated the CEO EMEA & Bank Distribution as the ExCo-level sponsor for Sustainability (Sustainability ExCo sponsor). This role is supported by the Group head of Sustainability and the Group Sustainability team. The sponsorship includes driving the strategic sustainability approach of the Group and acting as a sounding board for strategic alignment of global sustainability priorities to assure a consistent approach and to facilitate oversight. The Sustainability ExCo sponsor is also responsible for monitoring progress with respect to the sustainability priorities and targets and reporting thereon to the Board's GNSC, the Group CEO and the ExCo.

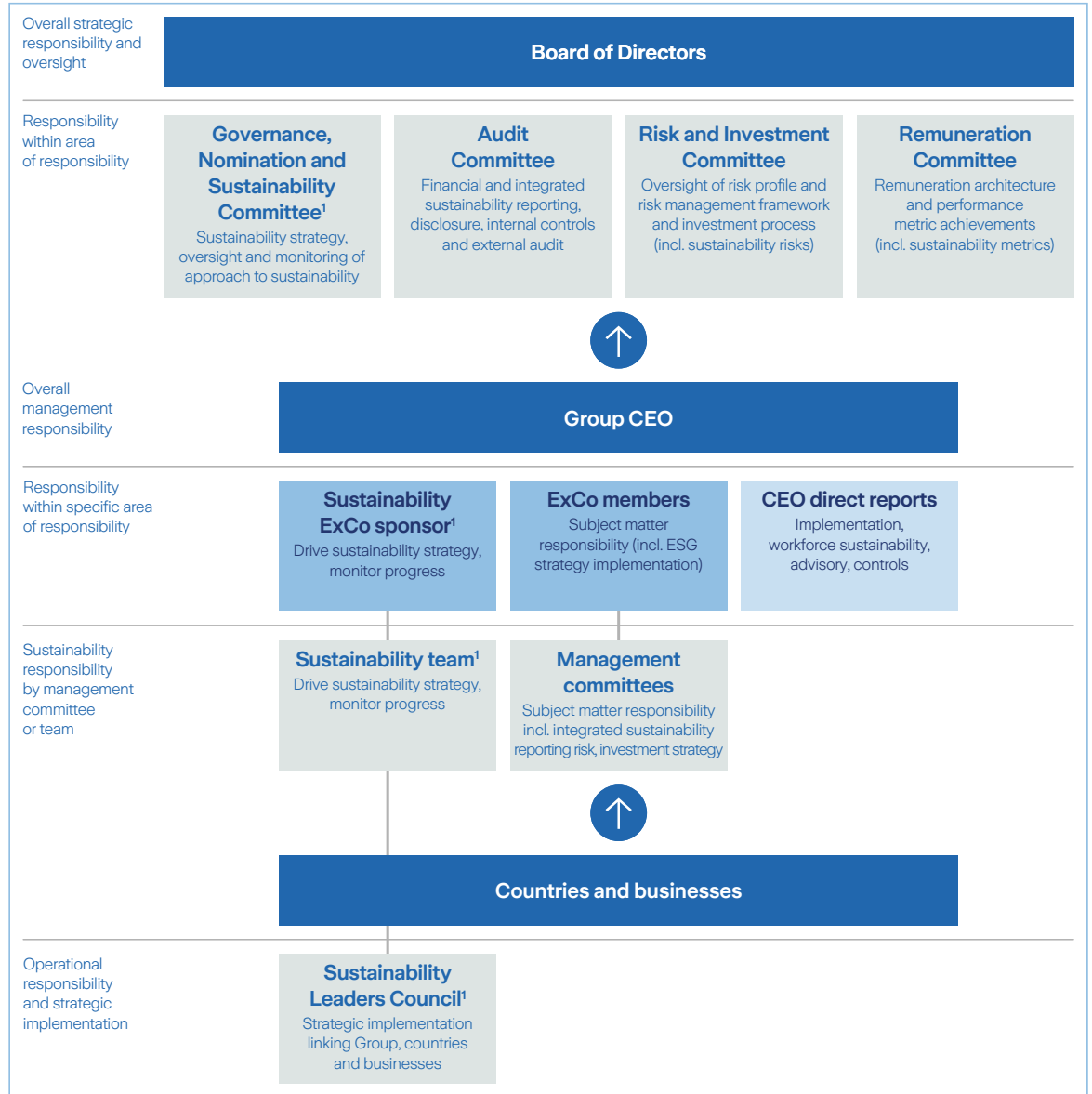
By opting for an integrated approach, our existing governance bodies are responsible for sustainability-related topics that concern their field of expertise.

The implementation of the sustainability strategy and objectives in the businesses, functions, regions and countries is facilitated by the Sustainability Leaders Council (SLC). The SLC comprises senior executives from across the Group and is chaired by the Group head of Sustainability and sponsored by the Sustainability ExCo sponsor.

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Sustainability is fully embedded in our governance



¹ ESG-specific responsibilities.

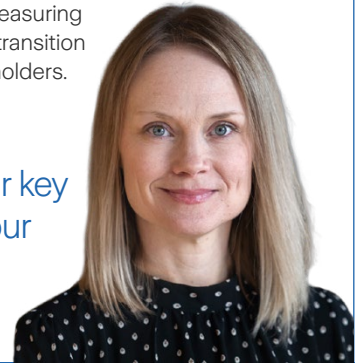
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Our planet

Taking action today to safeguard tomorrow.

Significant reductions in greenhouse gas emissions are required to achieve the outcomes of the Paris Agreement and our ambition for a 1.5°C future. Through engagement and collaboration with our stakeholders, we use our underwriting activities, our investment activities and our own operations to tackle climate change. The risks and opportunities associated with climate change affect all parts of our business. Understanding, measuring and managing these impacts – while seizing the opportunities that arise from the transition to a climate-neutral world – is needed to create sustainable value for all our stakeholders.



Mitigating and adapting to climate change is one of our key priorities across our own operations, while leveraging our role as an underwriter and investor.

Linda Freiner
Group Head of Sustainability

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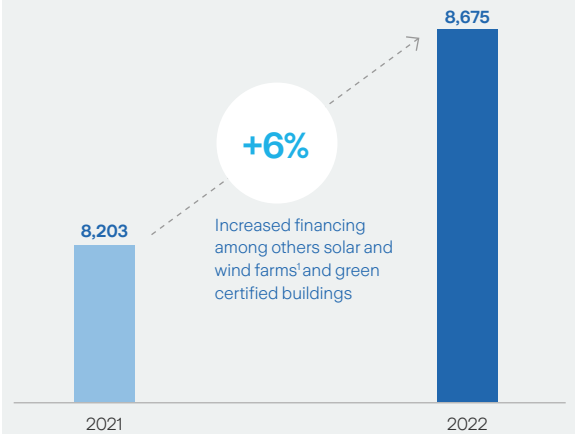
Climate risk scenario-based assessment

 **Resilient strategy confirmed**

Engagement started of financed emissions without science-based targets

 **54%**

Climate solution investments USDm



1 Under our green impact strategy.

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This section presents our disclosure in line with the recommendations of the Financial Stability Board's TCFD. It outlines our understanding of the potential impacts of climate risk to our underwriting and investment activities and an assessment of the resilience of our strategy to climate change risk. Also outlined is the governance we have established to make climate and sustainability an executive-level responsibility, our climate risk management processes and finally the metrics and targets we have implemented to track delivery of our stated targets. While climate change is the focal point of this section, we are dedicated to environmental aspects in a broader sense, e.g., revenues resulting from sustainable solutions, see Chapter 5 ([pages 171 to 175](#)).

4.1 Strategy



The actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy and financial planning.

Our climate strategy focuses on supporting companies and people through the transition to a net-zero economy and demonstrates our commitment to using every lever of our business, from underwriting and investments to our own operations, to accelerate this transition.

4.1.1 Our climate-related strategy

Understanding and integrating climate risk into the way we conduct business

Understanding and managing the impact of climate change is an important aspect of maintaining our long-term profitability. Our approach to climate risk is part of our risk management process across the Group. It is managed in a way that is consistent with other risks to which the Group is exposed. We integrate assessments of the evolving physical and transition risk landscape into our underwriting and investment strategies.

Natural catastrophe modeling

To manage our climate risks more effectively, we are investing in improving our understanding of them. Modeling the effects of physical risk on our portfolios is a key focus area. While climate change models are constantly improving, they remain less accurate at the smaller spatial resolutions needed to analyze in detail the impact of changes to natural catastrophes on our portfolio. In contrast, traditional commercial catastrophe models that form the basis of our current modeling are typically based on historical data and hence would not reflect future changes in trends. For this reason, we have started to combine climate change scenarios and natural catastrophe models to complement our framework with a view of climate change, and to integrate this view into our accumulation-risk and peril-region modeling.



Read more about natural catastrophe modeling:
in section 4.1.3, pages 135 to 137.

Portfolio-level climate risk scenario analysis

A deep understanding of potential medium- to long-term impacts of climate change risk to our underwriting and investment portfolios is fundamental to formulating appropriate strategic responses. We undertake scenario analysis on our portfolios to understand what these impacts are.

Our first exploratory, scenario-based climate risk assessment, performed in 2021, considered outcomes from 2030 onward, with impacts quantified where possible. This exploratory exercise considered major aspects of our business, including underwriting, investment management and our own operations. In 2022, we reviewed the risk assessments performed in 2021 and updated them where needed. As the mix of our underwriting portfolio did not change significantly in 2022 compared with our 2020 baseline, the heatmap published in Annual Report 2021 remains valid. Besides monitoring, we prioritised strategic actions in our underwriting portfolio and strengthened the assessment of our investment portfolio by including additional asset classes. In terms of our own operations, we reviewed further risks, including the impact of climate change on our distributed workforce and our supply chain.

Outcomes of these analyses are used to determine appropriate responses and ensure the resilience of our strategy. We disclose the outcomes of these processes in line with TCFD recommendations and to demonstrate our understanding and management of these risks.



Read more about portfolio-level climate risk scenario analysis:
in section 4.1.4 to 4.1.9 pages 138 to 153.

4.1.2 Introduction to climate-related risks

In alignment with TCFD recommendations, we broadly categorize climate-related risks as physical and/or transition risk and outline below the potential impacts of these risks on our business. In sections 4.1.5 to 4.1.9 we discuss in detail our own assessment and the expected impact from climate-related physical and transition risk. We outline our understanding of how climate change risk could impact our business activities, mainly focusing on the impact on demand (revenues) and losses (claims) from an insurance perspective and on assets from an investment perspective.

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4.1.2 Introduction to climate-related risks (continued)

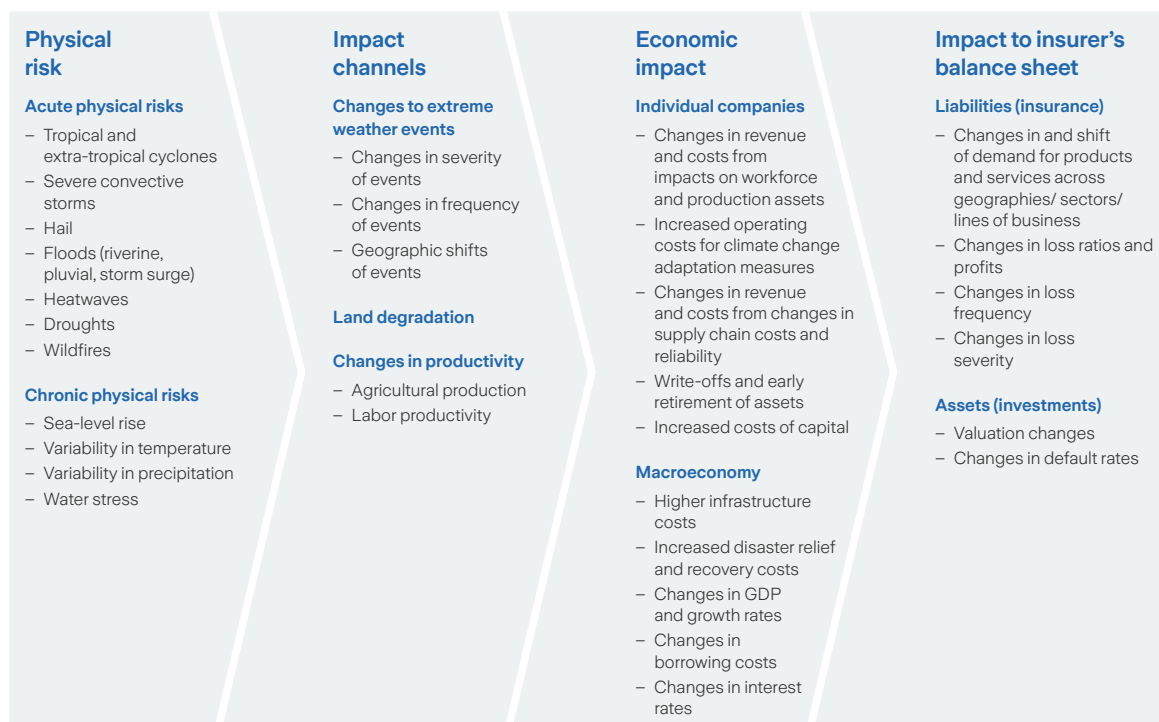
The section below should be read as an overview of expected effects of both physical and transition risks, while the scenario analysis provides more details on how each of these risks is expected to unfold and impact our business under different scenarios.

Physical risks



Figure 9

Climate-related physical risk



Greenhouse gas (GHG) emissions are leading to an increase in global surface temperatures, which is driving changes in climate and weather systems across the globe. Latest research shows that changes in extreme weather events can be attributed to human-induced increases in global surface temperatures and suggests continuing trends in emissions will further exacerbate the situation.

These developments will bring negative economic and societal impacts as extreme weather events increase in severity and frequency or undergo geographic shifts. The scientific understanding of how weather events will respond to climate change varies greatly, but we assume that further temperature increases will accelerate sea-level rise due to thermal expansion and melting of glaciers and icesheets. It will also lead to more extreme temperatures, heatwaves and droughts, impacting agricultural production and human productivity.¹ As the warming atmosphere will also intensify evaporation, more extreme precipitation and variability in the global water cycle is seen as highly likely.

There is less certainty around how other weather events will react to climate change, such as tropical and extra-tropical cyclones, severe convective storms and hail. Secondary effects of climate change can also have negative impacts, such as extreme heat and drought leading to more wildfires, or the combination of sea-level rise and changes in hurricane intensity or tracks leading to higher storm-surge damage.

Impact to demand and loss profiles

Up to 2030, we expect changes driven by climate change to become increasingly relevant. However, these changes stop short of becoming a dominant loss driver over and above what is currently embedded into our risk appetite. We expect the inherent volatility and natural variability of extreme weather events and socioeconomic trends will continue to have a stronger influence on loss experience. Natural variability comes both from random fluctuations of extreme but rare events and multi-year variations in regional climate systems, such as the El Niño Southern Oscillation or Atlantic-Multidecadal Oscillation. This variability is also embedded in historic loss trends and taken into account in our pricing and capital management.

¹ www.ipcc.ch/report/ar6/wg2/

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4.1.2 Introduction to climate-related risks (continued)

Socio-economic trends, such as an increase in asset values and accumulation through population growth and concentration in urban areas, also contribute to increases in losses over time. The impact of such trends is considered in pricing and modeling, such that annual policy renewals provide mitigation against increasing physical risks for short-tail business and mitigate transition risk to the underwriting portfolio.

Through certain lines of business, we can be directly impacted by the changes in physical risk caused by climate change. The impacts include, for example, increases in severity and frequency of natural catastrophes, such as tropical cyclones, flood or hail, which can lead to higher losses by customers covered by our property policies. Other lines are less sensitive to physical risk and, within these, only a minority of our losses are driven by natural catastrophes (see the current exposure to physical risk section, [pages 135 to 137](#)).

Impact through valuation changes

Buildings may be at risk, due to their fixed locations, of suffering significant damage costs from the impact of climate change. We are currently exploring ways to assess physical risks for properties using our risk model on catastrophes and by integrating data into our central portfolio management system. The valuation of assets in our investment portfolio can also be affected by direct and indirect exposure to physical risk.

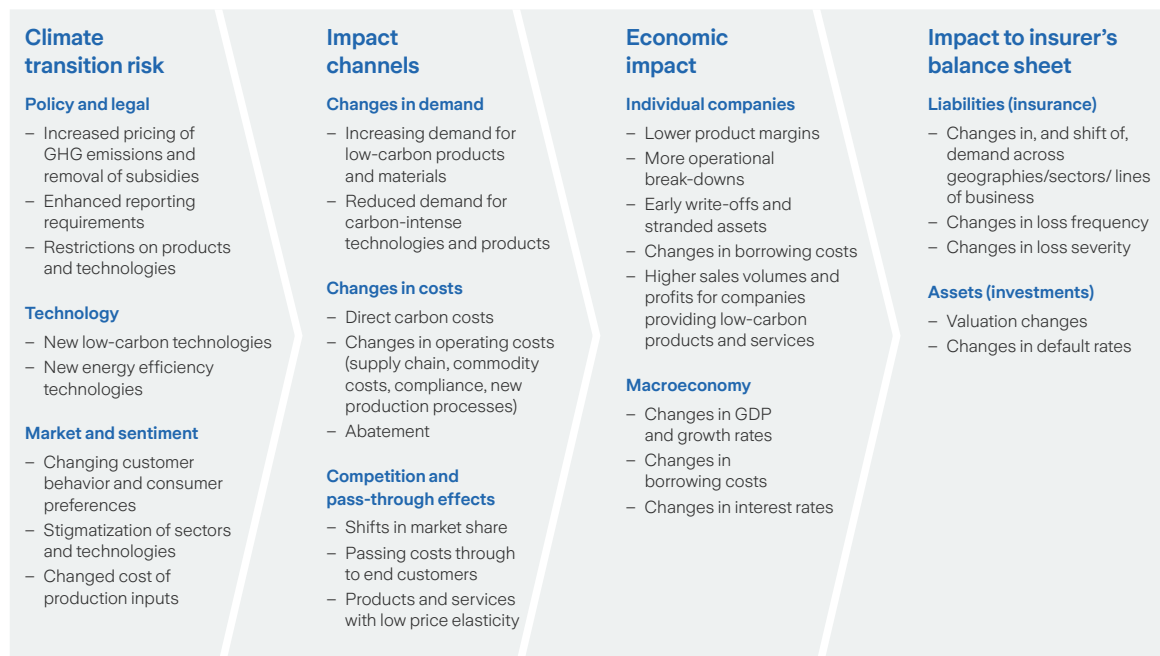
Businesses will be directly affected by impact on costs and revenues and the potential for supply chain disruptions and asset write-offs. The vulnerability of countries to physical risk, including costs associated with infrastructure and adaptation measures, disruptions and vulnerability to extreme weather events, may also have an impact on the valuation of sovereign debt.

Transition risks



Figure 10

Climate-related transition risk



If society moves to limit global warming in line with the Paris Agreement to below 2°C, and optimally to 1.5°C, the required decarbonization of the global economy will bring its own set of risks. The legal, policy, technological and market changes necessary for the transition will lead to significant shifts in economic activity and asset valuation.

Impact to demand and loss profiles

The expected steep rise in carbon prices and removal of subsidies on carbon-intensive resources and activities in this transition could lead to reduced profitability, stranded assets and impairments in sectors that are difficult to decarbonize and where additional costs cannot be passed on to customers. This will, in turn, affect demand for insurance from shrinking sectors.

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4.1.2 Introduction to climate-related risks (continued)

For example, the transition will shift demand for insurance toward low-carbon technologies and products, creating opportunities for companies that provide new solutions or are able to reduce their emissions more efficiently than competitors.

The aggregate effect of transition risk will vary greatly across individual actors, depending on their detailed business models, assets and transition strategy. This complicates the assessment of aggregate transition impacts. There will also be aggregate macro effects arising in a transitioning scenario, including the impact on economic activity, inflation and, potentially, government borrowing costs.

As new policy measures and technologies are rolled out, uncertainties around their effectiveness and unintended consequences are likely to increase, with higher market volatility and uncertain loss ratios among possible outcomes. Transition risk will be highly dependent on how predictable policy responses are and the time available for the economy to decarbonize. More disruptive impacts can be anticipated with a faster transition.

Impact through valuation changes and other drivers

In the commercial real estate sector, transition risk will manifest from the need to adhere to tighter policies, carbon and energy costs, market preferences and challenges to achieve energy efficiency and may impact asset values.

The transition will also bring legal or litigation risks. Carbon-intensive energy producers are already defending lawsuits seeking to hold them accountable for their alleged historical contribution to CO₂e emissions. This current litigation could expand to other industries whose operations contribute to CO₂ or other climate-impacting emissions. Companies may be sued for failing to disclose climate-related risks, for failing to mitigate the impact of their activities on climate change, for allegedly misrepresenting their level of climate impact, or for failing to adapt to the changing climate. Asset managers could be sued for financing climate change-inducing activities, or for inadequately driving emission reductions in their portfolios.

The global transition to a greener society will also bring with it new and emerging technologies. These could also present new opportunities as well as unanticipated risks and new environmental concerns from both a resourcing and disposal aspect. Extreme weather events could present new risks to employers regarding worker safety or to companies engaged in building design, engineering and construction. Governments could enact laws seeking to hold companies accountable for the climate impact of their supply chains.

4.1.3 Natural catastrophe modeling: current exposure to physical risk¹



Approach

Current exposures to physical climate risk are expressed through annual expected loss (AEL) and probable maximum loss (PML). Modeled exposures are shown below.² Our approach to modeling is discussed further in the section on managing risks from climate-related natural catastrophes (pages 154–155). We highlight how various drivers including exposed insurance portfolio and vulnerability changes, model updates, exposure data quality, foreign exchange rates and reinsurance can influence natural catastrophe modeling output (e.g., AEL, PML) over time.

Scope

The climate risk assessment is applied to our portfolios, namely the exposure of our Property and Casualty business to natural catastrophe perils, impacted by climate change that could materially impact us.

Quantification

AEL

AEL provides a view on the expected loss due to natural catastrophes per year, averaged over many years.

PML

PML is a tail metric that looks at severe, unexpected but still possible outcomes of natural catastrophes at a defined probability of occurrence.

Monetary losses

Amount of monetary losses attributable to insurance payouts from natural catastrophes.

¹ Results from the Q4 2022 Group Catastrophe Model are presented in the analysis shown below. There are timing differences in the underlying exposures considered in this analysis (underlying exposures by peril region are generally as of June or September 2022, and in exceptional cases as of September or December 2021).

² Countries comprising the peril regions referred to here are as follows:
 – Central Europe Hail: Austria, Belgium, France, Germany, Italy, Luxembourg, the Netherlands and Switzerland.
 – Europe Wind: Austria, Belgium, Czech Republic, Denmark, France, Germany, Guernsey, Ireland, Isle of Man, Jersey, Luxembourg, the Netherlands, Norway, Poland, Sweden, Switzerland and the UK.
 – Europe Flood: Austria, Belgium, Germany, Italy, Switzerland and the UK, plus other small nations like Guernsey, Isle of Man, Jersey, San Marino and Vatican.
 – CB, MX and U.S. Hurricane: Caribbean, Mexico and the U.S.

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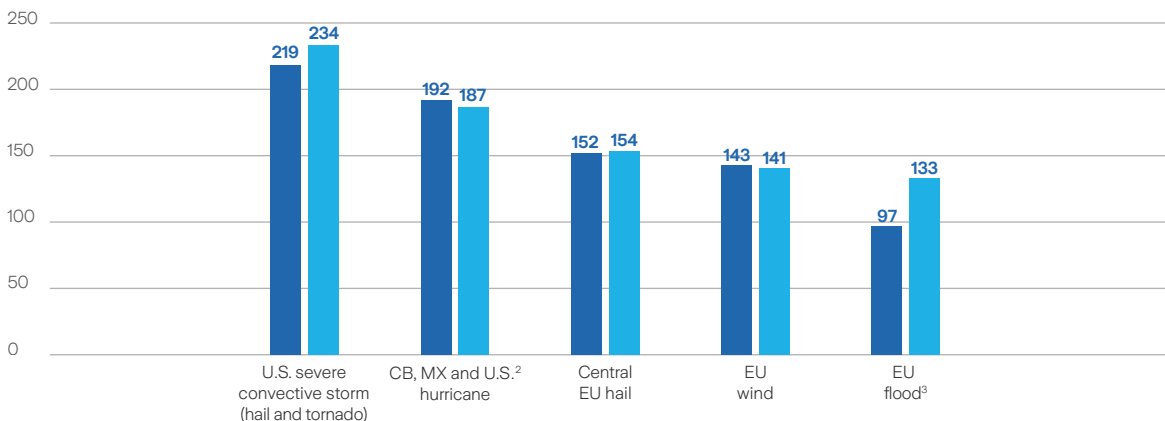
4.1.3 Natural catastrophe modeling: current exposure to physical risk (continued)



Annual expected loss

Figure 11

Annual expected loss for top five peril regions¹ in USD millions



● 2022 ● 2021

1 AEL excludes Farmers Re increased participation in the Farmers Exchanges' all lines quota share treaty from 1.75% to 8.50% as of 31 December, 2022. This increased Zurich Group's AEL for US severe convective storm by USD 72 million and for U.S. hurricane by USD 11 million.
 2 The geographic scope is extended when compared with prior year reporting to include correlated exposure in the Caribbean (CB) and Mexico (MX). The AEL for U.S. hurricane only is USD 183 million in 2022.
 3 The 2021 reporting for flood in Europe was by country on a stand-alone basis. The UK as the largest country was not in the top five peril regions.

Our modelled AEL from climate-related natural catastrophes provides an indicator of our current exposure to perils that might be affected by climate change. The AEL analysis above reflects the current top five peril regions in the Group, net of reinsurance, before tax and excluding unallocated claim adjustment expenses. This analysis helps us manage risks related to insuring these perils, such as accumulation risk. Risk appetite limits by peril region are in place and exposure is currently within appetite.

Comparison to 2021 shows a decrease for U.S. severe convective storm driven by exposure reductions. Europe flood also decreased but primarily driven by an enhanced risk view. The other peril regions have been relatively stable since 2021 net of reinsurance. It is noted that the hurricane exposure for the U.S. only before reinsurance, decreased as per our underwriting strategy.



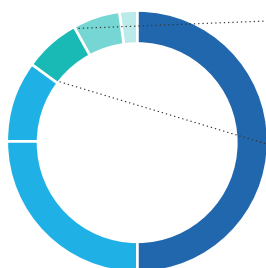
Probable maximum loss

The graphs below show the materiality of catastrophe risk relative to other risk types and the materiality of our climate-related perils to overall catastrophe risk.

Figure 12

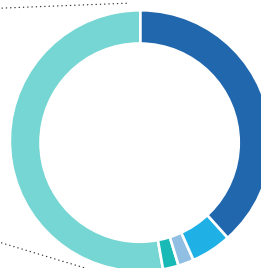
Swiss Solvency Test (SST) by risk type and climate-related perils as proportion of natural catastrophe total SST

SST total risk capital contribution by risk type



Market risk	50%
Premium & reserve risk	25%
Business risk	10%
Natural catastrophe risk	7%
Life insurance risk	6%
Other credit risk	2%

Climate-related perils as a fraction of nat cat SST total risk capital¹



North America hurricane	38%
Europe wind	5%
Europe flood	2%
Other climate-related	2%
Non-climate related	52%

1 The natural catastrophe SST total risk capital is defined by the 1% worst annual losses. These are driven by peril regions with large potential losses beyond the 100-year return period (e.g. North America hurricane).

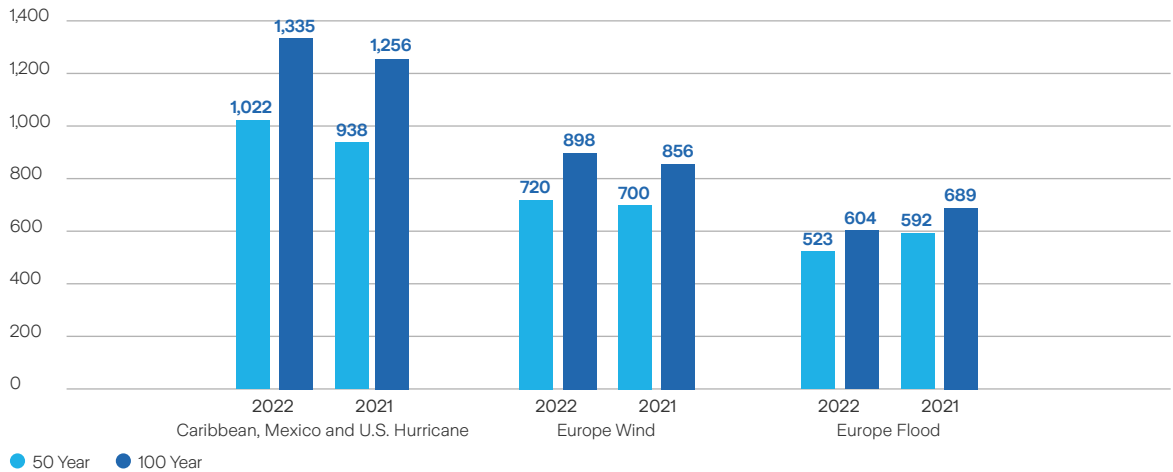
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4.1.3 Natural catastrophe modeling: current exposure to physical risk (continued)

Figure 13

Probable maximum loss by top three peril regions¹ in USD millions



¹ PML excludes Farmers Re increased participation in the Farmers Exchanges' all lines quota share treaty from 1.75% to 8.50% as of 31 December, 2022. This increased Zurich Group's PML for US hurricane exposure by USD 54 million for the 50-year PML and by USD 61 million for the 100-year PML.

The net annual aggregate 50- and 100-year PML are shown above for the top three peril regions measured by SST total capital contribution.¹

Comparison to 2021 shows an increase for Caribbean, Mexico and U.S. hurricane net of reinsurance. It is noted that the hurricane exposure for the U.S. only before reinsurance, decreased as per our underwriting strategy. Europe flood decreased primarily driven by an enhanced risk view, while Europe wind was relatively stable net of reinsurance.



Total monetary losses from natural catastrophes

Our loss ratio for the full year 2022 was 63.7 percent with 1.5 percentage points attributable to the following natural catastrophe experienced in 2022 (Hurricane Ian). We follow the Group's

Catastrophe Response Group (CRG) governance for natural catastrophe identification. Here we report events where the total net loss is above USD 200 million. The Hurricane Ian event and figure has been reviewed by the CRG, a cross-functional committee which oversees and recommends to the ExCo the best-estimate ultimate loss for material catastrophes. The term "catastrophe" in the context of the CRG covers both man-made and natural catastrophe peril events that are relatively infrequent or are phenomena that produce unusually large aggregate losses.

Table 3

Total amount of net losses in USDm¹

Event name (by event and region)	Total net losses in USDm
Hurricane Ian (hurricane, NA)	485
Total	485

¹ Only events above USD 200 million are reported.

An important aspect of our proprietary view on natural catastrophe risk is the evaluation of patterns and trends in catastrophe activity with time. Natural variability of event activity is an integral part of our view on natural catastrophe risk, as are statistically significant trends that may be detectable in our claims experience or credible, conclusive modeling of past, present and future climate as a driver of loss activity. We regularly revisit our risk views and underlying models on climate-related perils in order to reflect trends in the hazard, whereas exposure trends are naturally captured by exposure data updates. In 2022, we enhanced our risk view on European flood that reflects the loss correlation across countries. Natural variability is at the same time evaluated and kept up-to-date as part of the regular reviews of our natural catastrophe risk view, which underpins the structuring and purchase of reinsurance along with the profitability assessment and strategic capacity allocation for risk assumed from customers.

We follow a gross-line underwriting strategy and focus substantial time and resources on ensuring risk-adequate underwriting and pricing of the business we assume up-front, including consideration of potential climate change-induced trends. Reinsurance is used as a means to maximize diversification of net retained risks and to protect shareholders against earnings volatility. We engage with a core panel of reinsurance partners to secure the required capacity at sustainable pricing over the medium term. Given our financial strength, we have the option to weigh the benefits and cost of reinsurance against other forms of risk financing and thus adapt to supply-side changes in the reinsurance market as a potential consequence of the macroeconomic response to climate change adaptation.

¹ Our disclosure shows our efforts to provide additional details, however it is acknowledged that full compliance is not envisaged e.g., due to our reporting standards (no disclosure of gross losses), or our industry's catastrophe modeling standards. There are generally no catastrophe models available for example, for chronic diseases, droughts and extreme heat and therefore no PMLs can be provided. Tsunami risk is correlated (and modelled) with seismic risk and therefore cannot be reported on a standalone basis as part of insured products from weather-related natural catastrophes, which is the scope of the standard.

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4.1.4 Portfolio-level climate risk scenario analysis

In the chapter below, we have labelled the sub-sections that are specific to one of our three impact areas: underwriting, investment management or own operations.

Legend of icons used

Underwriting	Investment Management	own Operations

Approach

Our assessment of climate risk leverages both our Total Risk Profiling™ methodology and scenario analysis.¹ While Total Risk Profiling™ offers a short term (1–3 years) qualitative risk assessment, scenario analysis allows us to assess the strategic implications of climate change over the medium (up to 10 years) and longer term (to 2050) and improves our ability to assess the resilience of our business model to potential climate risks.

The scenarios used to analyze our underwriting and proprietary investment portfolios are drawn from the Network for Greening the Financial System (NGFS) suite, with scenarios chosen to cover a relevant set of emissions pathways. The emissions pathways of the selected scenarios correspond broadly to representative concentration pathways (RCP) 2.6 and 6.0.²

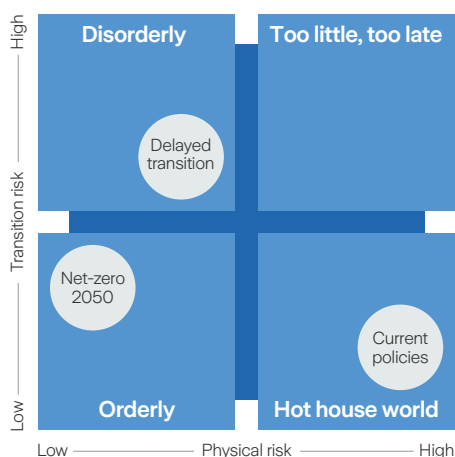
Scenarios used

Net-zero 2050 limits global warming to 1.5°C through early adoption of stringent climate policies and innovation. Net-zero emissions reached around 2050, giving at least a 50 percent chance of limiting global warming to below 1.5°C by the end of the century, with no or low overshoot (<0.1°C) of 1.5°C in earlier years.

Delayed transition assumes no new climate policies until 2030 with high regional variation in policy implementation. Emissions exceed the carbon budget temporarily and decline more rapidly to ensure a 67 percent chance of limiting global warming to below 2°C.

Current policies assumes that only currently implemented policies are preserved, leading to high physical risks. Emissions grow until 2080 leading to about 3°C of warming and severe physical risks.

Figure 14
NGFS scenario framework³



The selected scenarios used for underwriting and investment management analyses cover a broad scope of potential risks and opportunities, including high and low physical and transition risks.

The scenarios used to understand physical risk impacts to our own operations are broadly aligned with those used for our insurance and investment analysis in terms of the RCP assumed (RCP 2.6 and 8.5)⁴. Our scenario analysis leverages a third-party model and associated data to assess both our insurance and investment businesses. A high-level overview of the model, data sources and key assumptions are provided in the risk management section ([pages 154 to 156](#)).

1 For details on the Total Risk Profiling™ methodology and scenarios analysis process, see the risk management section ([pages 154 to 156](#)).
 2 As described by NGFS, “the RCPs are greenhouse gas concentration scenarios that are commonly used in the climate modeling community. They were officially adopted by the Intergovernmental Panel on Climate Change (IPCC) and provide a basis for the projections and predictions of the Fifth Assessment Report of the IPCC.” The correspondence between NGFS scenarios and RCP pathways is based on the emissions trajectory in those scenarios over time. The correspondence is not exact, but NGFS net-zero 2050 and disorderly scenario temperature pathways fall in the range of RCP 2.6, and current policies fall in the range of RCP 6.0. (More details available in the NGFS technical documentation).
 3 www.ngfs.net/ngfs-scenarios-portal. Mapping compared to 2021 scenario names: no additional action (NAA) became current policies, late action became delayed transition and early action became net-zero 2050.
 4 These correspond to SSP1-2.6 and SSP5-8.5, respectively, according to the new designations from the IPCC.

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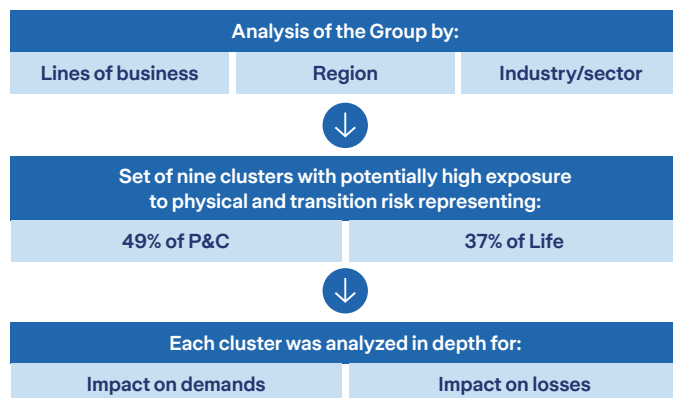
4.1.4 Portfolio-level climate risk scenario analysis (continued)

Scope¹



Underwriting

The analysis of our Group portfolio uses third-party modeling to understand the potential relationship between key climate drivers and insurance demand and loss experience. The scope of the analysis was determined as follows:



Investment Management

The scenario-based assessment of our proprietary investment portfolio considers listed equities, corporate credit, real estate and a separate analysis of sovereign debt. Listed equities, corporate credit and real estate cover 36 percent of our proprietary investment portfolio and make a significant contribution to our investment-related market risk position as of 2021.

Within each asset class, the third-party model covers between 70 and 100 percent of investment management holdings based on number of securities. The numbers are higher if based on market values.

Quantification

Underwriting and investment management require different approaches to understand potential impacts of climate risk.

Concerning our underwriting portfolio, we decided to quantify impacts for 2030 and perform a qualitative analysis for 2050. The outcome of the 2030 analysis is used to define strategic actions, for which the much longer time frame (2050) would be less relevant.

Given the model-based nature of investment analysis, impacts to asset valuations can be assessed over multiple timeframes. As we aim to understand the impact of climate risk on the different asset classes over a longer time, we made the decision to conduct quantitative analyses and disclose the results for 2050.



Underwriting

Quantification is performed to underpin our medium-term assessment (to 2030). This approach is reasonable for determining how to manage identified risks due to the flexibility of adapting a high proportion of our portfolio through annual policy renewals. Given the increasing uncertainty inherent in considering longer time periods, impacts to 2050 are analyzed qualitatively.

Two metrics are chosen to quantify scenario-based impacts of climate risk on our insurance business:

- **Percentage change in demand** is the estimated impact on size and composition of demand for insurance products due to the drivers of physical and transition climate risk in each scenario, compared with a 2030 baseline. This baseline does not take into account any further climate action or climate change relative to present-day levels but reflects modeled impacts on demand (or losses) from GDP changes and industry sector growth or decline.
- **Percentage change in expected losses** is the estimated impact on claims due to the drivers of physical and transition climate risk in each scenario, compared with a 2030 baseline. This baseline does not take into account any further climate action or climate change relative to present-day levels but reflects modeled impacts on demand (or losses) from GDP changes and industry sector growth or decline.



Investment Management

The valuation of equity in the scenarios involves discounting future revenues and costs (quantified at 2050) to arrive at a net present value of future cash flows.

Corporate credit impact is estimated by translating changes in equity valuations to changes in fixed-income instrument default risk and associated loss, using a ratings-based Altman Z-score² model and the Frye-Jacobs PD-LGD relationship,³ respectively.

Real estate impairments due to transition and physical risk are estimated by country and property type. Transition risks are based on country-level emissions data for residential and commercial real estate (scope 1 and 2). The physical risk impacts to real estate use a third-party risk model, including coastal flooding, river flooding and tropical cyclones. The combined impact of transition and physical risks is calculated by multiplying the reduced valuation associated with impacts from transition and physical risk.

Sovereign bond impact reflects the macroeconomic shocks arising from changes in energy consumption, energy costs and the physical risks of climate change, as well as the response of governments and central banks to those shocks. The model uses macroeconomic outputs from NiGEM⁴ to calculate changes in nominal forward interest rates and changes in default risk premia per risk scenario.

¹ For more details concerning the scenario analysis performed on our own operations, please see pages 151 to 152.

² Altman (2019): 50 Years of Altman Z-score: what have we learned and the applications in financial and managerial markets. <https://www.systemicrisk.ac.uk/sites/default/files/images/Evolution%20of%20Altman%20Z-Score.lse.pdf>

³ Frye (2013) <https://www.chicagofed.org/-/media/others/people/research-resources/frye-jon/frye-igd-as-a-function-of-the-default-rate-091013-pdf.pdf>

⁴ For more details on the NiGEM model, see: <https://nimodel.niesr.ac.uk/>

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Insurance

4.1.5 Portfolio-level climate risk scenario analysis – Underwriting



Underwriting analysis

- We undertook a materiality assessment in 2022 to build on the observations from the 2021 in-depth scenario analysis of our underwriting portfolio. The materiality assessment compared shifts in business mix (e.g. changes in line of business, industry and region mix), year on year, as well as any change in climate scenarios that might result in a different outcome for the scenario analysis. It was concluded that there was no material change to the in-depth analysis of our underwriting portfolio. As such, the findings of the 2021 climate risk scenario analysis still stand.
- Focus for 2022 actions remain, as outlined in our 2021 report, with priority given to four areas:
 - Retail and commercial motor.
 - Property, including catastrophe management.
 - Sustainable energy.
 - Construction.

Materiality review of overall underwriting portfolio

Following the detailed climate risk scenario assessment applied across the underwriting portfolio in 2021, we are taking the approach to update the full materiality assessment only in the event of a material change in either the underwriting portfolio or climate risk scenarios. For the purpose of this report, a material change in underwriting portfolio is defined as the change in industry or line of business mix of more than 5 percentage points for either the Group, or European P&C business and North America, independently.

From 2020 (the basis of our climate risk scenario analysis) to 2021, there was no material shift in the P&C underwriting portfolio industry or line of business mix. The main driver of premium increase was increased rates, changing commodity prices and inflation, for example in costs of construction rather than an increase in exposure or coverage.

Overall, the impact on demand for the current policies scenario would be immaterial to total P&C premiums. For the net-zero 2050 scenario, the impact of rate change in construction and property as well as a decline in premiums from the fossil fuel industry could drive increased upside opportunities. However, given the nature of rate change and commodity prices, we believe the impact would not be material when fully modeled.

For our Life business, an assessment of the 2021 Life portfolio showed a similar geographic mix to 2020. The most significant exposures are related to the life protection business in EMEA and LATAM (56 percent of protection gross written premiums). Corporate risk business continues to be well diversified across industry sectors. We therefore concluded that there was no material change to the risk profile of the Life business under the scenarios tested, compared with the previous assessment.

Our conclusion, therefore, is that there is no material change in 2022 to the results of the 2021 climate risk scenario analysis.

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4.1.5 Portfolio-level climate risk scenario analysis – Underwriting (continued)

Figure 15

Potential climate change-related impacts to our underwriting portfolio under current policies and net-zero 2050 scenarios with strategically aligned responses

Sector	Line of business	Portfolio weight	Demand impacts		Loss impacts		Responses
			Current policies	Net-zero 2050	Current policies	Net-zero 2050	
All sectors	Retail and commercial motor	High	Low	Low	Low	Low	Monitor loss trends associated with electric vehicles to reflect appropriately in pricing. Optimize claims network for emerging technology.
All sectors	Property	High	Low	Medium	High	High	Continue best-in-class CAT modeling, accumulation management and continued development of Zurich Resilience Solutions. Reshape portfolios in case of current policies.
Construction	–	Medium	Low	High	Low	High	Optimize expected growth in construction by continuing to balance risk across the portfolio and understanding risks associated with changing construction methods.
Financial services	–	Medium	Low	Low	Low	Low	Deepen ESG review as part of the underwriting process within Financial Lines, with a focus on customers' climate-related reporting.
Agriculture	–	Medium	Low	Medium	Low	High	Continue investment in models to develop insights at commodity, product and country level to help adjust the mix. Assess potential growth in private products.
Heavy industry and mining	–	Low	Low	High	Low	Low	Leverage carbon capture and storage as well as knowledge of energy for customers developing own solutions. Explore customer activities around transition to understand growth opportunities.
Fossil fuels	–	Low	Low	High	Low	Low	Understand customers' transition plans and how Zurich can support. Increased focus on risk engineering maintaining facilities that may be in run-off.
Power	–	Low	Low	Medium	Low	Low	Grow market share in renewables to maximize growth above that modelled. Continue to build on existing specialist knowledge to manage risk.
All sectors	Life protection	High	Low	High	Low	Low	Focus on commercial sales to sectors with high growth, offer innovative life products with proactive measures and continuously monitor factors affecting vulnerability to climate.

Portfolio weight (% of GWP)	Impact thresholds
● High (>10%)	● High risk (managed through Group actions)
● Medium (5–10%)	● Medium risk (managed through local actions)
● Low (<5%)	● Low risk (managed through local actions)
	● Low growth (managed through local actions)
	● Medium growth (managed through local actions)
	● High growth (managed through Group actions)

Definition of terms used:

- Sector: Industry group of the customer base except for transport, which was considered together with the total motor book and property that was considered across industry due to the overarching impact of physical risk associated with climate change.
- Weight in underwriting portfolio: Indicates how much the sector/geography/line of business being considered contributes to the overall underwriting portfolio.
- Demand impacts: high, medium and low risk relate to the potential decline in premium volume due to the various scenarios whereas high, medium and low growth indicates that there is a potential increase in premium due to the changing landscape driven by transition.
- Loss impacts: High, medium and low as above relate to the potential increase in losses in each sector if no strategic or mitigating action taken as part of the underwriting strategy.

Through the materiality assessment we concluded that the results of our 2021 climate risk scenario assessment remain unchanged. Overall impacts to P&C demand at Group-level in 2030 under the scenarios previously modelled and with no change in assumptions are still estimated to be of low materiality.

Demand impacts related to Life protection products are observed to be higher under the net-zero 2050 scenario. In both scenarios, impacts to Group-level P&C loss experience are observed to be more pronounced before mitigating actions are considered, due to the potential negative impact of physical losses related to weather events. In general, the diversification of our P&C business in terms of geographic footprint, industry mix and line of business limits our potential exposure at a total Group level. We would forgo growth opportunities highlighted in the current policies scenario as these derive from increased use of fossil fuels and are therefore not aligned with our net-zero commitments.

Based on the outcome of our analysis on the Life and P&C book we do not expect material impacts to fee income received from Farmers Group Inc. through to 2030.

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4.1.5 Portfolio-level climate risk scenario analysis – Underwriting (continued)

Underwriting focus on building capabilities and continuing assessment on risks associated with both the transition and physical impact of climate change.

In 2022, we continued to prioritize areas of our portfolio identified during the climate risk scenario assessment 2021. We narrowed down the original nine areas of focus to four areas of markets and industries that are potentially the most material to our business, either due to the size of the underwriting portfolio or the potential impact of transition or physical risk on our portfolios.

These areas are:

- Retail and commercial motor.
- Property, including catastrophe management.
- Sustainable energy.
- Construction.

Retail and commercial motor: a closer look

Expanded focus on technological advancements in driving and vehicles.

Identified action following climate risk scenario analysis 2021

We increased focus on monitoring loss trends associated with electric vehicles (EVs) to reflect this appropriately in pricing. Additionally, we are seeking to optimize claims networks for emerging technology and expanded focus on technological advancements in driving and vehicles.

Rationale

Transition within the motor industry is largely focused on the shift from internal combustion engines (ICEs) to alternatively fuelled vehicles, mainly EVs. This shift to EVs goes hand in hand with the development and wide adoption of advanced driver assistance systems (ADAS) in new vehicles.

In reviewing the impact of ADAS equipped vehicles, of which we identified EVs as a subset to ensure efficient analysis of both ADAS and EVs within the motor industry.

Strategic action prioritized in 2022

We performed an in-depth review on claims experience with ADAS vehicles and will expand this to focus specifically on EVs during 2023.

Progress

We established a global working group of subject matter experts to review relevant internal and external practices, for example, adjusting loss estimates or applying industry standard discounts for vehicles equipped with ADAS, formulate business goals, scan the market, conduct analyses and take action.

The work is ongoing. As of December 31, 2022, we have acquired external vehicle data for two of our key motor portfolios in EMEA. In-house experts are quantifying the predictive value of the data for underwriting to support the transition to a more resource-efficient and sustainable economy.

Ongoing focus

We will continue our focus on e-mobility in four key areas:

- 1 Portfolio (e.g., Zurich's market share, overall market growth and adoption of EVs in fleets).
- 2 Pricing (e.g., discounts against ICE policies).
- 3 Performance (e.g., claim frequency).
- 4 Proposition (especially in high EV growth markets and segments).

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4.1.5 Portfolio-level climate risk scenario analysis – Underwriting (continued)

Property: a closer look

Physical impact of climate change continues to drive potential risk in the property book. Actions taken to counter this include a refined approach to managing natural catastrophe and optimizing exposure in key peril regions globally.

Identified action following climate risk scenario analysis 2021

We continued to develop our best-in-class catastrophe modeling and accumulation management, as well as focusing on building capabilities within Zurich Resilience Solutions, our risk management services unit. Please see section 5.1 for more information ([page 174](#)).

Rationale

Catastrophe management is key to creating a climate resilient underwriting portfolio and also allows us to inform customers of actions they should take to become more resilient in the face of potential impact from climate change.

Strategic action prioritized in 2022

We assigned a dedicated project team, led by the global head of property, to oversee the management of exposures in key peril regions and further enhance Zurich's catastrophe management framework. We are building on existing capabilities within the area of catastrophe management and leveraging our in-house climate science experts.

Outcome

Following a comprehensive review, we prioritized action on capacity deployed within our North American business. We are on track to reduce U.S. windstorm average annual loss (AAL) by 10 percent by the end of 2023 and continue to take similar action in other regions.

Ongoing focus

Optimizing exposure in key peril regions remains a strong focus area and relies upon frequent, consistent and comprehensive review processes, which have been in place for many years and will continue to be a key part of our climate resilience strategy.

Energy transition: a closer look

Our sustainable energy strategy underpins development of our energy book and helps support customers as they transition to lower-carbon operating models.

Identified action following climate risk scenario analysis 2021

Fossil fuels and power

Ways to support:

- We built a framework to help review customers' transition plans and look for ways to support them.
- We took action to grow our market share in renewables to maximise growth above that modeled. We continued to build on existing specialist knowledge to manage risk.

Strategic action prioritized in 2022

The future of energy depends on the transition of traditional power and fossil fuel companies to sustainable ways of generating power. During 2022 we restructured our team of experts, blending the old world of energy with the new to mirror our customers and better help them accelerate the energy transition. We have expanded our sustainable energy offering, developing skills internally as well as hiring industry experts where needed, and built further knowledge and expertise in this rapidly changing market.

Our sustainable energy strategy is built on three layers:

- Engagement and review of transition plans.
- Upskilling and cross skilling in sustainable energy within underwriting, risk engineering and claims.
- Continued development of solutions to address emerging technologies in this area.

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4.1.5 Portfolio-level climate risk scenario analysis – Underwriting (continued)

Outcome

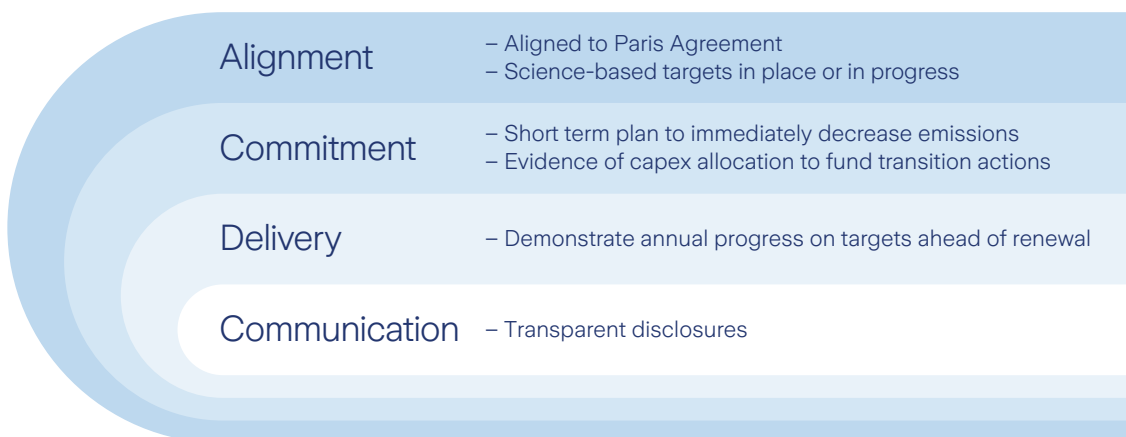
We successfully grew our sustainable energy business in 2022. We operate across four hubs in the UK, U.S., Germany and Dubai, and service every industry within the area of sustainable energy, with the exception of offshore wind, which we are currently reviewing.

Our integrated approach to energy allows us to access traditional power and fossil fuel customers that are transitioning to sustainable energy. The world's largest wind power owners, for example, are mostly traditional power companies or integrated energy companies. We estimate sustainable energy now represents more than 10 percent of our overall portfolio and we expect this share to grow rapidly. To enable this growth, our experts are working together to share knowledge. In 2022, for example, our sustainable energy global lead engineer and team created a detailed technical database of more than 1,800 wind turbines – a number that highlights both the demand for solutions and the complexity involved in understanding associated risks.

We developed and implemented our alignment, commitment, delivery and communication (ACDC) approach to reviewing transition plans (see below). As of December 31, 2022, we reviewed more than 30 companies using this approach and identified next steps to take to engage with the underwriting community and customer relationship leaders.

Figure 16

Transition assessment framework



Upskilling, cross skilling and recruitment

In 2022, we created the role of sustainable energy global lead engineer, which is pivotal for our understanding of the current risk landscape. In addition to this, we hired additional employees across underwriting, claims and risk engineering to help build our integrated approach to sustainable energy.

Developing solutions and growing the business

Our global energy team created concepts for new products based on input from energy customers, through client meetings and at various conferences, for example, the Lillehammer Offshore Energy Claims Conference. We continue to work on bringing these solutions to market.

To drive and support growth in sustainable energy, the sustainable energy global lead engineer created an in-house equipment database to provide comprehensive details on the increasing amount of machinery coming to market in this area. He also represents Zurich on the [Global Wind Energy Council](#).¹

Ongoing focus

We continue to build the sustainable energy business across Zurich and are identifying new opportunities in emerging technology in this area. We expect to launch additional services throughout 2023.

¹ www.gwec.net

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4.1.5 Portfolio-level climate risk scenario analysis – Underwriting (continued)

Construction & engineering lines: a closer look

We recognize the investment required to support the energy transition and tackle the accompanying challenges, while decarbonizing both operational and embodied emissions.

Identified action following climate risk scenario analysis 2021

We continued to balance risk across the portfolio and understand the risks associated with changing construction methods.

Strategic action prioritized in 2022

We focused on growth and innovation within our construction business line through talent acquisition and new product development, with heavy focus on the U.S. market as a first step.

Case study

In November 2021, Zurich construction in North America launched its proprietary policies for mass timber master builders risk and project builders risk. These policies offer customized coverage and market-leading capacity of up to USD 50 million for qualified risks using mass timber, a low-carbon alternative to concrete and steel. The product launch resulted in USD 1.85 million in new business.

Zurich construction in North America also launched a weather parametric product which provides non-physical damage coverage for perils including rain, wind, heat, cold and snow accumulation. We have seen interest from customers in the weather parametric product as a complement to builders risk insurance due to the continued uptick of severe weather events across North America. We continue to build out our peril offerings based on customer and broker needs.

Zurich construction in North America is a key pillar of our sustainable energy strategy, offering up to USD 100 million of capacity for qualified on-shore renewable energy risks, including wind, solar and biomass. Growing demand in the U.S. marketplace has accelerated due to various federal tax incentives and enhanced commitment from the government and population to renewable energy fuelled by uncertainty and supply chain challenges abroad.

We created the role of head of construction innovation and sustainability, which will be responsible for managing the growth of our parametric, mass timber and renewable energy products. This position will also be responsible for developing and deploying new sustainable product solutions for construction.

Strategic implications for overall underwriting portfolio

We have continued to focus on maximising opportunities and mitigating risks identified through the climate risk assessment 2021. We believe we are well positioned to further develop in these areas in 2023, whilst at the same time embedding net-zero underwriting across our business, in line with the NZIA's target setting protocol released in January 2023.

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Stephan van Vliet
Group Chief
Investment Officer

4.1.6 Portfolio-level climate risk scenario analysis – Investment Management



Proprietary investment portfolio analysis

- Scenarios indicate climate change-related risk to asset valuation would not pose a major risk to our capital position.
- Under the current policies scenario, physical risk is confined to a few sectors and regions (agriculture and tropical areas) where we have limited exposure.
- Under the net-zero 2050 scenario, the aggregated risk is limited, though some businesses would experience a large negative impact on their market valuation.
- In response to carbon risks, we made a long-term commitment to decarbonize our investment portfolio to net-zero greenhouse gas emissions by 2050, consistent with a maximum temperature rise of 1.5°C above pre-industrial temperatures.

High-level outcomes

The scenarios, as currently modeled, indicate that climate change-related risk to asset valuation would not pose a major risk to our capital position, either at aggregate portfolio or individual asset class level. This conclusion considers impacts across three major asset classes (listed equities, corporate credit and real estate) covering 36 percent of the investment portfolio, excludes the potential mitigating effect on liability valuation and is made in accordance with our Total Risk Profiling™ methodology.¹ This methodology defines a major risk as a risk that could have a negative impact of at least USD 5 billion on the Group's economic capital position at either aggregate portfolio or individual asset class level.

In the current policies scenario, physical risk is limited over the time horizon of the analysis (2021–2050), with the exception of a few sectors and regions (e.g., agriculture and tropical regions) to which we have limited investment exposure in our listed equity, corporate credit and real estate portfolios.

In the net-zero 2050 scenario, the aggregate impact is also low. This is because transitioning is assumed to be relatively frictionless, without bottlenecks or supply side issues and businesses are assumed to be able to pass on cost increases to customers without negative impact. While some industries and businesses would experience a large negative impact on their market valuations in these scenarios, it would only generate limited aggregate risks.

The impact of climate risk on our sovereign debt exposure has been analyzed independently of other asset classes. The transition risk scenarios (net-zero 2050) are mildly inflationary due to a rising cost of carbon, resulting in slightly higher sovereign bond yields (by around 15 basis points for our investment sovereign bond portfolio) compared with the baseline. In the physical risk scenario (current policies), interest rates are slightly lower (by around 10 basis points) than the baseline due to a small negative effect on economic activity. The corresponding impact on the valuation of the sovereign debt portfolio is limited in all scenarios (less than 1.5 percent in the worst affected transition scenarios).

Given the scale of transformation required, an orderly and smooth transition, such as that described by the net-zero 2050 and delayed transition scenarios, may be difficult to achieve and periods of higher volatility are likely. There remains the potential for significant spill-over effects from the most affected sectors and regions, as well as a potentially positive – but possibly also disruptive – impact stemming from the development of new technology and gains in productivity. As the scenarios highlight, there will also be potentially large divergence across businesses and sectors, with the transition presenting both opportunities and risk.

Listed equities: a closer look

We applied the three scenarios and a third-party model to our global listed equity portfolio in comparison with a broad market benchmark, resulting in similar outcomes as in 2021. The relatively small changes in the overall impact on the value of our global listed equity portfolio (compared with the 2021 Annual Report) arise mainly from changes within the sectors of the portfolios.

We found transition risk to be material for businesses that operate in carbon-intensive sectors, have relatively high emissions and are less able to absorb, reduce or pass on carbon costs. The climate risk scenario analysis also sheds light on transition opportunities, including those that stem from greening the economy.

In contrast to transition risk, additional physical risk relative to today's level is estimated to be relatively limited over the time span considered, even in the current policies scenario. This is because it takes time for more significant, additional effects from climate change to materialize. More severe impact will therefore be restricted to a few regions and sectors, such as the agricultural sector and tropical regions, to which we have limited investment exposure across all asset classes. As shown on the next page, the largest relative impact on the valuation of our global listed equity portfolio is found in the net-zero 2050 scenario. The impact is somewhat higher than in the delayed transition scenario, due to the discounting of future impact and a heavily front-loaded, albeit gradual, rise in the price of carbon. From a financial materiality perspective, we observed only minor impacts to our listed equity portfolio.

¹ See the risk management section (pages 154 to 156) for further details on the Total Risk Profiling™ methodology.

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4.1.6 Portfolio-level climate risk scenario analysis – Investment Management (continued)

Figure 17

Estimated impact on listed equity portfolio across net-zero 2050 and current policies scenarios in comparison to a well-diversified global equity benchmark¹

Sector	Sector weights		Net-zero 2050		Current policies	
	IM Portfolio	Benchmark	IM Portfolio	Benchmark	IM Portfolio	Benchmark
Energy	Light Blue	Light Blue	Dark Blue	Very Dark Blue	Light Blue	Light Blue
Non-energy materials	Dark Blue	Dark Blue	Light Blue	Light Blue	Light Blue	Light Blue
Consumer cyclicals	Dark Blue	Dark Blue	Dark Blue	Light Blue	Light Blue	Light Blue
Consumer non-cyclicals	Very Dark Blue	Very Dark Blue	Light Blue	Light Blue	Light Blue	Light Blue
Business services	Light Blue	Light Blue	Light Blue	Dark Blue	Light Blue	Light Blue
Consumer services	Light Blue	Light Blue	Light Blue	Dark Blue	Light Blue	Light Blue
Telecommunications	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue
Industrials	Very Dark Blue	Dark Blue	Light Blue	Light Blue	Light Blue	Light Blue
Finance	Very Dark Blue	Very Dark Blue	Light Blue	Light Blue	Light Blue	Light Blue
Healthcare	Very Dark Blue	Very Dark Blue	Light Blue	Light Blue	Light Blue	Light Blue
Technology	Very Dark Blue	Very Dark Blue	Light Blue	Light Blue	Light Blue	Light Blue
Utilities	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue	Light Blue

Sector weight (% of listed equity portfolio)	Impact thresholds	
● High (>10%)	● Very high risk	● Moderately low risk
● Medium (5–10%)	● High risk	● Low risk
● Low (<5%)	● Moderately high risk	● Opportunity
	● Moderate risk	

The results demonstrate how the relatively higher transition risks to our listed equity portfolio are limited to only a few sectors, including energy, non-energy materials and consumer cyclicals (which includes vehicles). This result is not a reflection of the relative weighting of our book but captures the general impact on the economy, and consequently market pricing, in a transition risk scenario.

By contrast, services sectors, including healthcare and finance but also consumer and business services, see less impact. The relative resilience of services appears reasonable given their limited direct exposures, but there are a few caveats to this result. For the finance sector, only direct exposure to climate-related risk is considered. Indirect exposure through the valuation of assets and financial interlinkages is not captured. Additionally, if rapid transitioning were to lead to energy scarcity, bottlenecks in the economy and rising costs for energy and materials, this could impact sentiment and demand and have broader effects on the economy, including on the services sector.

¹ The sector heatmap is calibrated to highlight relative impact per industry sector. Aggregate scenario level impacts are assessed in relation to Zurich's definition of financial materiality.

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4.1.6 Portfolio-level climate risk scenario analysis – Investment Management (continued)

The applied model highlights that an early-transition scenario can lead to transition opportunities and risks within industry sectors. Within the energy, utilities and non-energy materials sectors, which experience significant and negative median impacts, the characteristics of individual counterparties also have a strong impact on their exposure to climate risk. In the utilities sector, for example, some utilities experience significant decreases in value, as their high CO₂e emissions intensity leaves them in a weak competitive position relative to less emission-intensive rivals, leading to reduced profitability and market share. Other utilities with lower emission intensity benefit from increased electricity demand, higher electricity prices and the opportunity to gain market share at the expense of more emission-intensive rivals. This variance in individual counterparty impacts also occurs in other sectors, including industrials and consumer cyclicals, where median impacts are small.

Overall, the impacts on our global equity portfolio are somewhat smaller than those of a broad market benchmark. This is due to a number of different reasons, including differing sector weights and geographic exposure. Other contributing factors are a different security selection resulting from our long-standing practice of ESG integration as part of our responsible investment approach, as well as our climate-related exclusion screens. Since 2017, we have divested from companies that derive more than 30 percent of their revenues from the mining of, or generate more than 30 percent of electricity from, thermal coal, oil sands and oil shale.

Corporate credit: a closer look

Applying the various scenarios and third-party model to our global corporate credit portfolio in comparison with a broad market benchmark results in a similar distribution of outcomes as those for our listed equity portfolio. The portfolio tends to hold relatively lower risk than the benchmark.

Transition risk is found to be moderate for businesses that operate in carbon-intensive sectors, have relatively high emissions and are less able to absorb, reduce or pass on carbon costs and physical risk. In the physical risk scenario (current policies), the impact is relatively low across all sectors.

For the most affected sectors, the materially lower impact on corporate credit relative to equity can be explained by the relatively short maturity of the corporate bond portfolio. These bonds tend to experience smaller impacts simply because they mature before the strongest impacts materialize. Risk associated with the refinancing of debt is not considered in the current modeling approach.

In contrast to the listed equity portfolio, the corporate debt portfolio shows a higher diversification and lower exposure to carbon-intensive sectors, and hence has a lower exposure to sectors impacted by climate risk.

While the overall impact of climate risk on our corporate bond portfolio, based on the third-party model we applied, is fairly limited, we nevertheless consider it prudent to take strategic actions as detailed in the section covering our strategic implications on [page 150](#).

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4.1.6 Portfolio-level climate risk scenario analysis – Investment Management (continued)

Figure 18

Estimated impact on corporate bond portfolio across net-zero 2050 and current policies scenarios in comparison to a well-diversified global benchmark¹

Sector	Sector weights		Net-zero 2050		Current policies	
	IM Portfolio	Benchmark	IM Portfolio	Benchmark	IM Portfolio	Benchmark
Energy	High	High	Moderately high risk	Moderately high risk	Moderately low risk	Moderately low risk
Non-energy materials	High	High	Moderately high risk	Moderately high risk	Moderately low risk	Moderately low risk
Consumer cyclicals	High	High	Moderately low risk	Moderately low risk	Moderately low risk	Moderately low risk
Consumer non-cyclicals	High	High	Moderately low risk	Moderately low risk	Moderately low risk	Moderately low risk
Business services	High	High	Moderately high risk	Moderately high risk	Moderately low risk	Moderately low risk
Consumer services	High	High	Moderately low risk	Moderately low risk	Moderately low risk	Moderately low risk
Telecommunications	High	High	Moderately low risk	Moderately low risk	Moderately low risk	Moderately low risk
Industrials	High	High	Moderately low risk	Moderately high risk	Moderately low risk	Moderately low risk
Finance	High	High	Moderately low risk	Moderately low risk	Moderately low risk	Moderately low risk
Healthcare	High	High	Moderately low risk	Moderately low risk	Moderately low risk	Moderately low risk
Technology	High	High	Moderately low risk	Moderately low risk	Moderately low risk	Moderately low risk
Utilities	High	High	Moderately high risk	Moderately high risk	Moderately low risk	Moderately low risk

Sector weight (% of credit portfolio)	Impact thresholds	
● High (>10%)	● Very high risk	● Moderate risk
● Medium (5–10%)	● High risk	● Moderately low risk
● Low (<5%)	● Moderately high risk	● Low risk

Real estate: a closer look

The impact from the third-party model on our real estate investments indicates only minor exposure to climate risk. This is confirmed by additional analyses using Zurich’s own physical risk models, which cover wind (U.S. tropical cyclone and EU extra-tropical cyclone) and flood (pluvial and fluvial for U.S. and EU) and comprise more than 80 percent of our real estate investments. Zurich’s physical risk models will be developed further in 2023 and applied to all real estate investments. As communicated last year, we piloted transition risk assessments by implementing the Carbon Risk Real Estate Monitor (CRREM)² methodology. The ability to use CRREM on a dedicated carbon management platform allows us to monitor, report and mitigate transition risks.

More than 80 percent of our real estate investments are in Europe, with an overweight in Switzerland and Germany. Under different climate scenarios, our portfolio is most exposed to rising temperatures in southern Europe. More tenants will rely on electricity to run fans, ventilation and air conditioning systems to stay cool. Retrofitting and constructing smarter and more energy-efficient buildings is therefore a first step to mitigate electricity shortage and higher costs in our properties in Spain, Portugal and Italy.

¹ The sector heatmap is calibrated to highlight relative impact per industry sector. Aggregate scenario level impacts are assessed in relation to Zurich’s definition of financial materiality.
² www.crem.eu

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4.1.6 Portfolio-level climate risk scenario analysis – Investment Management (continued)

As an example of ongoing mitigation efforts, in Milan, Italy, we are repositioning a building with 11,000 square meters through renovation. The building is currently undergoing a renovation phase with the aim to receive a gold-level certification from Leadership in Energy and Environmental Design (LEED). The renovation includes modifying part of the envelope and replacing the existing mechanical system to improve performance and efficiency and bring the building in line with the requirements of the Paris Agreement. Carbon intensity can be reduced by more than 50 percent, significantly reducing the risk of stranding this asset.

Recent research¹ has also found that prime office and residential sectors are most exposed to urban heat islands. The most exposed country to a rise in sea levels is the Netherlands.

Our main focus is the rapid decarbonization of our Swiss portfolio, which still uses mostly oil and gas for heating and producing warm water in residential buildings. To transform this portfolio, we have initiated several strategic investment programs to achieve our 2025 emission reduction target. In addition, we are continuing with our energy optimization project in Switzerland. The project, which started in 2014, has already led to a reduction in carbon emissions of more than 20 percent, compared with our 2010 baseline.

Materiality review of overall investment management portfolio

Overall, the applied model suggests a manageable level of risk across all scenarios and results in a valuation impact of minor materiality accumulated for listed equity, corporate credit and real estate. The applied model identifies relatively more material risk for exposed sectors where these risks are relatively well understood and an increasing body of climate risk-related ESG research provides ongoing insights. We also believe that an early transition to a climate-neutral economy may provide opportunities in a wider variety of business models and industry sectors than the applied model assumes. Our portfolio continues to be well diversified across sectors and geographies and is managed with an ESG integration lens, which includes information about both climate change risks and opportunities.

Our portfolio is also managed to become net-zero by 2050, with the progressing decarbonization successively shielding it from the companies that are lagging in the transition. The analysis supports various hypotheses: earlier-action scenarios materially increase transition risks, but in turn reduce the long-term impacts of physical risks. Even in a challenging transition risk scenario, the overall negative effect on the listed equity portfolio is moderate and concentrated in sectors that are most CO₂e-emission intensive but also play the largest role in actively driving the transition. Emissions in the economy are disproportionately concentrated in a few sectors (utilities, energy, materials, agriculture, forestry and land use) and so, too, are financed emissions in a global equity portfolio. In our listed equity portfolio, 62 percent of financed emissions in the top emitting sectors (building materials, energy, chemicals and utilities) represent only 12 percent of market value as of 2021. However, in-depth analysis of sectors shows that there are also investment opportunities in these sectors, such as renewable energy producers in utilities.

Overall, the risk appears well diversified, though the portfolio requires ongoing monitoring and active management as risks materialize.

Strategic implications for overall investment management portfolio

Our strategic response to carbon risks is our long-term commitment to decarbonize our investment portfolio to net-zero greenhouse gas emissions by 2050, consistent with a maximum temperature rise of 1.5°C above pre-industrial temperatures. As a founding member of the Net-Zero Asset Owner Alliance (NZAOA), we have set intermediate investment portfolio targets. The work of the NZAOA is collaborative, uniting global investors, civil society leaders and academics in a collective ambition.

Our priorities include:

- Reducing exposure to coal-based business models.
- Enhancing our systematic approach to investee engagement and policy advocacy.
- Implementing the TCFD recommendations.

While increasing the resilience of our portfolio against transition risks, our decarbonization strategy also contributes to limiting the physical risks showcased in the current policies scenario, which may materialize in our portfolio over the long term. Moreover, our new commitment to invest 5 percent of Group total investments in impact investments, including climate solution investments,² further underpins our efforts to minimize the long-term impacts of climate change by focusing on proactively deploying capital toward addressing specific, measurable societal and environmental goals.

¹ AEW Research Europe, "Next Wave of Physical Climate Risk", September 2022.

² Assets that provide climate solutions are businesses that drive or underpin substantial reductions in, or the removal of, greenhouse gas emissions.

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4.1.7 Portfolio-level climate risk scenario analysis – own Operations



Own Operations

- In 2022, we conducted an additional assessment to consider climate risks for our workforce around the world. The results of this analysis show that remediating strategies currently in force are sufficient to mitigate climate risk.

Physical risk assessment scope and approach

Approach

We performed a scenario-based assessment of physical risk using a third-party model and data,¹ with quantification performed for 2030 and 2050.

Scenarios used

We conducted an assessment of physical perils to understand exposure level and criticality under two scenarios: net-zero 2050 and delayed transition.

Scope

The assessment considered:

- Offices supporting more than 250 employees (41 office locations).
- All strategic data centers (10 locations).
- Supplier locations including those providing critical services to the Group (focusing on the known service locations) and suppliers that together comprise 75 percent of managed procurement spend (346 locations).

Quantification

The assessment identified the number of employees or percentage of locations (relative to the overall total) exposed to the qualitative hazard levels for our offices, data centers and supplier locations. The qualitative hazard levels are based on specific physical parameters for each peril and include flood, wind, temperature, drought, hail, wildfire, precipitation, thunderstorms (lightning) and coastal flooding.

¹ Climate data sourced from Jupiter Intelligence, ClimateScore Global v2.3, Oct. 2021.

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4.1.7 Portfolio-level climate risk scenario analysis – own Operations (continued)

In 2021, in an assessment of potential impacts from climate change, we found our operations and processes to be resilient to the observed impacts. These impacts, on a global scale, resemble climate patterns that already exist today.

Existing business resilience activities were determined to manage physical risks well. These activities focus on protecting and recovering critical business assets and resources of a wide-range of existing and developing risks, including those related to the impacts of climate change.

In 2022, we determined the outputs from the 2021 assessment remain valid and conducted an additional assessment to consider climate risks for our distributed workforce. In response to the COVID-19 pandemic, organizations, including Zurich, have adapted their working practices to keep their employees safe, most notably through increased working from home.

Planning for the continuity of critical business services with a hybrid workforce has, in some ways, increased resilience by adopting more remote work practices. But in other ways, this has added to complexity, given the limited control businesses have over dispersed work locations.

Our analysis of potential climate impacts to our distributed workforce considers the following:

- The incident impacts employee homes but the office remains accessible (e.g., localised flooding in an area where a number of employees live).
- The incident impacts both the homes of the employees and access to the office locations (e.g., rolling power outages across an extended region).

To develop new strategies and assess the potential effectiveness of our existing strategies, we assume the following as part of our analysis:

- Most of our employees live within a 70 kilometer radius of a Zurich office location.
- Hybrid working since the COVID-19 pandemic remains the preferred working option with most employees retaining the ability to work from home and in an office.
- The geographic separation provided by this hybrid working model is already a mitigating measure as an event would need to be widescale to impact all employees.
- Most employees are not wholly reliant on public transport.

Our analysis indicates the in-force remediating strategies are suitable, though the evolution of certain perils in certain areas may require the installation of mobile electricity generators in office locations to maintain use of hard- and software in the event of power disruptions.

As part of our ongoing monitoring of climate risk, we considered the changing nature of our supplier landscape which can lead to changes in our physical risk profile. No material changes were observed. Overall, the existing processes remain sufficient to manage risk exposure.

Ongoing activities related to enhancing our resilience capabilities and improving our third-party governance and oversight will continue to support us in identifying and responding to the ongoing impacts of climate change.

Transition risk exposure is limited given the low-carbon intensity of the operations of the insurance sector and our approach to continuously improve the way we manage operational sustainability risks and opportunities.

4.1.8 Further climate risk scenario analysis

Our climate risk assessment includes consideration of both litigation and reputational risks.

Litigation risk: Though not a focus of our scenario analysis, some current litigation drivers were considered in specific areas of our in-depth analysis. None were identified as a material risk driver in the medium term. We closely monitor developments potentially impacting litigation-related risks and take actions to address them proactively.

Reputational risk: Given our ambitions to address the impacts of climate change, we acknowledge we are under higher public scrutiny and any perceived or real failure to live up to our set objectives and targets could have a particularly significant impact on our reputation. To reduce the risk of failing to deliver our targets, we put controls in place and monitor progress through the governance structures described in Chapter 3 of the integrated sustainability disclosure (see [pages 129 to 130](#)).

We believe strong internal focus on delivery, coupled with public disclosure on progress, mitigates this risk.

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4.1.9 Portfolio-level climate risk scenario analysis – conclusion

Our initial scenario-based climate risk assessment has strengthened our understanding of the potential impacts of climate risk on our business. The assessment suggests our customer-focused approach and diversified portfolios, supported by strong risk management practices, provide the resilience and flexibility necessary to be able to adapt to the impacts observed. This has been confirmed by our monitoring of these risks throughout 2022, though we have identified specific areas for further action, mainly in our underwriting and operations. The additional assessments of asset classes in investment management confirms the resilience of our portfolio.

Highly carbon-intensive pockets of our insurance and proprietary investment portfolios experience elevated exposure to transition risk, however we believe our in force thermal coal, oil sands and oil shale exclusion policy allows us to address this exposure whilst aligning with our commitment to a low-carbon future. The adaptive nature of our business resilience program means processes will adapt to changing physical risk profiles ensuring operational resilience.

We caveat these conclusions by acknowledging the hypothetical nature of these scenarios, the uncertainty inherent in scenario modeling over the timeframes considered and the somewhat conservative modeling of physical and transition risk. As the effects of climate change gradually increase over the coming decades, adaptation efforts at the individual, company and state level will increase and provide resilience against expected impacts. This is likely to reduce societal and economic losses, however the details heavily depend on uncertain societal and technological developments.

On the other hand, exceeding tipping points, such as accelerated melting of Antarctic ice sheets or permafrost thawing, could lead to large-scale discontinuities in the global climate systems and accelerate the impacts from physical climate risk. We believe our strategy of continually analyzing changing risk profiles and retaining customer focus gives us the flexibility required to maintain our resilience and continue to meet the needs of our customers as climate-related risk profiles evolve.

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Peter Giger
Group Chief Risk Officer

4.2 Governance



The organization's governance around climate-related risks and opportunities.

As outlined in the governance section of the ISD (see [pages 129 to 130](#)), sustainability, and, therefore, climate-related topics, are integrated into our existing governance structure. We ensure climate change is discussed with our Board and committees where and when required. In 2022, climate risk was discussed at committee and Board level in relation to the update of the Group's Sustainability framework, sustainability reporting in addition to the regular bi-annual update to the GNSC (including a detailed session on the scenario-based climate risk assessment of Underwriting) and more specific climate risk updates (including climate risk within specific regions). Outcomes of scenario-based climate risk assessments and monitoring are considered as part of strategy setting processes. Further information on sustainability risk and its governance is set out in the risk review (see [pages 198 to 229](#)).

4.3 Risk management



The processes used by the organization to identify, assess and manage climate-related risks.

4.3.1 Integration of climate risk within the overall risk management framework

We consider impacts from climate change to be drivers for other risks, such as market or natural catastrophe risks, which are managed within our existing risk management framework. Our approach to managing climate risk is embedded in our multi-disciplinary, Group-wide risk management framework, following the same objectives of informed and disciplined risk taking. The risk management framework is based on a governance process that sets forth clear responsibilities for taking, managing, monitoring and reporting risks. These responsibilities are:

- To identify, assess, manage, monitor and report risks, including climate change, that can have an impact on the achievement of our strategic objectives, the Group applies a proprietary Total Risk Profiling™ methodology. This medium- to long-term (typically one to three years) assessment considers our planning horizon and allows us to classify risks according to their materiality based on the estimated severity and the likelihood of the risk materializing. Further, it supports the definition and implementation of mitigating actions. At Group level, this is an annual process, followed by regular reviews and updates by management.
- To take the longer-term nature of climate change into account, we complement our Total Risk Profiling™ methodology with portfolio-level scenario analysis of climate risk. This provides an outlook on much longer-term risk developments (up to 10 years and even out to 30 years) relevant to our underwriting and investment portfolios, as outlined in the strategy section (see [pages 132 to 153](#)). The details of our risk management framework are outlined in the risk review (see [pages 198 to 229](#)).

4.3.2 Managing risks from climate-related natural catastrophes

As outlined in the strategy section (see [pages 132 to 153](#)), changes in physical risks related to much longer-term¹ impacts of climate change could, over time, impact us through the property-related business via changes in severity and probability of climate-related natural catastrophes. This is, in part, mitigated by the flexible nature of our underwriting portfolio, with contracts that are typically renewed annually. We recognize that there are shorter-term physical risks related to climate change, such as a rise in sea levels, but the science indicates that the greatest changes in physical risks related to climate change will occur over the much longer-term. We have established sophisticated natural catastrophe modeling capabilities to manage our underwriting selection, ensuring accumulations stay within intended exposure limits and assessing the capital requirement due to natural catastrophes. The resulting view of natural catastrophe risk also underpins profitability assessments and strategic capacity allocation and guides the type and quantity of reinsurance we buy. To ensure global consistency, natural catastrophe exposures are modeled in the Group Risk Management function.

Third-party models provide a starting point for the assessment of natural catastrophe risk. However, they are generally built for the market average and need validation and adjustment by specialized teams to reflect the best view of risk. We have been a leader in natural catastrophe model validation since 2005 when we developed our proprietary 'Zurich View' of risk. This gives us nearly two decades of experience in applying a structured and quantitative approach to optimize our risk view. To arrive at the Zurich View, models are adjusted in terms of frequency, severity and event uncertainty.

¹ This refers to time periods up to 10 years and even out to 30 years, as mentioned in section 4.3.1.

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4.3.2 Managing risks from climate-related natural catastrophes (continued)

Adjustment factors address potential losses from non-modeled, property-related exposures or secondary perils to the extent not covered by the third-party models. Every catastrophe event provides an opportunity to learn from our own claims experience and the modeling framework provides a place to capture the new insights. We constantly review and expand the scope and sophistication of our modeling and strive to improve data quality by leveraging technology.

We supplement internal know-how with external knowledge (e.g., the Advisory Council for Catastrophes). We are a shareholder in PERILS AG, Switzerland, a catastrophe exposure and loss data aggregation and estimation firm. We are also a member of the open-source initiative Oasis Loss Modeling Framework.

Catastrophe models based on historical data do not capture potential, much longer-term shifts of extreme weather events related to climate change. However, when combined with general circulation models (GCMs), which build representations of the Earth's physical climate systems, catastrophe models can help us understand the risk of future climate conditions. The quality of GCMs continues to evolve as scientific understanding of the Earth's climate systems increases and as progress is made in computing power and artificial intelligence. This science is evolving, and we have strengthened our catastrophe modeling team with dedicated resources to create methodologies to integrate forward-looking aspects into our modeling approach.

4.3.3 Portfolio-level, scenario-based climate risk assessment

Assessments of the resilience of our business model to potential climate risks over much longer periods of time are performed using scenario analysis. To ensure a consistent Group view on potential climate change pathways, scenarios selected for this analysis underpin all assessments Group wide, unless other local regulatory requirements exist. Assessment granularity and timeframes can be tailored to the specific requirements of the assessment. In line with established governance, the ExCo sponsor for Sustainability reviews the outcomes of the climate change scenario analysis, reports key outcomes and agrees actions with the ExCo for Group CEO approval.

The ExCo sponsor for Sustainability reports outcomes and actions to the Board's Governance, Nominations and Sustainability Committee (GNSC). The GNSC makes recommendations to the Board, as required. An integrated modeling approach, leveraging a third-party model, is adopted for the analysis of our underwriting and proprietary investment portfolios to ensure, as much as possible, the consistent use of assumptions. To quantify impacts on Group assets, the model adopts a bottom-up approach to analyze the exposures of businesses and industries to physical and transition risk. To provide a map of vulnerabilities, it uses asset-level data on relevant risk drivers, including carbon emissions, abatement options, exposure to physical risks (including location-based exposure to acute physical risks), exposure to the greening of the economy, dependency on fossil fuels and competitiveness.

The strength of this bottom-up approach is that it provides a coherent framework for analyzing climate change-related risk at the industry and corporate sector level. Given the flexibility of our business model, in both our underwriting and asset portfolios, the static balance sheet approach to scenario-based climate risk assessments is done in the full recognition that the analysis is a theoretical "what if" analysis. It is a useful analysis to stretch management thinking about the much longer-term outlook and to address consistency of disclosures expected through the TCFD framework, but it does not provide insights from an immediate solvency, financial or capacity management perspective.

Data underpinning the assessment of impacts on group assets are used in conjunction with premium and loss data to model impacts on our insurance business in a bespoke process.

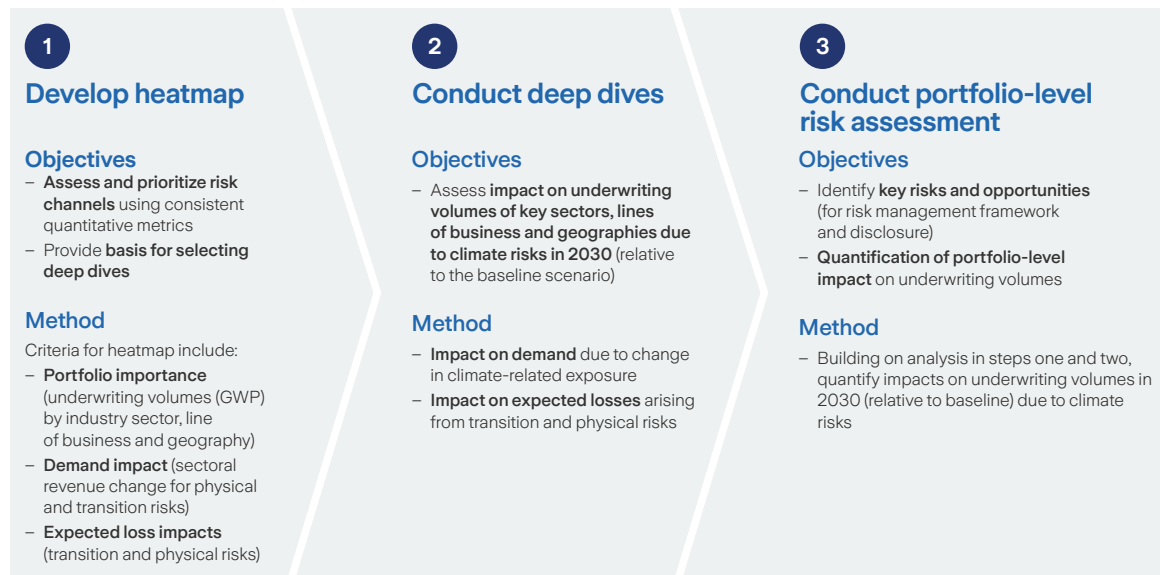
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4.3.3 Portfolio-level, scenario-based climate risk assessment (continued)

Figure 19

Underwriting analysis process



Data sources and assumptions

- We adopt a static, balance-sheet approach to better allow for the potential much longer-term impacts of climate change to be isolated. This implies quantified impacts assume no strategic reaction from us to the risks identified, and no movements in pricing to adapt to changing conditions.
- Zurich performed scenario analysis for underwriting using a monitoring review based on 2021 premium data and qualitative review of the scenario-based assumptions on sector growth trends. Scenario analysis for investment management has been performed using year-end 2021 financial data with latest available emissions data (mostly 2020). For our own operations, internal physical risk analysis of proprietary and third-party data was used.
- Modeled impacts of acute physical risks on expected losses are, to every extent possible, based on our own natural catastrophe modeling. We work with a third-party model which enables us to search publicly available hazard data by type of hazard. We will expand our in-house modeling to cover all types of physical risks and this will be included in our own catastrophe modeling results.
- While the bottom-up approach adopted by the underlying model facilitates granular analysis of climate change-related risk, the model displays characteristics that present a somewhat conservative view of impacts, namely:
 - The assumption of smooth transitioning, as capital moves from carbon-intensive to low-carbon activities without bottlenecks or frictions (e.g., costs are passed to consumers), leads to a muted ‘cost of transition’, despite a very steep rise in the price of carbon (toward USD 700 per metric tons CO₂e).
 - The assumption of perfect information, where action is only taken once new policies are in place, omits an important uncertainty effect.
 - Modeling of physical risk considers three acute hazards (coastal flood, inland flood and tropical cyclones), is location based and does not consider supply chain impacts. This means aggregate estimates of physical risk are somewhat limited.¹



For further details on our risk management process and supporting committees: see the risk review on pages 198 to 229.

¹ Additional hazards, modelled as part of Zurich's natural catastrophe modeling, are reflected in the underwriting analysis.

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4.4 Metrics and targets

We use numerous indicators across our underwriting and investment activities, as well as our own operations, to monitor, assess and manage climate-related impacts to, and of, our business. This section outlines the main targets underpinning our climate strategy and lists the key performance indicators (KPIs) we track.



The metrics and targets used to assess and manage relevant climate-related risks and opportunities.

4.4.1 Our targets

Outlined below are the principle targets we have set to align our business activities with the goals of the Paris Agreement. In line with the efforts of the NZAOA, we aim to establish, to the extent permissible by applicable laws and regulations, intermediate, science-based targets for our investment portfolio. Those targets are also described in our roadmaps, which provide a transparent picture of our progress toward set targets and positions.

Target	Definition	Target years	Base year
Reduction of financed emissions	<p>Our emission reduction targets cover both listed equity and corporate bond investments as well as direct real estate investments.</p> <p>By 2025, we aim to:</p> <ul style="list-style-type: none"> – Reduce the intensity of emissions (scope 1 & 2) of listed equity and corporate bond investments by 25%, in terms of metric tons of CO₂e per USD million invested. – Reduce the intensity of emissions of direct real estate investments by 30%, in terms of kilograms of CO₂e per square meter. 	By 2025 (interim)	2019
Engagement targets¹	<p>We strongly believe that simply divesting from companies with carbon-intensive footprints is less effective than engaging with them to drive the shift to sustainable practices. Many of these companies have the knowledge and engineering capabilities required to make a green transition and harnessing this can benefit sustainability goals.</p> <ul style="list-style-type: none"> – Engage with companies that produce 65% of portfolio emissions and lack targets aligned with the Paris Agreement. – Require these companies to set targets aligned with the Paris Agreement. – Collaborate with asset managers to highlight best practice for climate-conscious active ownership and work together for a just transition. <p>Over a period of at least two years, we will engage with companies directly and through organizations such as Climate Action 100+ and the NZAOA. Should engagement fail and companies refuse to set targets after due dialogue, we will vote against board members at shareholder meetings and where relevant, as a last resort, will divest.</p>	By 2025	2019
Financing the transition¹	<p>Our targets for financing climate solutions enhance our existing long-term engagement to provide green financing solutions under our impact investing strategy and also counts investments in green certified buildings.</p> <ul style="list-style-type: none"> – Increase allocation to investments in climate solutions. – Avoid 5 million metric tons of CO₂e emissions per year through impact investments. – Contribute to a market environment that enables a growing pipeline of climate solution investments suitable to institutional investors, based on our experience of building a multi-asset class impact portfolio. <p>In 2022, we set ourselves an additional target to allocate 5% of invested assets to impact investments by 2025.</p>	Ongoing	2019

¹ Applies to our investment management portfolio.

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4.4.1 Our targets (continued)

Target	Definition	Target years	Base year
Reduction in operational carbon emissions	Our targets for our own operations ¹ against a 2019 baseline as follows:	By 2025 (interim)	2019
	– Total emissions: absolute reduction in all operational emissions of 60% by 2025 (increased from 50%) and 70% by 2029.		
	– Scope 1 & 2: reduction in emissions from the fleet and onsite heating as well as from purchased electricity, heat and steam (e.g., district heating) of 62% by 2025 and 80% by 2029.	By 2029	
	– Scope 3: reduction in operational emissions resulting from air, rental and rail business travel, employee commuting, strategic data centers, printed paper and waste, as well as indirect energy impacts of 60% by 2025 and 67% by 2029.		

4.4.2 Our performance metrics

This section highlights the key metrics we use to measure and manage climate-related risks and opportunities. They represent a combination of metrics derived from the SASB and WEF IBC standards expanded with further metrics of our own, in line with guidance on metrics from the TCFD.



Underwriting



Carbon intensity

As a founding member of the NZIA, we intend to report our insurance-associated emissions and to independently set targets as we move toward net-zero within our underwriting book.

Referring to the agreed methodology to measure insurance-associated emissions, published by the Partnership for Carbon Accounting Financials (PCAF) in November 2022, we have already started to set a baseline using our underwriting portfolio. We are working through the protocols for target setting announced in January by the NZIA to develop our interim targets and reporting thereof.



Revenues from energy efficiency and low-carbon technologies²

Our products related to energy efficiency and low-carbon technology, separately priced, amount to USD 155 million of gross written premiums and policy fees in 2022 (USD 121 million in 2021). This is driven mainly by an increase in the number of customers shifting from ICE to EV products across the market. Coupled with the first reporting in 2022 of the approved individual coverage to more exposed individuals solution in occupational accident for truckers and independent service providers.

For more information on all our sustainable solutions, please see section 5.1.1 [pages 171 to 174](#).



Underwriting and Investment Management

Thermal coal, oil sands and oil shale

Our thermal coal, oil sands and oil shale engagement campaign officially ended after a two-year period in June 2021.³ Fifty-five companies were placed on an engagement status of “ongoing,” as their transition plans require monitoring. Out of these 55 companies, and as of the 2021 reporting cut off, we did the following to understand their progress against their transition plans:

- Added 5 companies to our exclusion screen as we no longer consider the company’s progress against its stated transition plans to be credible.
- Cleared 10 companies, as they were no longer relevant for our policy, due to their decreasing thermal coal businesses.
- For an additional 10 companies the business relationships ended for reasons unrelated to our policy.
- Began monitoring the remaining 30 companies. Though these companies meet the thresholds of our policy, we have elected to maintain ongoing monitoring as they have not explicitly ruled out future increases in use of thermal coal or oil sands. We are now targeting some of these companies under our net-zero engagement campaign.

In line with our thermal coal, oil sands and oil shale policy, we continue to screen new investments and potential customers for involvement in policy-relevant activities. We will not insure or invest in companies that exceed our thresholds and do not have near-term commitments in place to bring themselves below these limits.

¹ Cover-More, Farmers Group, Inc. and its subsidiaries, joint ventures and third party vendors are out of scope.

² Revenues capture gross written premiums and policy fees.

³ www.zurich.com/sustainability/strategy-and-governance/sustainability-risk

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4.2.2 Our performance metrics (continued)

As such, companies will be added to our exclusion screen before any business relationship has been established. This will not impact the amount of divestments or phased-out insurance premiums.

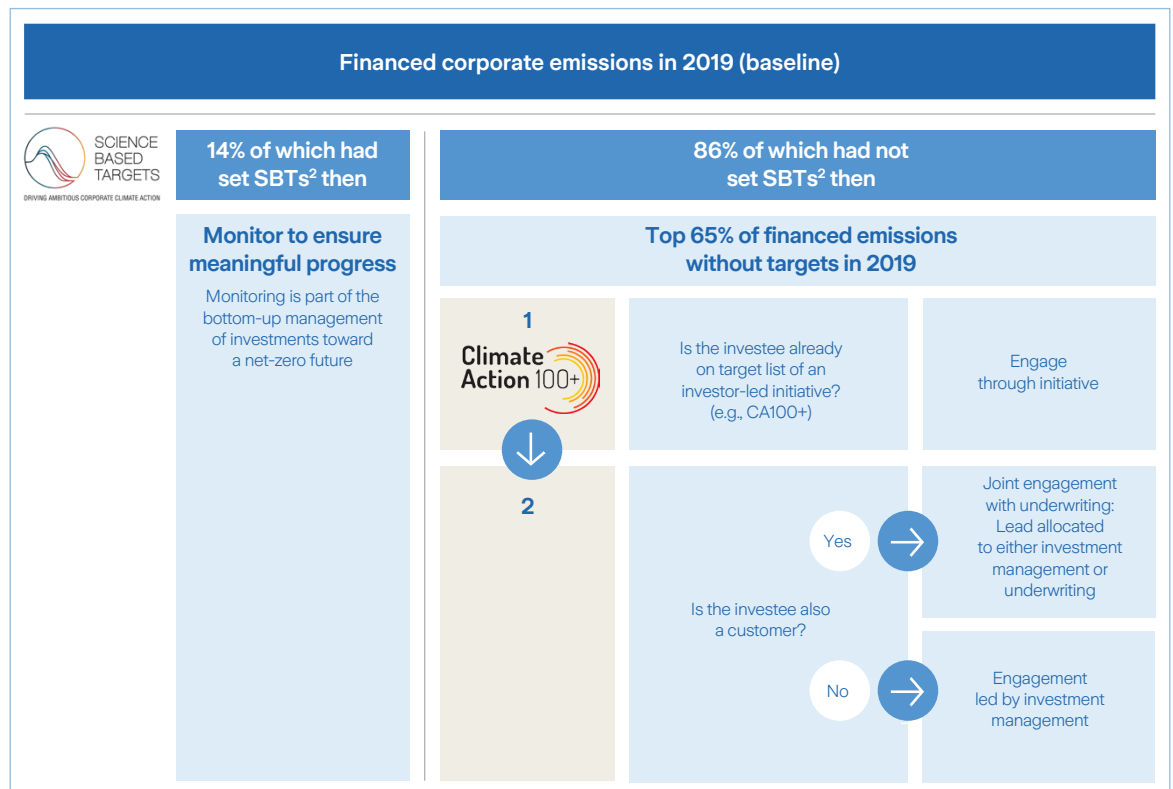
Existing customers and investee companies have the potential to become relevant for our exclusion policy through mergers or divestments. We will continue to monitor for such developments using third-party data sources, however we will not separately report on such cases due to their low impact on our portfolio.



Engagement for the transition

Figure 20

Our engagement approach¹



¹ www.zurich.com/en/sustainability/governance-and-policies/exclusion-policies

² Science-based targets.

Table 4

Engagement progress



	2022	2021
Engagement started	54%	46%
Engagement not started	11%	19%
= Target	65%	65%
Started engagements undertaken...		
Collectively	25%	25%
Bilaterally	29%	21%
...with outcome		
Failed ¹	16%	16%
Ongoing	21%	18%
Succeeded ²	18%	12%

Note: All % corresponding to % of financed emissions in 2019 (baseline) without net-zero targets, cumulative progress since 31.12.2019.

¹ Engagement failed under the thermal coal, oil sands and oil shale policy if it became clear the company would neither move under the 30% threshold nor set net-zero targets and was hence excluded; or that a company approached under the net-zero program refuses to set science-based net-zero targets.

² Engagement succeeded if a company has publicly committed to science-based net-zero targets (under SBTi) or an equivalent scientific verification body.

4. Our planet: Drive positive impact (continued)

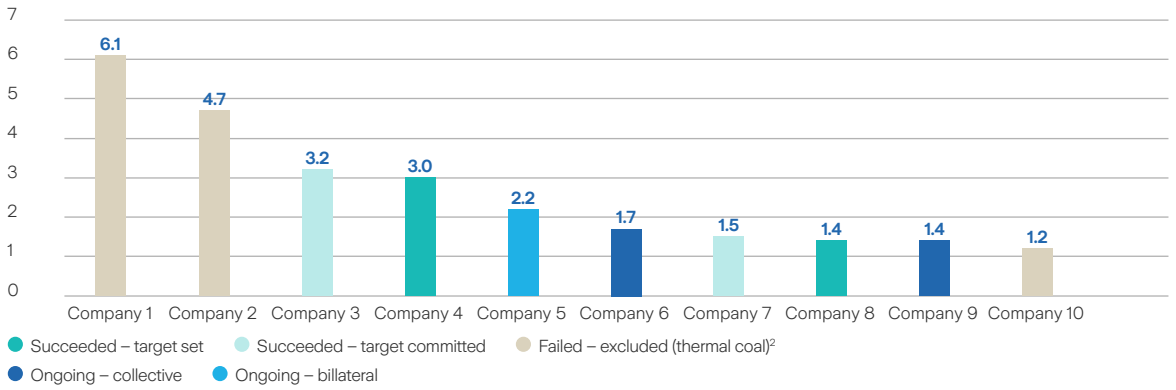
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4.4.2 Our performance metrics (continued)

Figure 21

Engagement progress for top 10 emitters without science-based targets (SBTs)^{1,2}

Financed emissions %

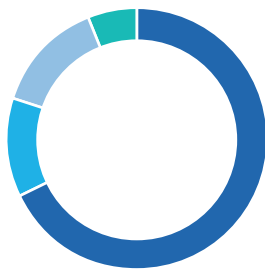


1 Company grouping according to Zurich proprietary methodology, which considers ownership and operational control structures.
2 Failed engagement under thermal coal program means the company was added to the restricted list and hence equity exposure was divested and credit exposure put in run-off.

Figure 22

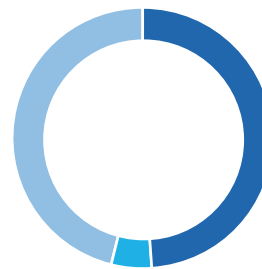
Top 10 emitters without science-based targets (SBTs) by sector and region¹

Top 10 emitters by sector



Utility	68%
Metal and mining	12%
Government owned, no guarantee	14%
Energy	6%

Top 10 emitters by region



EMEA	49%
Americas	5%
APAC	46%

1 Corresponding to financed emissions in 2019 (baseline data).

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4.4.2 Our performance metrics (continued)

In 2022, we advanced our bilateral net-zero engagement campaign (as illustrated above in table 4). We focused on companies with heavy emissions to understand the company's current emission intensity and their transition plans. In cases where the company has not yet established such a plan, Zurich will work with the company to set up a transition plan.

Case study

Since 2019, underwriting and investment management have worked together to continuously engage with a customer and investee company that was one of the highest CO₂e emitters in both our underwriting and investment management portfolios, mainly due to its coal-fired power generation. At the start of engagement, the company indicated its willingness to transition with a clear plan to switch to renewable energy. Annual meetings supported the continued exchange between Zurich, the customer and investee company and provided evidence that the company was indeed on a science-based reduction pathway as part of its sustainability efforts. The company committed to invest EUR 50 billion by 2030, doubling its installed capacity from renewable energy to 50 gigawatts, making them one of the largest players in the renewable energy market.

In addition to direct company engagement, we also participated in working groups supporting sector and asset manager engagement, bilaterally and as part of the NZAOA asset manager workstream. We contributed to an NZAOA paper outlining how asset owners can engage their asset managers on climate change lobbying. The paper will provide guidelines for the investor community to help them drive greater alignment between the systemic long-term interests of asset owners and the policy engagement and public discourse practices undertaken by Alliance members and their asset managers.

We also engage with our asset managers (individually and as part of the AOA) on topics related to climate change.

These can include:

- Asking asset managers to set their own science-based targets.
- Joining the Net-Zero Asset Manager initiative.
- Becoming a signatory to CA100+.
- Making sure asset managers' active ownership policies (proxy voting and engagement) are suitable for managing climate transition risks and are conducive to climate change mitigation and the transition to a climate-neutral economy.

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4.4.2 Our performance metrics (continued)



Investment Management

This section presents a progress update on our investment-related targets. Please note that parentheses around percentages or points indicate a reduction.



Financed emissions

In 2021, we set intermediate targets for 2025 following the guidance of the AOA for the asset classes of listed equity, corporate bonds and real estate. Since the announcement, we have been working on local objective setting, implementation and data improvements. We have broken down the global portfolio target by local business unit and region. This allows us to capture factors such as local market considerations, sector diversification and past and projected pathways of emissions.

We strongly believe that simply divesting from companies with carbon-intensive footprints is less effective than engaging with them to drive the shift to sustainable practices. The findings from our engagement efforts, as described above, will help guide us through portfolio construction and rebalancing actions, benchmark changes and, where relevant and as a last resort, divestments. We aim to reach our targets by phasing out exposures to already restricted names under our thermal coal, oil sands and oil shale policy. Our restricted equity exposure has been divested by the end of 2021 across all local entities (monitored and reviewed periodically), while our corporate credit was either sold or the securities allowed to mature. We are taking portfolio construction actions that allow for potential switches of issuers with a lower CO2e footprint and potential divestments for those cases where no valid transition plans are in place and hence where engagement fails.

Table 5

Assets under Management: corporate portfolio¹

	In scope AuM 2022 (USDbn)	In scope AuM 2019 (baseline) (USDbn)	Difference (2022 to baseline)
Zurich corporate portfolio	47.7	58.5	(19%)
By investment asset class ²			
Listed equity	6.4	10.6	(39%)
Corporate bonds	41.2	47.9	(14%)
By region			
APAC	5.0	4.5	12%
EMEA	29.5	38.2	(23%)
Americas	13.2	15.9	(17%)
By sector			
Utilities	4.0	4.4	(9%)
Government-owned company	1.7	2.7	(37%)
Energy	1.9	2.1	(13%)

¹ AuM covers companies: listed equities and listed corporate credit.

² Corporate portfolio has been newly split by listed equity and corporate bond. Prior year data were calculated retrospectively.

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4.4.2 Our performance metrics (continued)

Table 6

Absolute and relative emissions of the corporate portfolio¹

	Absolute emissions			Relative emissions			Target
	Absolute financed emissions 2022 (million metric tons CO ₂ e) ²	Absolute financed emissions 2019 (baseline) (million metric tons CO ₂ e)	Difference (2022 to baseline)	Relative emission intensity 2022 (metric tons CO ₂ e/1 million market value)	Relative emission intensity 2019 (baseline) (metric tons CO ₂ e/1 million market value)	Difference (2022 to baseline)	
Zurich Corporate Portfolio	5.7	7.9	(29%)	119	136	(12%)	(25%)
By investment asset class							
Listed equity	0.5	1.0	(44%)	84	90	(7%)	
Corporate bonds ³	5.1	7.0	(26%)	125	146	(15%)	
By region							
APAC	1.3	1.8	(27%)	261	400	(35%)	
EMEA	3.2	4.5	(29%)	108	118	(8%)	
Americas	1.2	1.7	(29%)	89	105	(15%)	
By sector							
Utilities ³	2.2	2.7	(19%)	547	616	(11%)	
Government-owned company	0.9	1.4	(38%)	518	529	(2%)	
Energy ³	0.7	0.7	9%	383	305	26%	

¹ In order to provide a comprehensive overview, details incl. prior-year data are shown in the appendix.

² Financed emissions cover scope 1+2 of underlying companies (listed equities and listed corporate credit) attributed with enterprise value methodology and matched based on most recently available emission data.

³ Emission reporting for Zurich-validated green bonds in the Utility and Energy sectors was refined in 2022 to reflect the nature of the financed projects. Please see the green bond validation methodology in our white paper www.zurich.com/-/media/project/zurich/dotcom/sustainability/docs/responsible-investment-at-zurich

Since 2019, we have achieved a reduction in the emission intensity of –12 percent. Zurich's absolute financed emissions declined over the same period by –29 percent. This reduction in financed emissions was mainly driven by i) disposals and changes in our portfolio and ii) structural emission reductions of our investee companies. We observe a meaningful drop in emissions from companies in run-off under the coal/oil sands policy due to maturing assets but also active portfolio management.

The reduction of 2020 emissions benefited from the effect of the COVID-19 pandemic, which resulted in the largest-ever decline in global emissions. With economic activities picking up again in 2021 global CO₂e emissions have rebounded.¹ As per our methodology, we use the latest available corporate emission data as of January, when portfolio-level financed emissions are calculated on an annual basis. Hence, we see the effect of higher reported emissions from companies, compared with the emissions data available last year, to calculate the financed emissions per year end. Despite this reversing effect, we still see a reduction of emissions from issuers.

However, the large financial market correction experienced in 2022 caused a percentage-decline in the enterprise values of our investee companies, which exceeded the noted decline in financed emissions. This larger drop in enterprise value adversely impacted our financed emission intensity metric, which uses enterprise value as the denominator. For further details on our methodology, please see the box on [page 165](#).

Previous years have demonstrated the need to consider both absolute and relative indicators when measuring the emission performance of portfolios. Relative indicators are sensitive to changes in company valuation, whereas absolute emissions are sensitive to strategic shifts in asset allocation. In the long run, it remains our view that alignment with the NZAOA methodology will provide us with a stable and robust metric describing the trajectory our emission reduction pathway.

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4.4.2 Our performance metrics (continued)

Table 7

Corporate portfolio with science-based commitments¹

	% of financed emissions with SBT 2022 ¹	% of financed emissions with SBT 2019 (baseline)	Difference (2022 to baseline)	% of financed emissions in run-off under coal/oil sands policy 2022
Zurich Corporate Portfolio	23.3	14.3	63%	8.0
By investment asset class				
Listed equity	25.9	22.6	14%	
Corporate bonds	23.0	13.2	75%	
By region				
APAC	6.5	1.2	462%	31.5
EMEA	35.7	22.9	56%	0.6
Americas	8.2	5.3	57%	1.9
By sector				
Utilities	19.3	14.4	35%	19.6
Government-owned company	27.5	5.4	406%	1.4
Energy	-	-	0%	0.9

¹ Committed or set targets under SBTi.

Table 8

Assets under Management: real estate portfolio

	In scope AuM 2021 (USDbn) ¹	In scope AuM 2019 (baseline) (USDbn)	Difference (2021 to baseline)
Zurich global real estate portfolio	11.1	11.7	(5%)
By region ²			
EMEA	9.4	10.0	(6%)
Americas	1.7	1.7	3%

¹ Real estate emissions are only available with a four-quarter lag. Emissions in 2022 will be reported in the 2023 Annual Report. Includes investment portfolio buildings only, as own-use buildings fall under our net-zero program and reporting for our own operations.

² Direct real estate holdings form the base for the emission reduction targets. There are no applicable figures for the APAC region available.

Table 9

Absolute and relative emissions of the real estate portfolio

	Absolute emissions			Relative emissions			
	Absolute emissions 2021 (metric tons CO ₂ e) ^{1,2}	Absolute emissions 2019 (baseline) (metric tons CO ₂ e)	Diff (2021 to baseline)	Relative emission intensity 2021 (kg CO ₂ e/sqm) ³	Relative emission intensity 2019 (baseline) (kg CO ₂ e/sqm)	Diff (2021 to baseline)	Target
Zurich global real estate portfolio⁴	39,362	53,181	(26%)	17.2	21.6	(20%)	(30%)
By region ⁵							
EMEA	27,897	41,153	(32%)	18.2	22.9	(21%)	
Americas	11,465	12,028	(5%)	15.3	18.0	(15%)	

¹ The CO₂ emissions are calculated according to the location-based method. In cases where the data is available or properties use onsite/offsite renewable energies, the market-based methodology is applied.

² The emission factors are retrieved from the International Energy Agency (IEA, 2020) with exception of Switzerland for local calculation references (Intep, REIDA 2022 and local authorities) which are aligned with IEA.

³ The relative emissions intensity is calculated based on gross floor area (GFA) of the buildings.

⁴ Real estate emissions are only available with a four-quarter lag. Emissions in 2022 will be reported in the 2023 report. Includes investment portfolio buildings only, as own-use buildings are part of our operational emissions target.

⁵ Direct real estate holdings form the base for the emission reduction targets. There are no applicable figures for the APAC region available.

For our direct real estate portfolio, we are aiming to reduce our relative emission intensity by 30 percent by 2025, from a 2019 baseline. Our target includes scope 1 and 2 emissions, the so called 'operational emissions.'¹ Since 2019, we have reduced our carbon emissions by 20 percent and are progressing well toward our 2025 target.

Our carbon emissions have decreased by 15.7 percent compared with the results in 2020, even as occupancy levels increased in our buildings due to the easing of COVID-19 restrictions. The decrease was largely due to a higher share of green electricity, which has tripled since 2019, in line with our strategy. We achieved further reductions through energy efficiency initiatives and refurbishment projects.

¹ Scope 1 emissions, also known as direct emissions, are defined as emissions from sources that exist "on site" of an asset. These include primarily emissions from onsite heating systems. A common example of Scope 1 emissions for real estate is natural gas and oil burned onsite. Scope 2 emissions are defined as emissions that are related to purchased electricity, heat, steam or cooling. This energy is consumed by the assets but generated offsite.

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4.4.2 Our performance metrics (continued)

Absolute emissions	Relative emissions (intensity)	Key
$\sum_{i=1}^n \left(\frac{C_i}{EV_i} \times I_i \right)$	$\frac{\sum_{i=1}^n \left(\frac{C_i}{EV_i} \times I_i \right)}{\sum_{i=1}^n I_i}$	<p>I: Current value of investment on issuer <i>i</i></p> <hr/> <p>EV: Enterprise value of issuer <i>i</i></p> <hr/> <p>C: Carbon emissions* of issuer <i>i</i></p> <p>* Carbon emissions = scope 1 and scope 2 emissions</p>
<h4 style="text-align: center;">Emission reduction target-setting methodology and scope</h4> <p>Following the release of the NZAOA protocol, we announced our initial set of interim (2025) targets in March 2021. The targets cover the following:</p> <ul style="list-style-type: none"> – Listed equity, listed corporate debt and direct real estate. – Thirty-six percent of our assets under management in the baseline year of 2019. <p>We chose to calculate corporate-financed emissions and the resulting relative emissions intensity using the protocol's preferred approach, which is based on enterprise value, not revenue.</p> <p>While a revenue-based carbon intensity measure is a good way to compare companies based on their size and underlying technology, NZAOA members believe the enterprise value approach is a better way to convert a corporation's operational emissions (scope 1+2) into the "financed emissions." This can be attributed to a company's underlying equity and/or debt investors, who are ready to take additional responsibility for these emissions. To calculate corporate financed emissions, we use the following methodology:</p> <ul style="list-style-type: none"> – Scope 1+2 emissions in line with the GHG protocol are provided by S&P Trucost. <p>– Enterprise value is defined as the sum of market capitalization of common stock at fiscal year end, the market capitalization of preferred equity at fiscal year end, and the book values of debt and minorities' interests minus the cash and cash equivalents held by the enterprise. When enterprise value is not available (for example for financial companies) it is substituted with market capitalization. Enterprise value data is provided by S&P Trucost.</p> <p>Market value is defined as the market value of listed equities and listed corporate debt at fiscal year end.</p> <p>While all financial data (enterprise value and market value) is calculated as of December 31 of the reporting year, we use the latest available corporate emission data available as of January each year, when portfolio-level financed emissions are calculated on an annual basis. This means that emissions data is systematically lagging. For example, financed emissions for 2022 will be largely based on full-year 2021 emissions data, as full-year 2022 emissions data will only be made available by investees in H1 2024, and tends to flow to data providers via CDP submissions in the fourth quarter of a given year.</p>		

To increase transparency and improve the quality of our portfolio, we are aiming to increase the share of green certified buildings in our global real estate portfolio to 30 percent by 2025. We are also working on enhancing the completeness of our data and reported a coverage ratio¹ of 65 percent for 2021.

Table 10

Green certified buildings¹

	% green certified buildings 2022	% green certified buildings 2021	% green certified buildings 2020	% green certified buildings 2019	Target 2025
Zurich Global Real Estate Portfolio¹	25%	19%	22%	25%	30%
APAC	0%	-	-	-	
EMEA	27%	20%	23%	28%	
Americas	17%	19%	18%	17%	

¹ Market-value weighted and based on balance sheet investments, incl. buildings used by Zurich.

As a founding member of the NZAOA, we apply the NZAOA methodology to listed equity, corporate bonds and direct real estate. Given the importance of sovereign debt for institutional investors, we are currently working with the NZAOA to develop a methodology that allows targets to be expanded to sovereign debt.



Financing the transition 2022

Climate solutions are investments in economic activities that contribute substantially to climate change mitigation or adaptation. These are solutions that reduce greenhouse gases by avoiding emissions and/or by sequestering carbon dioxide already in the atmosphere. Further examples of solutions include investments in climate change adaptation that contribute to enhancing adaptive capacity, strengthen resilience and reduce vulnerability to climate change.

¹ The coverage ratio is the gross floor area (GFA) in square meters (m²) of completed properties for which data is collected as a percentage of the total GFA area in m² of all completed properties in the portfolio.

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4.4.2 Our performance metrics (continued)

Our targets for financing climate solutions enhance our existing long-term engagement to provide green financing solutions under our impact investing strategy and also counts investments in green certified buildings. For further information on our impact investment approach, please see [pages 167 to 168](#).

Table 11

Financing the transition 2022

	2022	2021	2020	2019 (baseline)	Diff (to baseline)	Target
Climate solution investments (USDm)	8,675	8,203	8,054	7,408	17.1%	upward trend
of which green impact investments ¹	4,640	5,115	4,424	3,662	26.7%	
of which green certified buildings ^{2,3}	4,035	3,088	3,631	3,747	7.7%	
 Million metric tons CO ₂ e avoided through climate-related impact investments ⁴	3.2	4.6	2.9	2.8	13.1%	5

¹ Values refer to the environmental share of Zurich's impact investments displayed in table 13: Impact investing portfolio.

² Green certified buildings based on balance sheet investments, incl. buildings used by Zurich.

³ Values refer to the share of green certified buildings of Zurich's global real estate portfolio displayed in table 10: Green certified buildings.

⁴ Impact numbers for 2021 and following include methodology upgrade, as explained in Zurich's impact measurement methodology paper: www.zurich.com/-/media/project/zurich/dotcom/sustainability/docs/zurich-impact-measurement-framework.pdf



Other Responsible Investment KPIs

The following section shows the progress we have made with our responsible investment strategy in 2022 and over the last six years.

Responsible Investment strategy KPIs

Our responsible investment strategy is aimed at successfully managing Zurich's proprietary investment assets, while mitigating costs to the environment and delivering benefits to society. Our strategy is based on three pillars:

- **ESG integration:** integrate ESG factors into the investment process – across asset classes and alongside traditional financial metrics while generating superior risk-adjusted, long-term financial returns.
- **Impact investing:** build an impact investing portfolio that makes a positive contribution to the environment and society, to improve the lives of 5 million people and to help avoid the emission of 5 million metric tons of CO₂e per year.
- **Advancing together:** make responsible investment mainstream through collaborative engagement with other industry participants and engaging with policy makers to build markets in which ESG risk is priced efficiently and decarbonization is incentivized.

In 2022, we committed to allocating 5 percent of our proprietary assets to impact investments by 2025. Zurich evaluates impact investments within the context of specific asset classes and creates dedicated strategies for impact investments for each class. We continue to grow our existing global impact investment portfolio and evaluate new prospective opportunities across asset classes to broaden our approach.

Table 12

Investment portfolio managed by responsible investors

	2022	2021	Change	2020	2019	2018
Assets managed by responsible investor ¹	99.6%	99.6%	0pts	99.6%	98.2%	97.5%
Total amount of impact investments (USD millions)	6,328	7,037	(10%)	5,770	4,555	3,790
% of investment portfolio	3.8%	3.3%	13ppts	2.5%	2.2%	1.9%
Investment portfolio (USD millions) ²	168,478	211,334	(20%)	226,389	204,803	195,472

¹ A United Nations supported PRI signatory or asset manager that fulfills our minimum requirements for ESG integration.

Please see our responsible investment white paper: www.zurich.com/-/media/project/zurich/dotcom/sustainability/docs/responsible-investment-at-zurich

² Investment portfolio is calculated on a market basis, and is different from the total Group investments reported in the consolidated financial statements, which is calculated on an accounting basis and doesn't include cash and cash equivalents.

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4.4.2 Our performance metrics (continued)

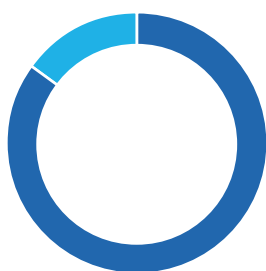
Proxy voting

As part of our active ownership strategy, we require all our managers for listed equities to exercise their voting rights on directly held equities. For our in-house asset management, we ensure that outcomes of engagements are linked to the proxy voting process to form a consistent active-ownership approach. This means that where engagement as part of our net-zero program fails and companies refuse to set targets after due dialogue, we will vote against board members at shareholder meetings.

Figure 23

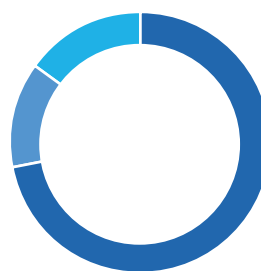
Proxy voting 2022

Our voting activities in 2022



● Votes cast	85%
● No votes cast	15%

Our voting behavior in 2022



● Voted with management	72%
● Voted against management	13%
● No votes cast	15%

In 2022, we voted 85 percent of our in-scope equity. Close to 80 percent of our equity investments are in scope for proxy voting, please see proxy voting policy for further details. The share of voted equity remains stable when compared to 2021, reflecting last year's successful full roll out of proxy voting to Zurich's externally managed equity portfolios. We measure the votes we cast based on assets under management. Reasons for votes not cast are a combination of portfolio turnover, cost/benefit considerations and voting restrictions (such as demands to vote in person, share blocking or requirements that increase the cost of voting).

Impact investing

Impact investments are investment opportunities that allow us to intentionally target a specific and measurable social or environmental impact. Zurich has set a target to help avoid 5 million metric tons of CO₂-equivalent emissions per year, and, separately, make a positive contribution to the lives and livelihoods of 5 million people through its impact investing portfolio. We also committed to investing 5 percent of our proprietary investment portfolio to impact investments by 2025, which will help grow our allocation to climate solutions and investments benefiting society.

We are proud that our impact investment approach won three awards in 2022, recognizing our thought leadership as institutional investor in this area.



In 2022, our impact investing portfolio of USD 6.3 billion helped avoid a total of 3.2 million metric tons of CO₂e emissions and benefited 4.7 million people.¹

¹ Please see www.zurich.com/sustainability/customers/investing-responsibly/impact-investment for more details on impact investing approach. Impact numbers for 2021 and following include methodology upgrade, as explained in Zurich's impact measurement methodology paper: www.zurich.com/-/media/project/zurich/dotcom/sustainability/docs/zurich-impact-measurement-framework.pdf

4. Our planet: Drive positive impact (continued)

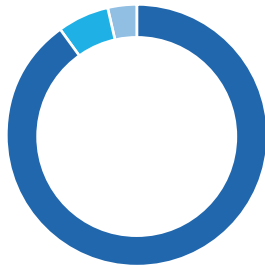
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4.4.2 Our performance metrics (continued)

Figure 24

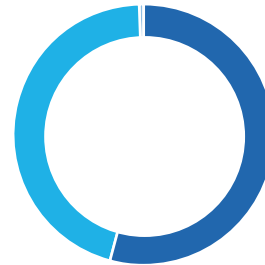
Impact metrics

3.2 million metric tons CO2e emissions avoided



Green, Social and Sustainability bonds	90.1%
Impact private equity	6.4%
Impact infrastructure private debt	3.5%

4.7 million people benefited by positive contribution to the lives and livelihoods



Green, Social and Sustainability bonds	54.4%
Impact private equity	45.3%
Impact infrastructure private debt	0.2%

Impact investing

Table 13

Impact investing portfolio

	2022	2021	Change	2019	2018	2017
Total amount of impact investments (USD millions)	6,328	7,037	(10%)	4,555	3,790	2,830
Total amount of impact investments – environmental share	73%	73%	–	–	–	–
Total amount of impact investments – social share	27%	27%	–	–	–	–
Green, social & sustainability bonds (USD millions)	5,247	5,846	(10%)	3,645	3,104	2,714
Impact private equity (USD millions)	213	211	1%	163	145	116
Impact infrastructure private debt (USD millions)	867	980	(12%)	747	540	–

Advancing together

Responsible investment will only truly have an impact if financial market participants advance together to take this approach mainstream. Supporting collaborative initiatives and working together with other industry participants to advance responsible investment practices forms an integral part of our approach. We have signed the UN-backed PRI as well as the Principles for Sustainable Insurance (PSI) and collaborate with several industry initiatives and research bodies. Most notably, we are a founding member of the NZAOA, as well as the Investor's Leaders Group (ILG), facilitated by the Cambridge Institute for Sustainability Leadership. We co-chaired the Executive Committee of the Green and Social Bond Principles for the first six years after its formation and represent asset owners on the Advisory Board of the Operating Principles for Impact Management. In 2022, we actively participated in 20 membership organizations. Our colleagues spoke about responsible investment at 24 conferences and other industry events around the globe.

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4.4.2 Our performance metrics (continued)



Own Operations

Please see the table below for progress on Group targets for our own operations against a 2019 baseline. Please note that parentheses around percentages or points indicate a reduction.



Sustainable operations

The Group has set the following targets for its operations against a 2019 baseline:

Table 14

Absolute carbon emissions coming from our own operations^{1,2}

Key performance indicator	Unit of measurement	WORLD ECONOMIC FORUM		2019 (base year) ¹	2021 change relative to base year	Target reduction 2025	Target reduction 2029
		2021	2020				
Absolute carbon emissions	CO ₂ e	48,555	72,027	180,805	(73%) ²	60%	70%
Absolute reduction in all operational emissions	(metric tons)						
Scope 1 + 2 emissions	CO ₂ e	21,424	28,262	48,290	(56%) ²	62%	80%
Reduction in emissions from the fleet and onsite heating as well as from purchased electricity, heat and steam (e.g., district heating)	(metric tons)						
Scope 3 emissions	CO ₂ e	27,131	43,766	132,515	(80%) ²	60%	67%
Reduction in operational emissions resulting from air, rental and rail business travel, employee commuting, strategic data centers, printed paper and waste, as well as indirect energy impact	(metric tons)						

¹ Cover-More, Farmers Group, Inc. and its subsidiaries, joint ventures and third party vendors are out of scope.

² During the annual audit of our environmental data 2021 performed in the first half of 2022, a number of data quality improvement opportunities were revealed. Therefore the 2021 results also include restated 2019 and 2020 data.

For details please see: www.zurich.com/sustainability/planet/net-zero-in-operations

In 2021, carbon emissions have continued on a downward trend, extending our overperformance against future targets. This is largely due to the full-year impact of the COVID-19 pandemic and the resulting lockdowns and travel bans. Commuting emissions are the largest source of emissions for Zurich. Commuting data was collected from an all employee global survey conducted in 2020, to understand 2019 commuting behavior. As employees continue to work partly from home, we have once again applied assumptions to the 2019 results. An additional survey was not warranted. Air travel, as the second-largest contributor to Zurich's emissions, has shown real reductions of 91 percent. With our ambition to keep air travel 70 percent below pre-pandemic levels, we intend to maintain the majority of these real reductions in 2022 and onwards even as restrictions on travel from the pandemic are lifted. Fleet emissions declined compared with 2019, in line with a reduction in overall distances travelled and due in part to the transition to more sustainable vehicles.

The most notable emissions reductions unrelated to the COVID-19 pandemic are attributed to progress made with purchasing more renewable power. We have increased the share of renewable power we use to 98 percent in 2021, nearing our 2022 goal of 100 percent.

In 2022, we restated 2019 and 2020 data to try to close coverage gaps and address the findings of the reasonable assurance audit. During the assurance audit on our 2021 data, we agreed, together with the auditors, to make improvements to the quality of a number of data points that only became available after the reporting period closed for the previous year. We focused on solutions to address data in a material manner, however we looked at materiality from a global perspective, from individual emissions categories and from a country perspective. We also found and addressed a system error in the calculation of 2019 commuting emissions. This resulted in an increase to our global base year emissions of approximately 10 percent.

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Our customers

Building a brighter future together with our customers.

We strive to be a truly customer-led company. In the last six years, we have been making progress toward this goal beginning with our purpose – create a brighter future together, and our brand framework, which defines our values and behaviors as well as our promise to customers, employees, partners and planet. For our customers, this means putting their needs at the heart of everything we do. Throughout our 150-year history, we have proven to be a reliable and trustworthy company in an unstable world, with a long history of using our expertise to care for people and planet. As customer expectations evolve, we will evolve with them to create relevant, innovative products and frictionless customer experiences.



Customers are at the core of our business. They include individuals, small businesses, mid-sized and large companies, and multinational corporations. We create value for our customers by helping them understand, prevent and protect themselves from risk. At Zurich we continue to take action to build more meaningful relationships with customers.

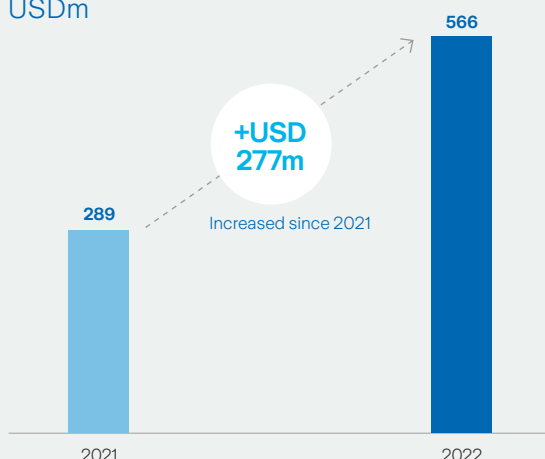
Conny Kalcher
Group Chief Customer Officer



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Revenue from sustainable solutions doubled in 2022

USDm



Customers we've listened to in 2022



1.2m
customers

Increase in customer satisfaction since 2021



TNPS¹
+6.9-point

¹ TNPS includes Argentina – Life, Australia – Life, Australia – P&C, Austria, Brazil, Chile, Germany, Hong Kong, Indonesia – Life, Indonesia – P&C, Ireland, Isle of Man, Italy, Japan – Life, Japan – P&C, Luxembourg, Malaysia – Life, Malaysia – P&C, Mexico, Middle East Life, Portugal, Sabadell, Santander, Spain, Switzerland, Turkey, UK and ZNA.

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5.1 Customer experience and customer-centric solutions

Our vision is to build meaningful relationships with our customers. In 2021, we defined our Customer Experience Strategy, underpinned by a comprehensive set of standards for both retail and commercial insurance customers. These standards provide the quality benchmark for customer experience across the entire organization. By exceeding requirements of local laws and regulations for customer experience, we are better positioned to meet and surpass the expectations of our customers. All country business units have completed, or are undergoing, assessments to measure performance against our customer experience standards before setting action plans for remediation and continued improvement.

The standards cover a range of touchpoints throughout the customer journey (browsing, purchasing, joining, servicing, claiming, renewing etc.) and are set at different levels. These levels are:

- Red line standards, which uphold basic customer expectations beyond regulatory requirements.
- Target standards, which ensure we exceed expectations, for example, ensuring customers can access a simple, plain-language, single-page summary of complex documents or policies.
- Signature standards, which make us unique in the eyes of our customers.

These standards inform initiatives on both a local and Group-wide level, such as offering customers sustainable options (e.g., repair, not replace) and empathy training for front-line employees. Initiatives to improve performance to meet Zurich's customer experience standards are centrally recorded, tracked and mapped against customer KPIs, notably through transactional net promoter scores (TNPS) and relational net promoter scores (RNPS).

5.1.1 Revenues from sustainable solutions



Measuring our sustainable solutions through our internal definition

In 2021, we established our own definition of sustainable solutions and measured their associated revenues for the first time. A product/service must undergo a thorough assessment and meet our stringent criteria in order to be classified as a sustainable solution, any new solutions brought forward are approved throughout the year.

The term sustainable solutions refer to insurance products, add-on coverages, investment products and advisory services that are designed or adapted to support activities that generate a positive environmental or social impact and contribute to the mitigation of climate risks.

The table below provides a definition of revenues from sustainable solutions across three categories (environmental, social and investment).

Table 15

Internal definition of revenues from sustainable solutions

Revenues from sustainable environmental solutions	Solutions related to technologies and/or activities that have an impact on reducing greenhouse gases, preserve or enhance biodiversity as well as enable the responsible use of natural resources. These solutions aim to mitigate and support resilience against the adverse impact of environmental related risks on our customers.	Examples include: <ul style="list-style-type: none"> – Insurance coverage for electric vehicles. – Insurance coverage for carbon mitigation solutions. – Risk prevention services that contribute to more customer awareness and resilience to the adverse impacts of climate change e.g., flood resilience.
Revenues from sustainable social solutions	Solutions that enhance the social or financial inclusion of socially disadvantaged people, or are designed to incentivize healthy lifestyles and safe behavior.	Examples include: <ul style="list-style-type: none"> – Life protection for customers with existing chronic diseases such as diabetes or cancer. – Life protection policies sold in a bundle with LiveWell. – Micro-insurance for low-income customers, e.g., insurance for smallholder farmers.
Revenues from sustainable investment solutions	Investment products with a focus on sustainability both specific, and not-specific, to environmental and social aspects.	Examples include: <ul style="list-style-type: none"> – Unit-linked products investing in funds focused on sustainable environmental and social factors, e.g., ESG funds.

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5.1.1 Revenues from sustainable solutions (continued)



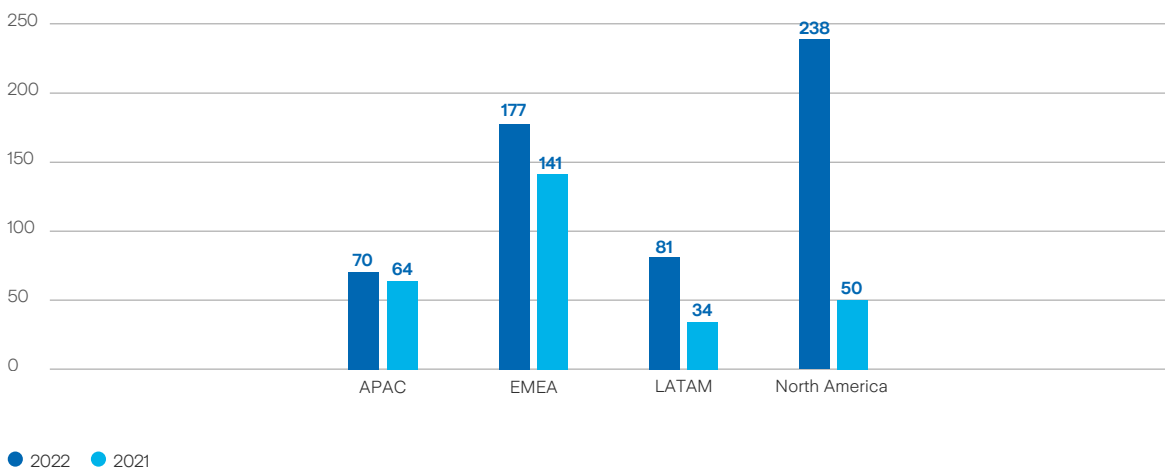
Several products incentivize health, safety, and/or environmentally responsible actions and/or behavior.

We offer retail customers in Austria a 20 percent payback, above the cost of a property restoration after damage, when environmentally friendly materials are used in reconstruction. Our flood resilience toolkit in the UK helps customers reduce the flood risk in their properties. In Ireland, we offer a discount on motor cover to those customers who also own a commuter ticket for travel on public transport.

In North America, we cover additional costs that might occur when choosing environmentally friendly alternatives to rebuild property after damage, thereby helping customers rebuild in compliance with existing or emerging green standards.

In Indonesia, we provide health protection for those who would not ordinarily get cover, for example those who have existing health conditions, as well as those who have been diagnosed with dengue, typhoid, pneumonia, diphtheria, and meningitis.

Figure 25
Revenues from sustainable solutions by region
In USD millions



Sustainable solutions meeting our internal criteria generated approximately USD 566 million (0.7 percent of our total gross written premiums and policy fee income) in revenues during 2022 (USD 289 million in 2021), with the largest contributions coming from North America at USD 238 million and EMEA with USD 177 million, providing a percentage increase of 377.3 percent and 25.8 percent, respectively.

EMEA contributed just under a third of the revenues from sustainable solutions in 2022 at 31.3 percent, driven by growth in EV, sustainable energy and unit-linked solutions. North America contributed 42.0 percent of our revenues this year, driven by the first time inclusion of the workers compensation solution for truckers and independent service providers. APAC contributed 12.3 percent of sustainable revenues including both electric vehicle and solutions offered through our LiveWell business. LATAM generated revenues of USD 81 million, contributing 14.4 percent, mainly driven by our individual coverage to more exposed individuals solutions, for example the health solutions covering broken bones and burns for vulnerable customers as well as for health professionals impacted by the COVID-19 pandemic.

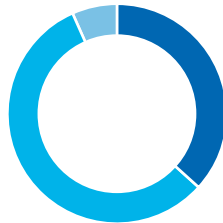
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5.1 Revenues from sustainable solutions (continued)

Figure 26

Revenues from sustainable solutions by category

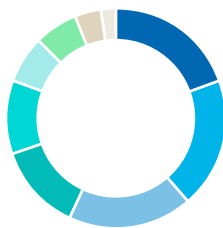


● Environmental	36.7%
● Social	56.9%
● Sustainable investment	6.4%

The chart on the left shows the breakdown of sustainable revenues by category (environmental, social and investments). Social solutions are now the biggest contributor at 56.9 percent, with environmental solutions at 36.7 percent of sustainable revenues and investment products contributing 6.4 percent.

Figure 27

Revenues from sustainable solutions by product category



● Electric vehicles	19.6%
● Individual coverage to more exposed individuals	19.2%
● Workers compensation for socially disadvantaged customers	18.1%

● Life protection for customers with existing health conditions	12.9%
● Renewable energy	10.8%
● Premiums from products sold in a bundle with LiveWell proposition	7.0%

● Unit-linked products	6.4%
● Zurich Resilience Solutions (including climate change resilience services)	3.8%
● Other	2.1%

The chart above shows the breakdown of revenue by product. The two largest segments come from the electric vehicle and Individual coverage to more exposed individuals products with USD 111 million and USD 109 million respectively, or 19.6 and 19.2 percent of our sustainable revenues. While our workers compensation product for socially disadvantaged customers generated USD 103 million, 18.1 percent of total revenues.

In 2022, there were three product categories that contributed the most to the increase in our sustainable revenues result, namely micro-insurance coverage, EV and workers compensation for socially disadvantaged customers.

Our individual coverage to more exposed individuals solutions are a top revenue generator in 2022, with revenues coming from our new farmers crop coverage against climatic, natural and biological events in LATAM. In addition, revenues from our credit life insurance, which provides cost-effective cover for low-income customers, contributed to the growth in this category.

EV has also seen growth in 2022, reflecting the growing number of drivers choosing to buy EVs over ICE vehicles. Our expansion into e-mobility products, such as coverage for e-bikes, pedelecs and Segways, also contributed to our revenue position in 2022.

Revenues from our workers compensation for socially disadvantaged customers reported for the first time in 2022 contributing USD 103 million to our results. The solution provides workers' compensation for occupational accident to those individual contractors engaging in short-term, temporary work, who would not ordinarily receive it.

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5.1.1 Revenues from sustainable solutions (continued)

Case study

Electric vehicles

Our approved EV solutions are sold to both retail and commercial customers for vehicles that are 100 percent electric. Although Zurich provides cover for hybrid vehicles, they do not meet our stringent criteria for sustainable revenues and are therefore not included in the above numbers for our sustainability reporting.

As an incentive to our retail customers, in Italy we offer a 50 percent discount on their car insurance if the vehicle is fully electric. Switzerland offers our retail customers a 20 percent discount on their vehicle insurance if the vehicle is electric, including e-vans, -cars and -motorbikes.

In Spain, we extended our standard motor policy to cover the additional needs of our EV retail customers, for example, including coverage for theft of a charging cable or damage done to home charging infrastructure. The roadside assistance product in Spain includes taxi fares should the car battery go flat. In Switzerland, we also cover the loss, theft, misuse and hacking of a charging card or app, including replacement costs.

In Turkey, our liability cover extends to firms in the retail sector who are actively converting light commercial vehicles from diesel to electric.

Sustainable energy

Our sustainable energy products provide coverage for construction of solar and wind power farms. For example, our commercial business in Brazil covers all risks, such as property damage, liability and inland transit. Our retail customers in Switzerland are covered for alternative energy production, for example, geothermal probes and heat pumps, as well as fleet insurance for hydrogen-fueled trucks.

In the commercial business, our energy coverage includes property business in the energy segment, namely property damage, machinery breakdown and business interruption. These policies include the coverage of locations generating electricity from hydro, wind, geothermal and photovoltaic facilities and equipment.

Our household cover in Ireland includes risks associated with solar panel installation and heat pumps, while in Italy, customers who have installed solar panels receive a 50 percent discount on household cover.

As more of our retail customers in Austria install solar panels onto their homes, we developed extensive coverage for solar panel- and solar energy plants, which covers, for example, costs from indirect lightning strikes, malicious attacks, breakdown and negligence, as well as constructional faults, material defects, fabrication defects and the breakdown of safety devices.

5.1.2 Innovating for our customers

We believe insurance is key to facilitating the change required to achieve the low-carbon transition from two perspectives. Firstly, we work with customers and collaborate with public and private organizations to enhance resilience and advocate for solutions to prevent or minimize damage and harm from climate-related perils. Secondly, we develop insurance and risk management solutions for new technologies, business models and approaches that are needed to achieve a climate-neutral economy and provide our expertise to ensure management of the associated risks during implementation. We also use capital markets to search for and fund solutions to many pressing social or environmental issues. Our sustainable revenues provide our customers with innovative solutions, for example one of our Life Insurance products includes additional services to promote a healthy lifestyle, such as therapy, a second medical opinion, a nutritional consultation and health check without any additional costs.

Climate risk solutions

With respect to physical and operational risks potentially impacting our customers, we have expanded our existing natural hazards risk advisory service to include climate change risks. As part of our Climate Change Resilience Services (CCRS), a dedicated team of climate risk experts helps businesses better understand how climate change risk may affect their operations, strategy and financial position and ultimately strengthen their resilience to climate risks. This team not only supports customers in the development of resilience strategies and execution of the necessary measures, but also in various sustainability disclosure initiatives, e.g., TCFD, EU-Taxonomy for sustainable activities, and other regulatory frameworks. The team's approach is science-based and data-driven.

Unit-linked products

In 2022, we continued developing innovative unit-linked ESG solutions and making them available to more of our Life customers. We launched the Swiss Green Bonds Global Fund and articulated our carbon-reduction ambition on both the equity and credit allocations within our Irish multi-asset funds.

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5.1.2 Innovating for our customers (continued)

The Zurich Carbon Neutral World Equity Fund combines a well-diversified investment in the world equity universe with a low-carbon investment strategy with subsequent carbon-offsetting.¹ The fund seeks an investment strategy in alignment with the 1.5°C target of the Paris Agreement.

Since the launch of the fund, we have seen positive feedback from our customers and distributors. As a result, the fund is now available in eight different countries: Chile, Germany, Italy, Malaysia, Portugal, Spain, Switzerland and the United Arab Emirates. Despite challenging environment for financial markets, net flows into the fund were EUR 86 million with assets under management reaching EUR 253 million as at the end of 2022.

At the same time, we have started working on expanding the carbon-neutral fund range and further strengthening the fund's ESG focus.

Zurich Global Ventures

Additionally, Zurich Global Ventures, an innovation hub that drives the development of a series of independent and multi-faceted insurance-related solutions, was created (2021) with the aim, amongst others, of providing innovative services and product offerings that go beyond traditional insurance coverage and are available across markets globally. The goal is to get closer to our customers by offering a customized, proactive and digital experience that empowers individuals and businesses to be better prepared for the future. These new products and services complement our existing insurance propositions, with the aim of providing our customers with a wide range of solutions that meet their needs.

5.2 Customer attraction and retention



Customer retention rate

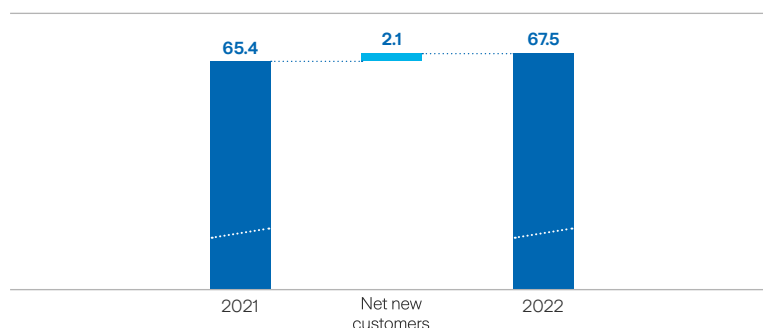
Figure 28

Retail – customer retention rate and net new customers 2022

Retail retention rate²
(2022)

83%

Net new customers³
Customer (m)



Within our insurance business, we continue to see growth in our retail customer base, adding an additional 2.1 million³ customers in 2022 and growth in our partnership deals. Our ability to continue driving growth here is testament to our constant efforts to build meaningful relationships with our customers and distribution partners. In addition to the customer growth in our retail business, we have also delivered premium growth in our P&C commercial business across all regions within the Group.

¹ For the carbon offsetting, Zurich partners with one of the largest REDD+ peat swamp forest projects in the world. REDD+ is a United Nations-backed framework that aims to curb climate change by stopping the destruction of forests. REDD stands for "Reducing Emissions from Deforestation and forest Degradation"; the "+" signifies the role of conservation, sustainable management of forests and enhancement of forest carbon stocks.

² The customer retention rate is calculated based on retail core customers in the business units mentioned in footnote 3, excluding our affinity partners in Brazil, Germany, Indonesia - P&C and the bank joint ventures with Banco Sabadell and Banco Santander. This exclusion is due to the lower degree of operational control we have on the retention rate of these customers. When calculating the customer retention rate, the attrition of customers in employer-sponsored plans (e.g., life insurance plans) due to turnover (voluntary or involuntary) is not applicable. Additionally, the split between voluntary and involuntary lapse was not made.

³ The number of customers and net new customers are calculated based on retail customers in the following business units: Argentina, Australia Life & P&C, Austria, Brazil, Chile, Ecuador, Germany, Hong Kong, Indonesia Life and P&C, Ireland, Italy, Japan Life and P&C, Mexico, Malaysia, Portugal, Santander, Spain, Switzerland and the UK. To calculate these KPIs, the 2021 numbers have been recalculated to include nine additional countries. New countries in scope are: Argentina, Austria, Chile, Ecuador, Hong Kong, Indonesia Life and GI, Ireland, Mexico, Malaysia and Portugal. Besides extending the scope of countries included, 2021 customer counts were adjusted for reasons including data cleansing and inclusion of portfolios not previously reported.

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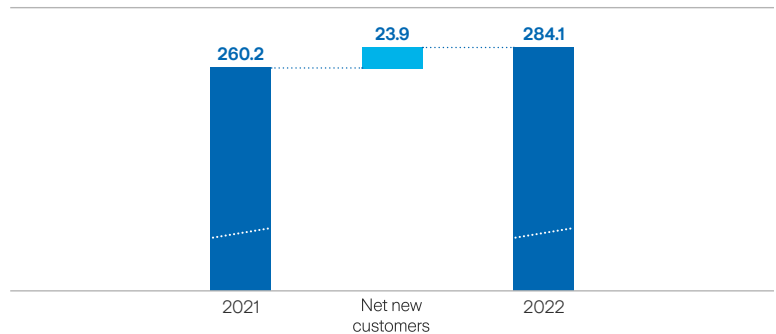
Figure 29

Commercial Insurance – customer retention rate and net new customers 2022¹

P&C commercial retention rate (2022)

85%

Net new customers Customer (k)



Commercial Insurance pursues a customer-focused strategy which saw almost 24,000 net new customers added to the portfolio in 2022. Targeted growth has been achieved in the desired markets whilst delivering a constant and stable customer retention of 85 percent. The 2022 results reinforce our focus on maintaining customer loyalty while continuing to apply underwriting discipline. This consistency is testament to the strong relationships firmly established with our customer and distribution partners across multiple geographies and segments.

Our Corporate Life and Pensions (CLP) business has 31,430 customers globally.² CLP enjoys long-term relationships with customers due to its proven relationship management model, with dedicated specialists both locally and globally who focus on our strategic distributor and customer relationships. In addition, in 2022 we made a number of innovations to our products to address the evolving needs of our corporate customers and their employees. One example is the refresh of Australia's Zurich Corporate Care product, which includes Zurich's well-being solution, LiveWell, and has led to an acceleration of new business growth. Finally, CLP is looking to expand its footprint in select markets, for example, in the UK, Zurich launched a new digital portal that caters to brokers who work with SME corporates.

Listening to our customers

Our strong performance across all three segments gives us confidence that we are moving in the right direction to offer products and services that are attractive and relevant to our retail and commercial customers. We continue to evolve our customer experience by listening to and acting on customer feedback through our TNPS programs. We surveyed around 1.2 million customers in 2022 across our business and acted based on their feedback. Actions ranged from small optimizations of processes to more sizeable and cross-functional measures. One example is the improvement of customer experience at our service call center in Spain, which included integration of the customer relationship management (CRM) system for a more personalized service and efficient use of the customer's time. Additionally, new protocols and training for empathetic and clear communication were developed, and monitoring and analysis of customer feedback was improved. This resulted in an improvement of +11 points in our TNPS score for this touchpoint over a period of 10 months in Spain. The combination of these small and large actions across the Group contributed to record levels of customer satisfaction, achieving a 6.9 point increase in our overall TNPS score³ in 2022.

¹ The customer retention rate and number of customers are calculated based on the following business units: Australia, Belgium & Luxembourg, Brazil, Canada, Colombia, Denmark, Finland, France, Germany, Italy, Middle East, the Netherlands, Norway, Russia, Singapore, Spain, Sweden, Switzerland, the UK, the U.S., (ex Crop & Programs & Leisure Travel). When calculating customer retention rate, the attrition of customers in employer-sponsored plans (e.g., life insurance plans) due to turnover (voluntary or involuntary) is not relevant for Commercial Insurance, additionally, the split between voluntary and involuntary lapse was not made. Numbers for 2021 have been recalculated to incorporate the addition of three countries: Brazil, Colombia and Italy in both the customer retention and net new customer KPIs. Besides extending the scope of countries included, 2021 Customer Counts were adjusted for reasons including M&A activity & internal reclassifications across business units.

² The customer count for CLP is based on the following business units: Australia, Dubai, Hong Kong, cross border from Isle of Man and Luxembourg, international programs (ZGEB), Switzerland, Spain and the UK.

³ TNPS includes Argentina, Australia - Life, Australia - P&C, Austria, Brazil, Chile, Germany, Hong Kong, Indonesia - Life, Indonesia - P&C, Ireland, Isle of Man, Italy, Japan - Life, Japan - P&C, Luxembourg, Malaysia - Life, Malaysia - P&C, Mexico, Middle East Life, Portugal, Sabadell, Santander, Spain, Switzerland, Turkey, UK and ZNA.

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5.3 Fair and transparent advice and engagement

In line with our Group's code of conduct, we strive to manage the risks of poor outcomes for our customers and conduct our business in a way that treats them fairly. We acknowledge that they can be exposed to different risks at different stages of the customer journey and believe that clear and transparent communication is critical to mitigate these risks. The Zurich code of conduct provides us with a north star that guides us in ensuring everything we do is held to the highest ethical, legal and professional standards. We have a [Global customer-facing conduct framework](#)¹ in place to support strong customer management, including fair communication practices, in all our business units.

Customer-facing conduct (CFC) refers to the activity undertaken to maximize the likelihood of fair and positive outcomes for our customers. The framework is designed to support business units in identifying, evaluating and mitigating the risks related to customer-facing conduct. It also supports developing detective and preventive control activities in existing processes across the customer lifecycle. Group Compliance supports and advises the business to enable effective management of CFC risks in alignment with the changing needs of our customers, new business models and the continued evolution of expectations from regulators and other stakeholders.

Group Compliance independently challenges, monitors and oversees compliance risks to provide assurance to management that the business is compliant with laws, regulations and internal requirements, professional and industry standards, and Zurich's corporate values.

5.3.1 Customer communication



To account for the wide range of products and services we provide across more than 215 countries and territories, our local businesses ensure that our approach to informing customers about our products is fully in line with both regulatory and customer expectations. We have a wide range of product literature available to inform customers about our products and services, including product suitability, policy coverage, cost structures, exclusions, etc. Information on our range of products is available through several channels, including our website, financial intermediaries, email, social media, television, press, digital and print advertising.

5.3.2 Continuously measuring and improving claims handling



Customers purchase insurance to transfer risks. Empathetic and competent claims services are critical to providing good customer service. We strive to put the customer at the heart of everything we do and to make the claims experience transparent, personal and responsive. We are also driving sustainable solutions in our claims handling processes which benefit our customers, people, partners and planet.

Through our TNPS program, we strive to gain a better understanding of how our customers experience different touchpoints of the customer journey. We consider claims handling to be one of the most important steps in customer experience, for which we won an award in 2022.² It is the ultimate test of our services. The claims TNPS provides us with feedback on how well we are performing in the eyes of our customers throughout the claim and helps us with insights on specific aspects or drivers that affect their experience. The claims TNPS is calculated for all countries with Retail Insurance presence and a broad set of countries for Commercial Insurance. The claims TNPS score³ has been maintained in line with 2021 performance despite a challenging year and previous high ratings.

We have established a strong sustainability framework for Claims. This includes defined standards to support our customers, communities, people and partners. Every country has a three-year action plan to achieve the standards set out by the framework. The standards vary from loss prevention and mitigation to re-skilling our workforce. They also include making sustainability a key determining factor in developing future partnerships. We are committed to creating and working with partners to deliver innovative sustainable solutions ranging from growing the circular economy to providing extra support and care to our customers. For example:

In Portugal, we partnered with a company that focuses on repairing, rather than replacing, equipment damaged due to electrical issues with 738 repairs completed in 2022.

In Brazil, we have partnered with our motor repair body shops to certify them with a "Green Seal". This supports local businesses, ensures sustainable practices and raises awareness of sustainable measures that can be put in place, such as reducing water consumption and safe handling of waste (e.g., oil, tires). In 2022, we certified 158 motor repair body shops.

¹ www.zurich.com/about-us/corporate-governance/code-of-conduct/we-care-about-our-customers

² Insurance Post: The British Insurance Awards 2022 "Customer Experience Award": <https://www.insuranceawards.com/2022-winners>

³ TNPS includes Argentina - Life, Australia - P&C, Austria, Brazil, Chile, Germany, Hong Kong, Indonesia - Life, Indonesia - P&C, Ireland, Isle of Man, Italy, Japan - Life, Japan - P&C, Luxembourg, Malaysia - Life, Malaysia - P&C, Mexico, Middle East Life, Portugal, Sabadell, Santander, Spain, Switzerland, Turkey, UK and ZNA.

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5.3.2 Continuously measuring and improving claims handling (continued)

In Indonesia, we focused on increasing the usage of telemedicine services for our out-patient treatment. Our customers recover faster with digital services, as we can respond in a more sustainable and efficient way to their needs.

In Australia, our Claims staff have been specifically trained to assist customers in vulnerable situations and are supported by vulnerable customer champions.

Throughout our business, we recognize that customer vulnerability can be temporary, permanent or sporadic and could be related to health, life events (e.g., marriage, divorce, having children), capabilities (e.g., issues related to mental health, physical and mental disabilities), financial resilience and more. Examples range from supporting a customer with dementia by working with their loved ones and offering large font and Braille for visually impaired customers, to supporting a customer with a small business with cash flow problems by providing them with an interim payment as soon as possible.

Another example is Zurich UK's collaboration with the Marine Conservation Society to help preserve Britain's seagrass meadows. For every customer that makes a claim for escape of water or flood damage in a 12 month period starting in August 2022, Zurich will donate to the Marine Conservation Society to recover one square meter of seagrass:

- Initiative will help protect up to 10,000 square meters of seagrass meadow.
- Up to 92 percent of seagrass in the UK has disappeared in the last century.
- Healthy seagrass habitats can absorb around a tenth of the ocean's carbon each year.
- Seagrass is a vital habitat for endangered wildlife, including long-snouted, short-snouted and spiny seahorses.

5.4 Digital confidence and trust

One of our goals is to make people and organizations more resilient by fostering confidence in a digital society. We aim to use this goal to improve customer experience. We are determined to be transparent about data management and Zurich's data protection and privacy policy, as this is a critical factor for customer trust.

During the past year, we also focused on the development of AI solutions and invested in a resilient digital experience, in line with our customer promise.

We frequently educate our employees and senior management on our data protection and privacy policy and our data commitment. Our annual data protection and privacy training was assigned to all employees in 2022, with a global completion rate of 99.8 percent.¹ The completion rate was above 99 percent in all regions. The training highlights the importance of adhering to data protection and privacy policies, observing privacy rights and using personal data in a legal and transparent manner.

In addition, our annual information security awareness training covers a wide range of information security topics relevant to all employees,² with a completion rate of 97.1 percent. The completion rate was above 94 percent in all regions. This annual education is supported throughout the year with smaller, supplemental offerings in the form of tip sheets, bite-sized learning campaigns and more. Topics include working remotely and securely and creating strong passwords. Information security awareness training is reviewed and updated annually to remain on top of latest developments with cyber threats and Zurich policies and controls.

5.4.1 Data commitment³



We continued our global investment efforts to deliver on our data commitment, which aims to go beyond regulatory compliance.

We made progress across our businesses in the effectiveness, strength and robustness of processes and controls in place to ensure an increased level of transparency on how we collect, use and share personal data.

Through the implementation of our transformation and digitalization initiatives we support: i) proactive customer engagement, informing customers about how their personal data is being used and how consent is being obtained; ii) enhancement management and fulfillment of customer rights; iii) mitigation of risk of a potential misuse of personal data.

¹ Reporting excludes Farmers Group Services, joint ventures and Zurich Global Ventures except for Cover-More and Zurich International.

² Reporting excludes employees of Cover-More. New joiners, employees with long term absence and leavers in 2022 are also not covered in this KPI.

³ Reporting excludes Farmers Group Services, joint ventures and Zurich Global Ventures except for Cover-More and Zurich International.

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5.4.2 Cybersecurity¹



Cybercrime continued to proliferate in 2022 along with increased cyber risk associated with geopolitical instability. International law enforcement and government agencies stepped up efforts to aggressively pursue cyber criminals and dismantle their infrastructure, with positive results in slowing the spread of ransomware. However the continued commoditization of malicious cyber capabilities and growth of cyber crimeware-as-a-service have led to accelerated growth of cyber threats.

Against this backdrop, Zurich's investment in a layered defensive approach based on industry best practices and recognized frameworks, along with a continued improvement approach, has yielded success in protecting Zurich's data in line with our data commitment.

We invested in strengthening and enhancing Zurich's cyber defenses and data protection in 2022. This includes:

- Enhanced threat detection and response.
- Automated cyber threat hunting operations.
- Integration of phish simulation performance data with actual phish targeting and response data.
- Protection against service disruption attacks.
- Protection of web applications.
- Introduction of a dedicated cloud configuration management function.
- Proactive, behavior-based models for detecting insider risk.

Our Cyber Fusion Center (CFC) continued to advance automation efforts to address ever-increasing numbers of threat alerts and phishing attempts.

We tripled the capacity of the offensive security Red Team² and began continuous, proactive searches for system vulnerabilities and unsecure configurations³ in our systems.

Since the beginning of 2022, the team has detected and fixed more than 40 potentially critical security issues that could have led to a data breach or adverse impacts on our operations or our customers.

As data privacy and protection continues to be a key concern, and to align with our data commitment, we have expanded our data loss prevention program beyond EMEA to all regions globally. By the end of 2023, we expect to have all Zurich business units and functions fully adopting the Group-managed service or demonstrating equivalent capabilities. We are also adopting the newest technologies available on the market (such as next-generation firewalls, breach attack simulation, endpoint protection and multi-factor authentication) to help detect and remediate sensitive data access issues internally and prevent the loss of sensitive data externally.

We also deployed a new system to better detect software flaws across the information technology environment and provide a streamlined, efficient workflow for correcting them and reporting the results.

We strengthened our governance through the addition of a new assurance process that tests compliance with policies and controls related to cyber and information security. At the beginning of 2023, we will introduce an expanded control framework that adds third party risk, business resilience, data and information governance, and physical security controls to the existing IT controls portfolio.

We are investing in cutting-edge data science tools and processes to analyze the data we receive through the monitoring of our networks and IT systems in order to better detect malicious cyber activities. This allows us to detect hidden patterns in data and build data models to assist in further securing our environment.

We continue our dedication to full transparency concerning information security or cyber events that may result in the loss, exposure or misuse of customer data. We have strict protocols in place to comply with all regulatory notification requirements and will immediately inform and provide full assistance to any customers whose data or data privacy may be impacted, regardless of whether the incident involved Zurich directly or one of our partners.

¹ Reporting excludes Farmers Group Services and Zurich Global Ventures, however, Zurich International and Cover-More are included.

² Team conducts offensive security operations to identify and report vulnerabilities.

³ Misconfigurations are flaws in the way a software environment is configured, security vulnerabilities are flaws in the software itself.

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5.4.3 Business resilience¹



As cyber threats continue to evolve, we have enhanced our protective, responsive and recovery capabilities. These help us to deliver critical customer services under operational stress as part of our standards for minimum viable operating environment (MVOE). Highly critical services include email, telephony and the availability of customer, policy and claims data.

In 2022, we deployed a new global platform to support business impact analysis (BIA) and business continuity planning (BCP). Seven countries² started using this platform and more countries will adopt it in 2023. In parallel, we enhanced our recovery capabilities beyond traditional disaster recovery to allow restoration of critical IT infrastructure. This will ultimately support the recovery of critical business applications.

We are using our experiences from the COVID-19 pandemic and latest cyber threats, to further enhance our crisis management capabilities with additional readiness procedures, processes and communication tools. This allows for a more effective response to cyber, data and technology events.

We began planning and developing an initial framework to meet new operational resilience regulations, which came into force in Ireland and the UK in December 2021 and March 2022, respectively. We are developing a multi-year road map to implement this framework across the organization to ensure we are ahead of upcoming regulatory requirements and to further enhance our operational resilience.

5.4.4 Ethical use of artificial intelligence (AI)³



In 2022, we began to deploy the Zurich AI Assurance Framework – a governance model designed to safeguard the ethical use of AI solutions taking into consideration key requirements of emerging regulations, such as the EU AI Act, UK AI Rulebook, US Algorithmic Accountability Act, and the Monetary Authority Singapore's (MAS) Assessment Methodologies for Responsible Use of AI by Financial Institutions. We aim to implement this framework by the end of 2023.

Particular emphasis is given to developing capabilities (e.g., creation of a global AI use case inventory, an AI risks and impact assessment, a governance checklist for AI solutions) as well as implementing processes, controls and automated tools that ensure Zurich adheres to their ethical AI principles of fairness, transparency and accountability. Building on evolving best practices and guidelines from international governance bodies, such as the Organization for Economic Cooperation and Development (OECD), we made significant progress on the definition of criteria for responsible and robust AI and assessment of AI use cases to mitigate potential risks.

In 2022, we have launched new use cases to enhance the efficiency of our retail and commercial insurance business operations. These included, for example, higher rates of straight-through processing in underwriting, automated motor insurance quotes based on photographs, as well as automated extraction of critical risk data from broker submissions and their integration in underwriting applications. In claims management, new AI use cases included real-time fraud detection in motor insurance and predicting claim severity in workers' compensation. We have scaled up conversational AI in numerous business units to enhance customer experience.

One strategic objective of using AI is to contribute to positive and sustainable societal outcomes, such as financial and social inclusion, affordability of insurance and fair treatment of vulnerable customers. To achieve this goal, we have begun to establish AI ethics committees to provide assurance and guidance on the implementation of AI solutions. These committees provide a holistic, diverse and balanced view on the risks and potential benefits of the AI solutions and its compliance with our ethical AI principles.

¹ Reporting excludes Farmers Group Services and Zurich Global Ventures, except for Zurich International.

² Australia, Austria, Canada, Italy, Mexico, UK and U.S.

³ Reporting excludes Farmers Group Services, joint ventures and Zurich Global Ventures, except for Zurich International and Cover-More.

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Our employees

We empower our employees to take charge of their careers.

We empower our employees to grow their talents and develop new skills, while refreshing their existing ones. We create a work environment where we embrace diversity and inclusion – not least because diverse minds create more innovation and feed the success of an enterprise. We prioritize employee well-being, supporting people to protect their physical, mental, financial and social well-being, encouraging them to speak up and stay connected.

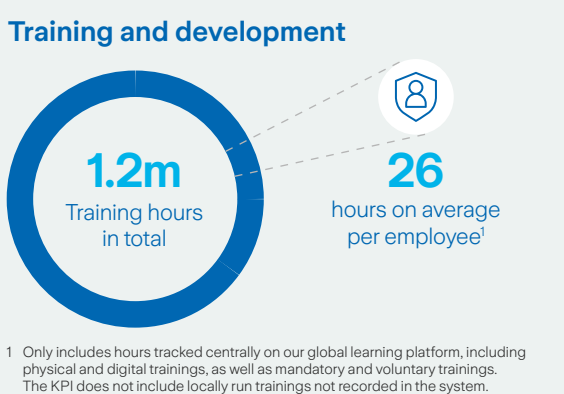
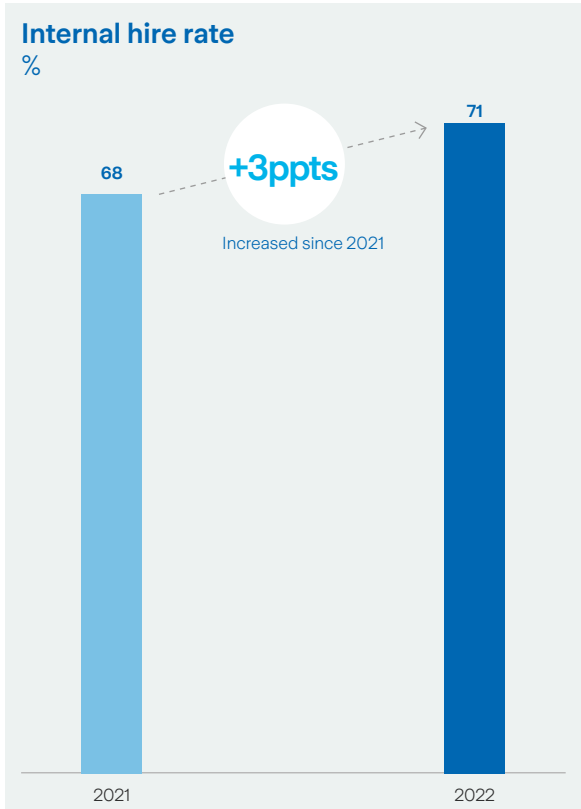
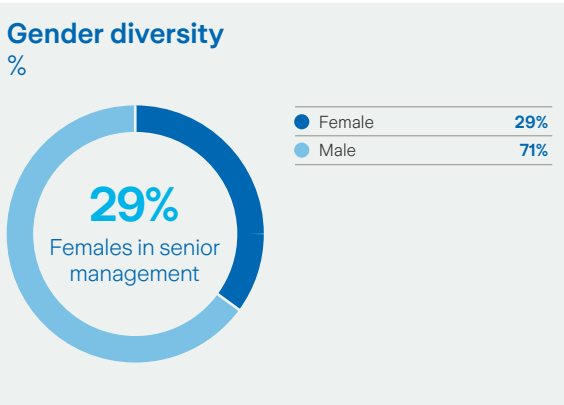


‘Let’s grow together’ reflects our aspiration to support employees in their lifelong learning and growth. It invites our people to play an active role in shaping their careers and reinforces the provision of good working conditions and fair, equal compensation, in line with our focus on shaping a sustainable approach to working.



Kathleen Savio
Group Chief Transformation and People Officer

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¹ Only includes hours tracked centrally on our global learning platform, including physical and digital trainings, as well as mandatory and voluntary trainings. The KPI does not include locally run trainings not recorded in the system.

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6.1 Attracting talent for a sustainable future

6.1.1 Attraction and retention of talent

In 2022, our Group headcount increased by 8 percent to 60,936 employees, driven mostly by acquisitions and organic growth. In parallel, we have successfully continued to attract, develop and retain employees with key skills and capabilities to future-proof our organization.

The total Group employee turnover increased to 12.9 percent compared to 11.9 percent in 2021. While the turnover rates are trending downward in APAC and North America, a continued increase can be observed in LATAM. Labor markets in EMEA are becoming more dynamic, resulting in higher turnover rates, although levels remain lower than those in North America, APAC and LATAM. This is partly in line with historical trends and the local market conditions. The total turnover of men and women is at 12.5 percent and 13.1 percent, respectively.

Our NextGen employees, comprising millennials and Generation Z (Gen Z), continue to have a higher voluntary turnover rate compared with other generations. This is also in line with external market trends. As we remain focused on triangulating data from various sources e.g., employee feedback, our aim is to obtain relevant insights to help inform areas for improvement. Moreover, we continue to leverage our NextGen movement to test ideas and strengthen our existing propositions to employees. In Zurich North America (ZNA), we worked closely together with our local NEXT¹ hub following our global employee net promoter score (eNPS) survey. We ran a pulse survey and subsequently conducted focus groups to better understand the needs of this workforce segment. One of the topics frequently discussed was navigating careers at Zurich. As a result, our ZNA Talent Development team designed and implemented a Career Coaching program, which has been well received.

Overall, we leverage the eNPS survey to ask for employee feedback and act upon it. In October 2022, we achieved a score of +54, the highest since the launch of our "Place to Work" survey in 2018, with a Group-wide participation rate of 83 percent.

¹ NEXT is a grassroots movement within Zurich promoting intergenerational dialogue. Their goal is to give a voice to new generations to future-proof Zurich.

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6.1.1 Attraction and retention of talent (continued)

Table 16

Turnover in 2022^{1,2}



Dimension	Voluntary turnover (%)	Involuntary turnover (%)	Total turnover (%)
Female ³	9.0	4.2	13.1
Male	8.3	4.2	12.5
Generations			
Baby boomers and prior generations (before 1964)	2.3	11.3 ⁴	13.7
Gen X (1965–1980)	5.6	3.0	8.6
millennials (1981–1996)	12.4	3.2	15.6
Gen Z (1997 and after)	18.9	5.8	24.7
Regions			
APAC	12.9	2.0	14.9
Corporate Center	4.3	3.0	7.3
EMEA	5.8	3.7	9.5
Latin America	8.4	6.6	15.0
North America	11.1	4.9	15.9
Career Levels			
Career Level A ⁵	8.8	4.3	13.2
Career Level B	7.8	3.1	10.9
Career Level C	5.5	3.5	9.0
Career Level D	3.0	5.0	8.1
Career Level E	5.1	4.1	9.2
Total	8.7	4.2	12.9

1 Reporting excludes Bolivia, Chile sales force, Cover-More, temporary employees and interns.

2 Total turnover formula: (number of voluntary leavers + number of involuntary leavers)/average headcount of the selected year. Voluntary turnover refers to employees deciding to leave the company, e.g., for personal reasons. Involuntary turnover refers to cases where the decision to leave is not entirely made by the employee, e.g., retirement and mutual agreement.

3 Gender breakdown excludes employees with no declared gender (0.1 percent of our total workforce).

4 The high involuntary turnover for Baby boomers and prior generations is largely attributed to retirement.

5 Career level breakdown excludes unranked employees (Cover-More, Farmers Management and Germany, covering 26 percent of our total workforce).

Please note that our internal grading system defines the following progression by career level:¹

- Career level A comprises all entry level and low specialization roles.
 - Career level B includes frontline managers and technical staff.
 - Career level C includes middle managers and highly specialized technical staff.
 - Career level D comprises senior executives and senior experts.
 - Career level E incorporates the most senior roles such as country CEOs and other senior business leaders.
- Senior management comprises career levels D and E together.

¹ The term 'unranked employees' refers to employees in Cover-More, Farmers Management and Germany who are not assigned career levels and are excluded (26 percent of our total workforce).

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6.1.1 Attraction and retention of talent (continued)

Table 17

New hires in 2022¹



Dimension	New hires (#)	New hires (%)
Female ²	3,780	49.8
Male	3,738	49.3
<hr/>		
Baby boomers and prior generations (before 1964)	213	2.8
Gen X (1965 – 1980)	1,573	20.7
millennials (1981 – 1996)	4,135	54.5
Gen Z (1997 and after)	1,668	22.0
<hr/>		
APAC	1,175	15.5
Corporate Center	207	2.7
EMEA	3,240	42.7 ³
Latin America	1,190	15.7
North America	1,777	23.4
<hr/>		
Career Level A	3,691	48.6
Career Level B	3,488	46.0
Career Level C	314	4.1
Career Level D	85	1.1
Career Level E	11	0.1
<hr/>		
Total	7,589	100

¹ Reporting excludes Bolivia, unranked employees (Cover-More, Farmers Management and Germany, covering 26 percent of our total workforce), temporary employees, interns and contractors. Internal appointments filled through lateral/vertical career movements are excluded, international transfers are included.

² Gender breakdown excludes employees with no declared gender (0.1 percent of our total workforce).

³ EMEA represents almost half of our total workforce, excluding Farmers Management, hence this number is in line with our expectations.

We continue to focus on attracting and retaining employees from all generations to build a solid talent pipeline. Candidates continue to demonstrate strong negotiating power in certain markets, thus in order for us to improve our proposition and the overall recruiting experience, we have implemented a candidate survey which provides us with actionable feedback. For example, one of the key insights emphasized the importance of assigning an 'onboarding buddy' to support successful workplace integration which we have implemented in relevant markets.

Our NextGen population continues to grow as Gen Z increasingly enters the workforce. In 2022, 51 percent of our workforce belonged to NextGen, and this segment contributed 77 percent of the new hires. Looking at our new hires by gender, the split between male and female was close to equal, with 49.3 percent vs. 49.8 percent, respectively.

In sync with our focus on Gen Z as a growing segment of our workforce, we continue to place significant focus in supporting our apprenticeship programs globally. As part of this commitment, we launched an "apprenticeship buddy program" which provides our apprentices with the opportunity to connect and collaborate with peers across the Group. To date seven countries and more than 100 apprentices are participating.

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6.1.1 Attraction and retention of talent (continued)

Table 18

Internal hires in 2022^{1,2}



Dimension ³	Metric	Career level B	Career level C	Career level D	Career level E	Senior management ⁴	Total 2022 – independent of career level	Total 2021 – independent of career level
Female	Internal hires (%)	69.0	84.5	87.0	71.4	86.5	71.8	69.3
Female	External hires (%)	31.0	15.5	13.0	28.6	13.5	28.2	30.7
Male	Internal hires (%)	66.0	86.6	86.5	72.0	85.5	70.7	67.3
Male	External hires (%)	34.0	13.4	13.5	28.0	14.5	29.3	32.7
Total	Internal hires (%)	67.4	85.8	86.7	71.9	85.8	71.2	68.2
Total	External hires (%)	32.6	14.2	13.3	28.1	14.2	28.8	31.8

1 Reporting excludes Bolivia, unranked employees (Cover-More, Farmers Management and Germany, covering 26 percent of our total workforce). Entry-level roles (career level A) are by nature disproportionately filled with external candidates, therefore not included in the table. Employees that transferred between countries are excluded and employees that have been rehired are included.

2 Internal hire percentage represents the proportion of appointments filled internally (through lateral or vertical career moves) versus through a new external hire.

3 Gender breakdown excludes employees with no declared gender (0.1 percent of our total workforce).

4 Senior management represents the combination of career levels D and E.

We continue to prioritize internal over external hires, which is reflected in the 2022 internal hire rate of 71 percent. This is an increase of 3 percentage points compared to 2021. This figure excludes hires into entry-level roles (career level A) as these positions are, by nature, disproportionately filled by external career starters.

At a senior level, we have strengthened our internal leadership pipeline to support career growth through vertical and lateral moves. This is reflected in our internal hire rate for the senior management population which is at 86 percent. Thus, external hires are mainly focused on bringing in critical skills and continue to diversify the composition of our employee population globally.

6.1.2 Training and development

At Zurich, we invest in the development of our people through mentoring, secondments, part-time assignments and formal learning. Our global learning platform, MyDevelopment, offers more than 18,000 courses, including the full library of LinkedIn Learning. We recognize the importance of offering employees varied learning opportunities in a number of key domains. We have therefore advanced our offering in a number of areas, for example, building managerial and technical skills through access to a total of 13 technical academies.

Our employees spent more than 1.2 million hours on online learning in 2022, resulting in an average of over 26 hours per employee. This represents an increase of 3 hours per employee compared with 2021.¹



In 2022, we spent more than USD 33 million on training across the Group, an average of USD 728 per employee.²

1 In 2022 we adjusted our calculation to include all employees that consumed learning content in the reporting year. In prior years we only considered employees that were active at the end of the reporting year. This resulted in an increase of the employees included into the metric and as a consequence also the hours learned.

2 Reporting excludes Bolivia and unranked employees (Cover-More, Farmers Management and Germany, covering 26 percent of our total workforce). Employees refers to both full-time and part-time employees.

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6.1.2 Training and development (continued)

Table 19

Average learning hours in 2022^{1,2}



Dimension	Q1 2022 (# hours)	Q2 2022 (# hours)	Q3 2022 (# hours)	Q4 2022 (# hours)	Total 2022 (# hours)	Total 2021 (# hours)
Female ³	6.6	9.2	10.0	8.6	28.2	25.5
Male	5.4	8.0	8.9	7.4	24.2	20.8
Career Level A	6.2	8.7	12.3	8.7	27.9	22.6
Career Level B	6.1	8.6	8.5	7.4	25.3	22.3
Career Level C	5.9	8.8	8.5	7.5	26.9	28.9
Career Level D	5.3	7.6	6.8	6.4	22.9	23.3
Career Level E	5.6	6.5	7.0	2.7	18.0	16.8
Senior management ⁴	5.3	7.6	6.8	6.3	22.7	23.0
Total	6.0	8.6	9.5	8.0	26.2	23.2

1 Reporting excludes Bolivia and unranked employees (Cover-More, Farmers Management and Germany, covering 26 percent of our total workforce).

2 Only includes hours tracked centrally on our global learning platform, including physical and digital trainings, as well as mandatory and voluntary trainings. The KPI does not include locally run trainings not recorded in the system.

3 Gender breakdown excludes employees with no declared gender (0.1 percent of our total workforce).

4 Senior management represents the combination of career levels D and E.

In 2022, we launched various initiatives to continue to shape a culture of learning within Zurich, for example, the 'Customer Mastery Program', which focuses on building customer capabilities across the organization. The 'Digital Mastery Program', helps employees to further develop critical skills and learn new skills related to digital transformation and other technologies. We also continued to focus on developing leadership and managerial excellence through 'Inspiring Trust', our global manager development program, and the 'Brighter Future Together' leadership team program.

Our global commercial insurance academy focuses on building unique and interactive courses tailored to meet the needs of our employees by blending a variety of learning approaches to deliver content and enable the practice and eventual mastery of skills. These programs focus not only on technical proficiency in certain areas, for example, our course in active portfolio management, but also support the mastery of interpersonal skills, such as relationship building and negotiations via our 'Winning in the Market' programs.

6.2 A safe working environment that supports health and well-being

The health, safety and well-being of our employees is a cornerstone of our ambition to be a sustainable employer. We continue to strengthen our credentials in this space by providing guidance and solutions to cultivate a work environment in which employees can thrive. To read more about our global employee well-being framework and initiatives, please see [Employee well-being at Zurich](#).¹



We support the physical safety of our employees and continue to report a low accident frequency rate of 113 accidents² and zero fatalities per almost 110 million working hours. For a more detailed breakdown of the number and rate of fatalities as a result of work-related injury, please see the index tables on our [webpage](#).³

6.3 An integrated and systematic approach to diversity, equity, inclusion and belonging (DEIB)

6.3.1 Ratio of compensation to areas of equality



We put a strong focus on maintaining an inclusive and equitable workplace and have implemented measures to monitor progress globally. We have successfully obtained an [EDGE](#)⁴ certification for several business units across the Group.⁵

Following this, we developed an in-house equal pay for equivalent work (EPEW) methodology to consistently evaluate whether our people are paid equally for the same or similar roles across the Group. This analysis forms part of our yearly remuneration review cycle.

1 www.zurich.com/en/careers/wellbeing

2 Reporting excludes Bolivia.

3 www.zurich.com/sustainability/reporting

4 www.edge-cert.org/

5 As of December 2022, the following business units are EDGE certified: Argentina, Australia, Brazil Chile, Ireland, Mexico, Santander Brazil, Mexico, and Spain. This covers 20 percent of our total employee population.

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6.3.1 Ratio of compensation to areas of equality (continued)

In Switzerland, we have voluntarily conducted internal equal pay analysis for many years. Since 2020, it has become mandatory under Swiss law for companies with 100 or more employees to carry out an externally certified equal pay analysis. In accordance with these requirements, relevant data was evaluated by Switzerland's standard analysis tool for equal pay in 2021 and subsequently audited by the [Swiss competence center](#)¹ and the Employee Commission. The result positioned the Swiss business unit and Corporate Center well within the tolerance range of +5 percent to –5 percent, and these results were communicated internally to all employees.

Zurich UK publishes pay gap information across multiple dimensions, for example, gender, ethnicity, LGBTQ+ and disability, to support pay transparency. The pay gap indicates the difference in average pay between two employee groups, and is not the same as equal pay for equivalent work, which Zurich UK measures separately. Differences are normally driven by an imbalance of representation at senior levels.²

To find out more about equal pay for equivalent work, please see [Pay equality at Zurich](#).³

6.3.2 Global DEIB framework

We strive to integrate diversity, equity, inclusion and belonging (DEIB) into everything we do by taking targeted actions to increase and benefit from diversity within the workforce, to ensure equal opportunities and to foster inclusion and belonging.

We continue to invest in our employee resource groups (ERGs) across the organization, in order to foster exchange across functions, geographies, hierarchies and generations. Our women's innovation network (WIN) is our biggest ERG with several thousand members across all continents. With our ERGs, we strive to raise awareness of and promote diversity and inclusion, cultivate a sense of belonging and create social networks to drive cultural change.

To find out more about our efforts to support diversity and inclusion, please see [DEIB at Zurich](#).⁴

Table 20

Ratio of majority vs. minority in 2022¹



Dimension	Career level A (%)	Career level B (%)	Career level C (%)	Career level D (%)	Career level E (%)	Senior management ² (%)	Total 2022 – independent of career level (%)	Total 2021 – independent of career level (%)
Female ³	63.1	47.2	37.8	29.0	24.2	28.7	50.6	50.6
Male	36.8	52.6	62.1	71.0	75.8	71.3	49.3	49.4
Baby boomers and prior generations (before 1964)	9.2	11.0	11.6	13.5	20.0	13.9	10.6	12.1
Gen X (1965–1980)	29.1	39.4	56.2	70.1	78.9	70.6	38.9	40.4
millennials (1981–1996)	45.8	47.2	32.2	16.3	1.1	15.5	44.0	43.0
Gen Z (1997 and after)	15.9	2.3	0.1				6.5	4.6
National ⁴	93.9	89.7	83.4	73.7	41.5	71.9	89.5	89.8
Non-National	6.1	10.3	16.6	26.3	58.5	28.1	10.5	10.2

¹ Reporting excludes Bolivia, unranked employees (Cover-More, Farmers Management and Germany, covering 26 percent of our total workforce).

² Senior management represents the combination of career levels D and E.

³ Gender breakdown excludes employees with no declared gender (0.1 percent of our total workforce).

⁴ This data excludes North America, for additional information on ethnicity in North America, see: www.zurichna.com/knowledge/articles/2020/08/9-actions-on-racial-equity-from-zurich-north-america

¹ www.elep.ch/de/diese-unternehmen-sind-dabei/

² www.zurich.co.uk/sustainability/diversity-and-inclusion#:~:text=Gender%20pay%20gap%20reports.months%20to%205%20April%202022

³ www.zurich.com/en/careers/our-people/pay-equality

⁴ www.zurich.com/careers/deib

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6.3.2 Global DEIB framework (continued)

At Zurich, we continuously strive to reach gender balance across the organization. As of end of 2022, 50.6 percent of our employee population is female. In addition, we undertake targeted actions and monitor gender representation across multiple dimensions including career levels and generations. We continue to support the development of female talent to accelerate their readiness for leadership positions in the future. Programs such as the connect female sponsorship program in Commercial Insurance or the female acceleration talent initiative in LATAM are just two examples of the many development programs across the Group.

These and other initiatives have helped drive improvements in gender balance between 2017 and 2022, particularly in the most senior career levels D and E. In 2017, the percentage of females in career level D and career level E were 23 percent and 18 percent, respectively. Female employees were representing a combined 22 percent in senior management. At the end of 2022, the proportion of females in career level D increased by 2.5 percentage points to 29.0 percent in 2022, from 26.5 percent in 2021. For career level E the female representation increased with 0.7 percentage points to 24.2 percent in 2022, from 23.5 percent in 2021. Female employees were representing a combined 28.7 percent in senior management in 2022, compared to 26.3 percent in 2021.

Across the Group, we see a tendency for non-national employees to have greater representation at more senior career levels. This can be explained by the movement of seasoned, internal talent to new opportunities across our Group.

6.4 Prevention of bribery and corruption

6.4.1 Group anti-bribery and anti-corruption policy



Given the serious consequences of financial crime, we invest heavily in controls to prevent and detect any bribery or corruption. We have put in place strong and effective controls and we monitor financial, legal and regulatory developments to conduct business in an ethical and compliant manner.

Zurich's Group policy anti-bribery and anti-corruption (Group policy ABC) sets out the minimum requirements with which its subsidiaries worldwide, including Board members and employees, need to comply.

The Group policy ABC requires the appointment of an anti-bribery and corruption officer (ABCO) for each business unit. The ABCO's duty is to monitor compliance with the Group policy ABC and the applicable local anti-bribery and anti-corruption framework. The ABCO also supports business management in maintaining the local framework and reviewing it regularly to ensure that it appropriately addresses bribery and corruption risks in the business unit.

6.4.2 Training and awareness



Fostering a culture of compliance among all our employees is important. To achieve this, it is critical to encourage general awareness and understanding of potential areas of bribery and corruption risk, applicable laws, and our policies.

We frequently educate our employees and Board members¹ on topics related to compliance and ethics. This begins with mandatory code of conduct training.² This annual training raises awareness of what it means to do the right thing. It helps employees and managers feel more confident in making ethical decisions in their day-to-day work. Among other topics covered, the training helps employees to spot and report possible bribery and corruption incidents. In 2022, almost all our employees and senior management completed the training, resulting in a global completion rate of 99.97 percent. The completion rate was above 99 percent in all regions.³

Employees whose roles expose them to potentially greater bribery and corruption-related risks are also required to undergo enhanced training on how to identify and respond to potential bribery and corruption risks.

Group Compliance develops the training in line with the Group policy ABC and in consideration of local risks, regulations and requirements for each jurisdiction. The training is reviewed on an annual basis to incorporate new developments and requirements. This keeps our employees and management at the forefront of the prevention of bribery and corruption and helps us fulfil our ambition of being a responsible and ethical business.

¹ The code of conduct training will be mandatory for Zurich Insurance Group Ltd / Zurich Insurance Company Ltd Board members as of 2023.

² The code of conduct training includes the topic of anti-bribery and anti-corruption.

³ In 2022, the code of conduct training was shared with Zurich Insurance Group Ltd Board members and various business partners depending on country requirements. Completion for both groups was not centrally tracked.

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6.4.3 Protected advice



As discussed above, our business and our employees are all subject to our [Group policy ABC](#)¹ and [code of conduct](#),² and we provide them with training and other resources that aim to prevent and detect misconduct. If employees suspect misconduct, we want them to feel comfortable reporting their concern and feel supported by the organization when doing so.

There are multiple channels for employees to raise concerns, including local line managers and Legal or Compliance functions. They can also use the Zurich Ethics Line (ZEL) to report concerns, either via telephone or online via a web form. The ZEL can also be used by other stakeholders, including external stakeholders, to raise concerns. Reports to the ZEL can be made anonymously. Zurich does not tolerate retaliation against any employee who reports a concern in good faith.

The ZEL is available globally and offers support in local languages. Once a report is received, it is sent to a designated person within Zurich to be reviewed and, if necessary, investigated. If a report of misconduct is substantiated, we will take remedial actions as appropriate, including potential disciplinary action, and if required, referring the matter to the relevant authorities.

¹ www.zurich.com/about-us/corporate-governance/compliant-and-ethical-business

² www.zurich.com/en/about-us/corporate-governance/code-of-conduct/we-care-about-business-integrity

7. Appendix

Table 21

Emissions profile

		In scope AuM 2022 (USDbn)	In scope AuM 2021 (USDbn)	In scope AuM 2020 (USDbn)	In scope AuM 2019 (USDbn)	Diff (2022 to baseline)	Absolute financed emissions 2022 (million metric tons CO2e) ¹	Absolute financed emissions 2021 (million metric tons CO2e)	Absolute financed emissions 2020 (million metric tons CO2e)	Absolute financed emissions 2019 (million metric tons CO2e)
Zurich Corporate Portfolio		47.7	63.1	64.3	58.5	(19%)	5.7	6.8	8.3	7.9
By investment asset class ³	Listed equity	6.4	10.5	10.6	10.6	(39%)	0.5	0.7	0.8	1.0
	Corporate bonds	41.2	52.6	53.8	47.9	(14%)	5.1	6.0	7.5	7.0
By region	APAC	5.0	6.0	5.1	4.5	12%	1.3	1.8	1.8	1.8
	EMEA	29.5	40.7	42.5	38.2	(23%)	3.2	3.9	4.8	4.5
	Americas	13.2	16.3	16.7	15.9	(17%)	1.2	1.1	1.6	1.7
By sector	Utilities	4.0	4.8	4.7	4.4	(9%)	2.2	2.9	2.7	2.7
	Government-owned company	1.7	2.2	2.6	2.7	(37%)	0.9	0.8	1.3	1.4
	Energy	1.9	2.5	2.7	2.1	(13%)	0.7	0.8	1.0	0.7

1 Financial emissions cover scope 1+2 of underlying companies (listed equities and listed corporate credit) attributed with enterprise value methodology and matched based on most recently available emission data.

2 Committed or set targets under SBTi.

3 Corporate portfolio has been newly split by listed equity and corporate bond. Data of previous years were calculated retrospectively.

		In scope AuM 2021 (USDbn)	In scope AuM 2020 (USDbn)	In scope AuM 2019 (USDbn)	Diff (2021 to baseline)	Absolute emissions 2021 (metric tons CO2e) ^{4,5}	Absolute emissions 2020 (metric tons CO2e) ^{4,5}	Absolute Emissions 2019 (metric tons CO2e)
Zurich global real estate portfolio^{7,8}		11.1	12.5	11.7	(5%)	39,362	50,669	53,181
EMEA		9.4	10.8	10.0	(6%)	27,897	37,244	41,153
Americas		1.7	1.7	1.7	3%	11,465	13,425	12,028

4 The CO2 emissions are calculated according to the location based method. In cases where the data is available or properties use onsite/offsite renewable energies, the market based methodology is applied.

5 The emission factors are retrieved from the International Energy Agency (IEA, 2020) with exception of Switzerland for local calculation references (Intep, REIDA 2022 and local authorities) which are aligned with IEA.

6 The relative emissions intensity is calculated based on gross floor area (GFA) of the buildings.

7 Real estate emissions are only available with a four-quarter lag. 2022 emissions will be reported in the 2023 report. Includes investment portfolio buildings only, as own-use buildings are part of our operational emissions target.

8 Direct real estate holdings form the base for the emission reduction targets. There are no applicable figures for the APAC region available.

7. Appendix (continued)

Diff (2022 to baseline)	Relative emission intensity 2022	Relative emission intensity 2021	Relative emission intensity 2020	Relative emission intensity 2019 (baseline)	Diff (2022 to baseline)	Target	% of financed emissions with SBT 2022 ²	% of financed emissions with SBT 2021	% of financed emissions with SBT 2020	% of financed emissions with SBT 2019 (baseline)	Diff (2022 to baseline)	% of financed emissions in run-off under coal/oil sands policy 2022
	(metric tons CO2e/ 1 million market value)	(metric tons CO2e/ 1 million market value)	(metric tons CO2e/ 1 million market value)	(metric tons CO2e/ 1 million market value)			(metric tons CO2e/ 1 million market value)	(2022 to baseline)	(2022 to baseline)	(2022 to baseline)		(2022 to baseline)
(29%)	119	108	128	136	(12%)	(25%)	23.3	19.9	19.5	14.3	63%	8.0
(44%)	84	71	74	90	(7%)		25.9	25.1	27.8	22.6	14%	
(26%)	125	115	139	146	(15%)		23.0	19.3	18.7	13.2	75%	
(27%)	261	292	355	400	(35%)		6.5	1.2	1.6	1.2	462%	31.5
(29%)	108	95	113	118	(8%)		35.7	32.4	31.3	22.9	56%	0.6
(29%)	89	70	98	105	(15%)		8.2	6.1	4.3	5.3	57%	1.9
(19%)	547	600	565	616	(11%)		19.3	16.7	17.9	14.4	35%	19.6
(38%)	518	375	498	529	(2%)		27.5	26.5	24.3	5.4	406%	1.4
9%	383	310	384	305	26%		-	-	-	-	-	0.9

Diff (2021 to baseline)	Relative emission intensity 2021 (kg CO2e/sqm) ⁶	Relative emission intensity 2020 (kg CO2e/sqm) ⁶	Relative emission intensity 2019 (baseline) (kg CO2e/ sqm)	Diff (2021 to baseline)	Target
(26%)	17.2	20.4	21.6	(20%)	(30%)
(32%)	18.2	21.3	22.9	(21%)	
(5%)	15.3	18.1	18.0	(15%)	

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Ernst & Young Ltd
Maagplatz 1
P.O. Box
CH-8010 Zurich

Phone: +41 58 286 31 11
Fax: +41 58 286 30 04
www.ey.com/ch

To the Executive Committee of
Zurich Insurance Group Ltd, Zurich

Zurich, March 8, 2023

Independent assurance report

We have been engaged to perform assurance engagements on certain metrics disclosed in the Annual Report 2022 of Zurich Insurance Group Ltd and its subsidiaries (Zurich Insurance Group) for the year ended 31 December 2022 (the Report). Specifically, for the following metrics, contained in the Integrated Sustainability Disclosure of the Annual Report 2022, we were engaged to provide:

- ▶ limited assurance on selected environmental, governance and social key performance indicators in the Report (KPIs in scope of limited assurance)
- ▶ reasonable assurance on selected environmental key performance indicators in the Report (KPIs in scope of reasonable assurance).

An overview of the KPIs in scope of the limited and reasonable assurance is attached as appendix to our independent assurance report (the Appendix).

Other than as described in the previous paragraph, which sets out the scope of our engagement, we have not conducted assurance procedures on the remaining information contained in the Report and, accordingly, we do not express a conclusion on this information.



Applicable criteria

Zurich Insurance Group defined as relevant criteria (applicable criteria):

- ▶ Global Reporting Initiative Standards (GRI) complemented by Zurich Insurance Group's methodology for environmental indicators 2021 for KPIs listed under 'Reasonable assurance' section in the Appendix. A description of the methodology is available under 'Sustainable operations' at: <https://www.zurich.com/sustainability/planet/net-zero-in-operations>, 'Overview of emissions targets and results'.
- ▶ SASB Insurance reporting standard for KPIs listed under 'SASB standard disclosures' section in the Appendix. The guideline is presented on the SASB webpage at: <https://www.sasb.org/standards/download/>.
- ▶ World Economic Forum's (WEF) Metrics of Sustainable Value Creation for KPIs listed under 'WEF IBC metrics' section in the Appendix. The guideline is presented on the WEF webpage at: <https://www.weforum.org/stakeholdercapitalism/our-metrics>.
- ▶ Zurich Insurance Group's own methodology for KPIs listed under 'Disclosures based on Zurich Insurance Group's own methodology' section in the Appendix. A description of the methodology for these performance indicators is included in the relevant sections of the sustainability disclosures as listed in the Appendix.



Responsibility of the management of Zurich Insurance Group

The management of Zurich Insurance Group is responsible for selecting the applicable criteria and collecting and reporting, in all material respects, the KPIs in accordance with the applicable criteria. This responsibility includes designing, implementing, and maintaining internal control with respect to the preparation of the KPIs that are free from material misstatement due to fraud or errors.

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Independence and quality assurance

We have complied with the independence and other ethical requirements of the International Ethics Standards Board for Accountants' *International Code of Ethics for Professional Accountants (including International Independence Standards)* (IESBA Code), which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

Our firm applies the International Standard on Quality Control 1, *Quality Control for Firms that Perform Audits and Reviews of Financial Statements and Other Assurance and Related Services Engagements*, and accordingly maintains a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements.



Our responsibility

Limited assurance:

Our responsibility is to express a conclusion on the KPIs in scope of limited assurance based on the evidence we have obtained.

Reasonable assurance:

Our responsibility is to express an opinion on the KPIs in scope of reasonable assurance based on the evidence we have obtained.

We conducted our limited and reasonable assurance engagement in accordance with the International Standard for Assurance Engagements (ISAE) 3000 *Assurance Engagements Other than Audits or Reviews of Historical Financial Information*. This standard requires that we plan and perform the engagement to obtain reasonable and limited assurance as to whether the KPIs in the Report; are free from material misstatement, whether due to fraud or error.



Summary of work performed

Limited assurance:

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in scope than, for a reasonable assurance. Consequently, the level of assurance obtained for a limited assurance is significantly lower than the level of assurance that would have been obtained had we performed a reasonable assurance.

Although we considered the effectiveness of management's internal control when determining the nature and extent of our procedures, our assurance engagement was not designed to provide assurance on internal control.

Our limited assurance procedures included, amongst others, the following work:

- ▶ Assessment of the suitability of the underlying criteria and their consistent application
- ▶ Inquiries of Zurich Insurance Group's representatives responsible for collecting, consolidating, and calculating the KPIs to assess the process of preparing the data, the reporting system, the completeness of the data capture and compilation methods as well as internal control to the extent relevant for the limited assurance engagement
- ▶ Inspection of the relevant documentation of the systems and processes for compiling, analyzing, and aggregating the KPIs and testing such documentation on a sample basis
- ▶ Analytical procedures and inspection of documents on a sample basis with respect to the compilation and reporting of the KPIs

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- ▶ Checks that the calculations have been correctly applied in accordance with the methodologies outlined in the criteria
- ▶ Analytical procedures on the Report regarding plausibility and consistency with the KPIs
- ▶ Site visits, inquiries, and inspection of documents on a sample basis

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our limited assurance conclusion.

Reasonable assurance:

A reasonable assurance engagement in accordance with ISAE 3000 involves performing procedures to obtain evidence about the KPIs in scope of reasonable assurance. The procedures selected depend on the practitioner's judgment, including the assessment of the risks of material misstatement, whether due to fraud or error, in the KPIs in scope of reasonable assurance. In making those risk assessments, we considered internal control relevant to Zurich Insurance Group's preparation of the KPIs in scope of reasonable assurance.

Our reasonable assurance procedures included, amongst others, in addition to the procedures listed above for the limited assurance engagement, the following work:

- ▶ Site visits (physical or virtual) in 10 countries to visually inspect operations, perform inquiries and inspect documents on a sample basis
- ▶ Testing, on a sample basis, of underlying source information to check the accuracy of the data
- ▶ Identification and testing of assumptions supporting calculations
- ▶ Evaluation of the overall presentation, structure and content of the environmental disclosures

We believe that the evidence we have obtained is sufficient and appropriate to provide a reasonable basis for our opinion.



Emphasis of Matter

We draw your attention to the fact that certain KPIs in the Report in scope of the limited and reasonable assurance, as identified in the 'KPIs reported for year 2021' section in the Appendix, are for the year ended 31 December 2021. Our limited assurance conclusion and reasonable assurance opinion are not modified in respect of the matter emphasized.



Conclusion – limited assurance

Based on the procedures performed and the evidence obtained, nothing has come to our attention that causes us to believe that the KPIs in scope of limited assurance have not been prepared, in all material respects, in accordance with the applicable criteria.

Opinion – reasonable assurance

In our opinion, the KPIs in scope of reasonable assurance are prepared and presented, in all material respects, in accordance with the applicable criteria.

Ernst & Young Ltd

Isabelle Santenac
Partner

Mark Veser
Partner

Appendix: Performance indicators in assurance scope

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Appendix: Performance indicators in assurance scope

Limited assurance

SASB standard disclosures

- ▶ Figure 13: Probable maximum loss by top three peril regions in Section 4.1.3 Natural catastrophe modeling: current exposure to physical risk on page 137, see also FN-IN-450a.1 in SASB index table online at: <https://www.zurich.com/sustainability/reporting>
- ▶ Revenues from energy efficiency and low-carbon technologies in Section 4.4.2 Our performance metrics on page 158, see also FN-IN-410b.1 in SASB index table online (see link above)
- ▶ Figure 28: Retail – customer retention rate and net new customers 2022 in section 5.2 Customer attraction and retention on page 175, see also FN-IN-270a.3 in SASB index table online (see link above)
- ▶ Figure 29: Commercial Insurance – customer retention rate and net new customers 2022 in section 5.2 Customer attraction and retention on page 176, see also FN-IN-270a.3 in SASB index table online (see link above)

WEF IBC metrics

- ▶ Table 16: Turnover in 2022 in Section 6.1.1 Attraction and retention of talent on page 183
- ▶ Table 17: New hires in 2022 in Section 6.1.1 Attraction and retention of talent on page 184
- ▶ KPIs on training spend in Section 6.1.2 Training and development on page 185
- ▶ Table 19: Average learning hours in 2022 in Section 6.1.2 Training and development on page 186
- ▶ Table 20: Ratio of majority vs. minority in 2022 in Section 6.3.2 Global DEIB framework on page 187
- ▶ KPIs on employees receiving anti-corruption training overall and by region in 2022 in Section 6.4.2. Training and awareness on page 188
- ▶ Financial assistance received from the government in WEF IBC index table online, disclosure 'Employment and wealth generation', reference 'Economic contribution' at: <https://www.zurich.com/sustainability/reporting>

Disclosures based on Zurich Insurance Group's own methodology

- ▶ KPI on percentage of managed procurement spend with suppliers in compliance with or exceeding Zurich's Supplier Code of Conduct (SCOC) expectations in Section 2.4.2 Sustainable sourcing on page 126
- ▶ Table 2: Charitable cash contributions 2022 figures in Section 2.4.4 Community investment on page 128
- ▶ Figure 11: Annual expected loss for top five peril regions in 2022 in Section 4.1.3 Natural catastrophe modeling: current exposure to physical risk on page 136
- ▶ Table 4: Engagement progress in Section 4.2.2 Our performance metrics on page 159
- ▶ Figure 21: Engagement progress for top 10 emitters without science-based targets (SBTs) in Section 4.4.2 Our performance metrics on page 160
- ▶ Figure 22: Top 10 emitters without science-based targets (SBTs) by sector and region in Section 4.4.2 Our performance metrics on page 160
- ▶ Table 5: Assets under Management: corporate portfolio in Section 4.4.2 Our performance metrics on page 162
- ▶ Table 6: Absolute and relative emissions of the corporate portfolio in Section 4.4.2 Our performance metrics on page 163
- ▶ Table 7: Corporate portfolio with science-based commitments in Section 4.4.2 Our performance metrics on page 164
- ▶ Table 8: Assets under Management: real estate portfolio in Section 4.4.2 Our performance metrics on page 164

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- ▶ Table 9: Absolute and relative emissions of the real estate portfolio in Section 4.4.2 Our performance metrics on page 164
- ▶ KPI on Coverage ratio real estate portfolio in Section 4.4.2 Our performance metrics on page 165
- ▶ Table 10: Green certified buildings in Section 4.4.2 Our performance metrics on page 165
- ▶ Table 11: Financing the transition 2022 in Section 4.4.2 Our performance metrics on page 166
- ▶ Table 12: Investment portfolio managed by responsible investors in Section 4.4.2 Our performance metrics on page 166
- ▶ Figure 23: Proxy voting 2022 in Section 4.4.2 Our performance metrics on page 167
- ▶ KPIs on people benefited and emissions avoided through impact investment portfolio in Section 4.4.2 Our performance metrics on page 167
- ▶ Figure 24: Impact metrics in Section 4.4.2 Our performance metrics on page 168
- ▶ Table 13: Impact investing portfolio in Section 4.4.2 Our performance metrics on page 168
- ▶ Figure 25: Revenues from sustainable solutions by region in Section 5.1.1. Revenues from sustainable solutions on page 172
- ▶ Figure 26: Revenues from sustainable solutions by category in Section 5.1.1. Revenues from sustainable solutions on page 173
- ▶ Figure 27: Revenues from sustainable solutions by product category in Section 5.1.1. Revenues from sustainable solutions on page 173
- ▶ KPIs on employees receiving data protection and privacy training in Section 5.4. Digital confidence and trust on page 178
- ▶ KPIs on employees receiving information security awareness training in Section 5.4. Digital confidence and trust on page 178
- ▶ KPI on total Group headcount in Section 6.1.1 Attraction and retention of talent on page 182
- ▶ Table 18: Internal hires in 2022 in Section 6.1.1 Attraction and retention of talent on page 185

Reasonable assurance

GRI Reporting Initiative Standard disclosures

- ▶ Table 14: Absolute carbon emissions coming from our own operations in Section 4.4.2 Our performance metrics on page 169

KPIs reported for year 2021

The following KPIs in scope of the limited and reasonable assurance as listed above have been prepared for the year ended 31 December 2021 and represent the most recent information presented in the Report:

- ▶ Table 8: Assets under Management: real estate portfolio in Section 4.4.2 Our performance metrics on page 164
- ▶ Table 9: Absolute and relative emissions of the real estate portfolio in Section 4.4.2 Our performance metrics on page 164
- ▶ KPI on Coverage ratio real estate portfolio in Section 4.4.2 Our performance metrics on page 165
- ▶ Table 14: Absolute carbon emissions coming from our own operations in Section 4.4.2 Our performance metrics on page 169

All other KPIs listed in the 'Limited assurance' section above are for the year ended 31 December 2022.