Integrated sustainability disclosure

Inspiring action

Working together.

The Z Zurich Foundation[1] (the Foundation) works alongside governments, NGOs, Zurich employees and businesses in pursuit of a brighter future for disadvantaged people. "The Z Zurich Foundation is really inspiring for me," says Jayesh Kumar Baid at Group Reinsurance, who closely follows the Foundation's many campaigns. In 2021, for example, the Foundation agreed to support UNICEF's efforts to deliver COVID-19 vaccine doses to the most vulnerable. This resulted in the biggest fundraising campaign driven by the Foundation since its establishment in 1973, raising enough funds for UNICEF to deliver two doses of COVID-19 vaccine to more than 1.7 million people.

Jayesh Kumar Baid
Group Reinsurance, Zurich Insurance Group

To watch the video, visit:
www.zurich.com/reports/2021/annual-report

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

Executive message on sustainability

Building resilience.

“In this report, we demonstrate the impact our actions are having by being more transparent about how we measure progress on our sustainability ambition and how we offer more sustainable solutions to our customers.

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

Dear shareholder

We believe it’s critical to be clear on what a company stands for and how the organization as a whole acts to deliver sustainable value to all stakeholders. We stand for doing business today in a way that supports future generations and builds resilience. That also means helping our people to have meaningful careers with relevant skills in a rapidly evolving digital world, treating our customers with the utmost priority and taking action to mitigate the impact of climate change.

Our three sustainability pillars call out the transformational themes that impact our business the most. They’re the cornerstone of our sustainability ambition and guide us in building a resilient organization that responds to the needs of our time. By better managing the impact that digitalization will have on our own workforce as well as the way we serve our customers, we’re preparing our organization for the future of insurance.

Executive message on sustainability (continued)

Taking bold climate action

Given the nature of our business as an insurer and investor, climate change presents undeniable challenges for us and our customers. We're therefore using the resources we have at hand to take bold climate action through our 1.5˚C future plan. Our efforts are reflected in our own operations, our underwriting and our investments. In March 2021, we presented interim climate targets for our operations, setting out our intention to reduce our own carbon footprint by 50 percent by 2025 and 70 percent by 2029. For our investments, we aim to cut 25 percent in carbon intensity for listed equity and corporate bond investments, and target a 30 percent cut for our direct real estate by 2025. We also co-founded the Net-Zero Insurance Alliance with the ambition to set similar targets for our underwriting portfolio in the next couple of years.

Embracing the digitalization of our business

We aim to make people and organizations more resilient by enabling confidence in a digital society. We're committed to being transparent about data management and Zurich's data protection and privacy policy, as we believe this is a critical factor for customer trust. During the past year, we also focused on the development of ethical artificial intelligence solutions and invested in our digital capabilities to enhance customer experience.

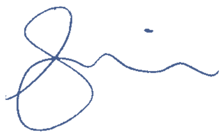
Preparing our workforce for the future

Within our own organization, as part of our strategic pillar work sustainability, we introduced a new hybrid world of work. We placed an increased focus on health and wellbeing in the workplace. In 2021, we also developed our global wellbeing strategy and launched a wellbeing employee resource group through which employees can support each other with mental, physical, financial and social wellbeing.

Reporting on our progress

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. To demonstrate the impact our actions are having we will provide more transparency about how we measure progress on our own sustainability ambition, how we respond to regulatory requirements and how we offer more sustainable solutions to our customers. Therefore, this report aims to connect this need for more transparency with our own ambition and the expectations of our key stakeholders.

It is critical that we all take the actions we can to support a more resilient world.



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

Sustainability highlights 2021

156
sustainable solutions identified[1]

–21%
reduced intensity in financed corporate CO_2e emissions[2]

4.6m
tons CO_2e avoided through climate-related impact investments

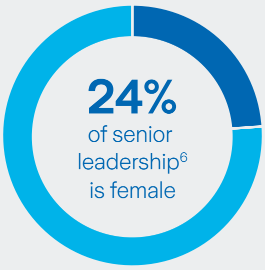
USD 8.2bn
investments in climate solutions

–59%
reduction in CO_2e emissions from our own operations[3]

4.1-point
increase in our overall transactional net promoter system (TNPS)[4] score, marking record level of customer satisfaction

3.4-point
increase in our claims TNPS[4] score

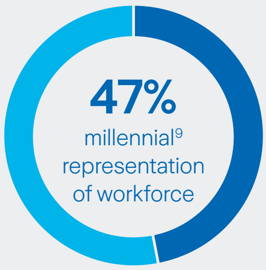
30%
increase in our global data transparency score[5]



23 hours
training received on average per employee[7]

4,996
new hires in 2021

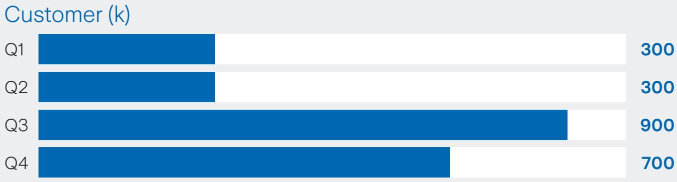
USD 2.3bn
tax contribution[8]



55%
of our procurement spend is in compliance to our Supplier Code of Conduct[10]

USD 59.3m
donated to charity, of which **USD 43.8m** via the Z Zurich Foundation

Net new customers
Customer (k)



1 Based on our internal definition.
2 Compared to our 2019 baseline.
3 In 2020.
4 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.
5 Since Q1 2020.
6 Career level E incorporates the most senior roles (country CEOs and other senior business leaders).
7 Only includes formal online training.
8 This amount represents the tax borne by shareholders in 2020.
9 Millennials (1981–1996).
10 The program started in 2021. Our goal is to achieve 75 percent by the end of 2022 as this will ensure we cover our main suppliers.

Contents

1. Introduction

George Quinn
Group Chief Financial Officer

Zurich Insurance Group[1] is committed to creating sustainable value for all its stakeholders, and we aim to achieve outcomes that benefit both the planet and its people in the long term.

As an insurer, a key component of our success is the trust built through doing the right things, in the right way, and measuring and reporting the effects of those actions. Therefore, we recognize and strongly believe in the need for transparency to disclose clear, comprehensive, and high-quality information on our performance on key non-financial and environment, social and governance (ESG) indicators.

The sheer number of frameworks and inherent complexity in quantifying some of these issues makes this a journey for the private sector and supervisors, regulators, and governmental agencies. We endeavor to create a meaningful sustainability disclosure based on good practices, sustainability regulations and reporting frameworks. Accordingly, this report has adopted a combination of existing reporting frameworks to provide insights into the topics that are most material to our business and our key stakeholders. It provides insights into sustainability risks and opportunities our business faces while embedding compliance and transparency.

This integrated sustainability disclosure (ISD) is complemented by the stand-alone Sustainability Report 2021[2], which provides more in-depth information on selected items.

This report contains our disclosure in line with the recommendations from the Task Force on Climate-related Financial Disclosure (TCFD), which we have enhanced this year with a portfolio-level climate risk scenario analysis. This analysis has provided us with a deeper insight into the challenges and opportunities associated with climate risk. It allows us to understand the resilience of our strategy to such risks. Read more about it in the Planet section, pages 134 to 166. 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. Some of the indicators under these external frameworks are industry, entity or geography agnostic, precluding a one-size-fits-all situation. Within the report, therefore, we follow a 'disclose or explain' approach. We disclose the indicators that are most material to our business and our stakeholders in the ISD, while we address less material indicators in the index table with a short explanation.

In addition to these external frameworks, this report includes reporting on our targets under the three pillars of our sustainability strategy and the indicators we use to measure progress on them.

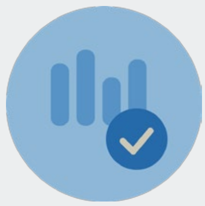
The indicators included in this report cover the period from January 1 to December 31, 2021, unless stated otherwise. Some data may be collected and reported as of an earlier date in the year. Certain cases are extrapolated for the remaining months of the year based on the Group's internal methodology 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 of our planet section on our website[3]. Furthermore, we have used references to the Global Reporting Initiative (GRI), without adhering to the standards listed in the index[3] in its entirety.

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)



Regulatory requirements
Reporting requirements, such as FINMA disclosure requirements on climate risks

1 Comprising Zurich Insurance Group Ltd and its subsidiaries (the Group or Zurich or we).
2 www.zurich.com/en/sustainability/reporting-and-news/reports-publications
3 www.zurich.com/sustainability/strategy/measuring-our-progress

1. Introduction (continued)

Our three 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 2021

Our 1.5°C future

- **No longer underwrite new greenfield oil** exploration projects[1]; full **phase out of thermal coal** from underwriting portfolio[2]; not underwrite oil & gas drilling and production in the **Arctic**[3]
- Targeted interim **CO_2e reduction in investments and operations**
- Founding member of **Net-Zero Insurance Alliance**
- Launch of **Carbon-Neutral Fund and other ESG funds** for Life customers

Confidence in a digital society

- Global implementation of **Data Commitment almost completed**
- Rolling out **artificial intelligence assurance framework** based on key ethical principles of **fairness, transparency and accountability**

Work sustainability

- Increased **gender diversity** at Executive Committee and leadership level
- **Continued to increase the number of learning hours** as part of our efforts to strengthen a culture of learning
- Used the **hybrid working model** as an opportunity to create a healthier and more resilient organization
- Further improved **employee satisfaction**

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 impact areas, environment, social and governance. In this case, we highlight the most relevant 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 Unless meaningful transition plans are considered to be in place.
2 By 2030 for OECD and EU27 and 2040 for the rest of the world, unless the company has formally approved science-based targets in place, which are approved by either the Science Based Targets Initiative (SBTi) or a similar scientifically accredited body.
3 Considered as anything north of 66 degrees latitude with the exception of the Norwegian Continental Shelf (NCS).

2. Creating positive impact for stakeholders

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.

2.1 Our purpose

WORLD ECONOMIC FORUM G

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 success. 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.

2.2 Sustainability in everything we do

To ensure we invest our resources where we can make the biggest impact, we continuously work to identify new challenges and opportunities that arise. 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 consider sustainability in everything we do.

We are conscious of the impact we have on people and planet and consider this in our own operations, our investment portfolio, and our underwriting. To set a solid foundation, we have been working on the efficiency and sustainability of our own operations for a long time. In 2021, for example, we established interim targets toward a climate-neutral 2050 to support our climate strategy on the one hand, and focused on digitalization and internal growth as part of our focus on developing our people, on the other. We believe challenging ourselves and our employees will enhance our positive environmental and social impact.

Secondly, we have been one of the early adopters when it comes to sustainable investment. To date, we leverage this expertise to engage companies on our portfolio in the net-zero transition. Finally, we see great opportunities in the field of underwriting and want to strengthen our focus on this to capture the value it holds for our business and our customers. We support our customers in risk prevention and mitigation, for example the increasing challenges of cyber security during the COVID-19 pandemic. We also became a founding member of the Net-Zero Insurance Alliance (NZIA) in 2021, as part of our goal to accelerate the transition to a net-zero emissions future and embed sustainability into our underwriting activities.

2. Creating positive impact for stakeholders (continued)

Figure 3:
Sustainability is integrated in everything we do

Operations	Underwriting	Investing	Customers	Employees	Partners and communities
Science-based CO2e targets	Global climate risk assessment	Engage on net-zero transition	Accompany on net-zero transition	Workforce diversity	Sustainable sourcing
100% renewable power target	Mitigate climate change	Proxy voting	Responsible data management	Employee skill development	Contribute to communities
100% electric fleet target	Emerging technologies	Finance the transition	Sustainable insurance products	Wellbeing	Enhance food resilience

We do not only embed sustainability across all functional units, we also set high expectations for all our business units around the world. To engage all regions, we combine top-down and bottom-up initiatives. By taking a hybrid approach, we ensure all countries can contribute toward the same goals in a mutually empowering manner.

2.2.1 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 figure out what issues matter most to them. In 2018, therefore, we carried out a materiality assessment to understand which sustainability-related issues are most relevant to internal and external stakeholders. The assessment included both quantitative and qualitative analyses and was built on internal risk expertise, engagement with 10 different stakeholder groups, and insights generated from big data tools. Based on this, 21 sustainability issues were identified and prioritized.

The outcome of the 2018 assessment was used to support the identification of our three strategic sustainability pillars[1]: our 1.5°C future, confidence in a digital society and work sustainability.

As the relevance of these issues fluctuates over time, we decided to partially revise the matrix in 2021. More specifically, we identified issues for which relevance has significantly shifted during the past three years. Among other things, we considered changing customer expectations, and upcoming legislation in the diverse areas we operate in.

Based on this revision, we identified three topics that were already highly material in 2018 and have been reinforced by events that happened during the past three years. We also identified three topics that were qualified as less material in the 2018 assessment but have gained significantly in importance since then. In general, the concept of interconnectivity is changing the picture. We strive to join the dots between different challenges and no longer look at them in isolation.

1 www.zurich.com/sustainability/strategy

2. Creating positive impact for stakeholders (continued)

Topics confirmed to be of high importance during the 2021 materiality review

Climate change

- High-profile disasters from natural hazards have highlighted the global risks of climate change.
- Customers, investors and regulators/policymakers' awareness and expectations around corporate responsibility are on the rise. Companies are being judged based on their culture, actions, and impact.
- The shift in public opinion has driven eco-friendly brands and innovations to emerge at a rapid pace.
- The meaning of climate change is expanding from the sole focus on carbon emissions to an increased emphasis on issues such as biodiversity, climate risk, net-zero emissions ambitions, circular economy, green digitalization, and innovation for green growth.

Data privacy and security

- Remote working, accelerated by the pandemic, has increased IT vulnerability and compelled organizations to take extra steps to protect personal data of our customers and employees.
- There has been a global increase in ransomware attacks across sectors and governments.
- Globally, data security and privacy are still major challenges. In Europe, an additional focus on the ethical use of data is emerging (e.g., artificial intelligence regulations).

Fair and inclusive workplace

- The pandemic drove many businesses to rely on technology to continue operating, yet it continues to highlight the technology gap in many low-income households. It has led to long-term changes in the job market, increasing the pressure for automation and having an adverse effect on pay and employment conditions.
- The need for increased gender and ethnic diversity in the workforce has become prevalent. This will in turn demand increased diversity and inclusion efforts from the companies and more transparent reporting on these topics.

Topics identified as having become significantly more important during the 2021 materiality review

Product responsibility

- The COVID-19 pandemic highlighted the importance of transparency toward our customers, so they fully understand the conditions of policy coverage.
- There is an increasing demand from governments and customers to ensure that products and services offered meet existing needs with transparent terms and conditions.
- Greenwashing has become a more prominent issue in marketing.

Responsible supply chain

- The resilience of global supply chains has been challenged by multiple issues, such as cyber threats, the pandemic, political activity, financial disruption, and disasters from natural hazards.
- Increasing expectations downstream (up to the end-consumer) in supply chains are driving a greater need for social and environmental responsibility and transparency across the complete chain.

Wellbeing and health

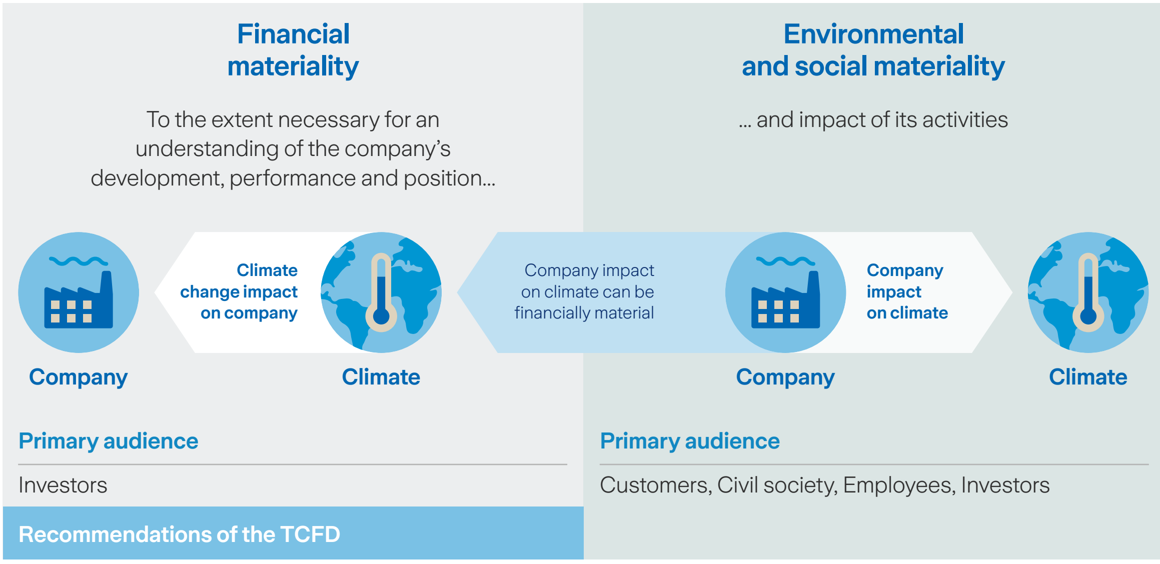
- The pandemic and the measures taken to tackle it have exacerbated growing concern over general and mental health.
- Financial inequality is an aggravating factor for most vulnerable groups and leads to an expanding inequality gap in our society.
- To improve health and wellbeing outcomes, governments and employers invest in measures to mitigate risks. This has led to a growth in tech startups focusing on physical and mental health.

2. Creating positive impact for stakeholders (continued)

2.2.2 Managing risks and opportunities

To carry out effective sustainability risk management, we consider the impact of our company on the planet and society (inside-out perspective), as well as the impact of climate and society on our company's core business (outside-in perspective). This approach enables us to understand sustainability risks, such as climate change as a risk driver of the key risks in our risk taxonomy. The concept of double materiality is used to understand the risks associated with sustainability. 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, are used to understand the risks from an outside-in perspective.

Figure 4:
Double materiality[1]



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

To support our business in mitigating risks and managing 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, as well as recommending proper response strategies. This approach is applied across all Group activities, and in particular, in investment management and underwriting.

Figure 5:
Risk management framework

1 Risk identification
Filter risks from various sources (ESG research, social and traditional media, NGOs, businesses) and identify those selected risks to go through our risk assessment process.

2 Risk assessment
Risk assessment by filtering risks through public commitments, role of insurance, underwriting risk assessment, market exposure assessment, etc. Our Group CEO approves a position statement on the risk, recommends business actions and takes reputational management considerations into account.

3 Implementation
Businesses locally implement mitigation actions and reputational management plans. Support available from experts across the Group and escalation follows normal governance procedures.

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:

- Respect for human rights, in particular avoiding business involving child labor, forced labor, poor health and safety conditions or unfair remuneration.
- Banned weapons, avoiding business involving the manufacture, sale, distribution or stockpiling of cluster weapons or anti-personnel mines.
- Dam construction, avoiding unacceptable social, political or environmental risks of specific dam construction projects.

1 The image represents the double materiality perspective of the EU Non-financial Reporting Directive. It is included here for illustrative purposes of the double materiality.

2. Creating positive impact for stakeholders (continued)

- Oil and gas operations, and mining operations, avoiding risks involving damage to protected areas or critical natural habitats, corruption, and human rights abuses.
- Thermal coal, oil sand and oil shale.

The framework is also used to establish proper response strategies[1], for example, avoiding risks by divestment or underweighting assets[2], or not underwriting certain activities, like our thermal coal, oil sand and oil shale position.

For outside-in risks, the most prominent example of 2021 is a detailed scenario-based climate risk assessment that we performed, while using a range of Network for Greening the Financial System (NGFS) scenarios and applying these across our core underwriting and investment portfolios to understand the potential physical and transition risks. These risks' impacts and the strategies to manage them are disclosed through the TCFD disclosure in the planet section (pages 134 to 166).

2.3 Involving our stakeholders

We understand that the success of our sustainability strategy greatly depends on the willingness of our stakeholders to be involved in, and contribute to, our ambitions. Our customers and employees are two very important stakeholder groups. Therefore, we provide details on our interactions with them in the customer and people section respectively pages 167 to 171 and pages 172 to 177. In addition, we frequently interact with, for example, regulators, NGOs and industry associations. In our stand-alone Sustainability Report 2021[3], you can read more on the mutual benefits we gain from this.

In addition, we strive to involve our investors, suppliers, and vendors, and the communities in which we operate, in diverse ways.

2.3.1 Investors

Sustainability continues to grow in importance for many of our stakeholders. As a responsible business, we have embedded sustainability goals into our corporate strategy, and we are dedicated to transparently communicating on our progress. We therefore invest intensively in consistent and open engagement with stakeholders, including investors and rating agencies.

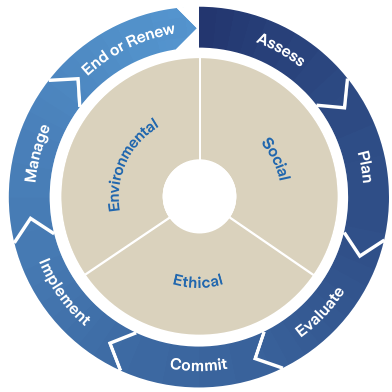
As part of our outreach to investors, dedicated interaction between our Board and larger investors has been established to provide insights into our sustainability strategy and performance. We also actively contribute to investor and rating agency events. This gives us objective insights into our current performance and supports us in our journey toward a more sustainable future. Based on our experience, we have learned that engaging with investors and rating agencies allows us to increase awareness on issues and potential solutions on the sustainability agenda, and also helps us to maintain our leadership position in this rapidly developing area.

2.3.2 Sustainable sourcing

WORLD ECONOMIC FORUM S

Our focus on expanding efforts to interact with partners in a way that supports our values, in combination with the challenges presented by the global pandemic (see assessing materiality; emerging topic 'responsible supply chain' (page 127), have reiterated the need for formalizing sustainability efforts in external partnerships. As part of this, we have established a Sustainable Sourcing Program[4]. This development aims to enhance the resilience of our supply chain, supports our aspiration to the Business Ambition for 1.5°C commitment[5], and create a positive social impact.

Figure 6:
Sustainable Sourcing Program



The program comprises three pillars that address environmental, social, and ethical factors. Its objective is to embed these factors throughout the sourcing lifecycle, align suppliers with our values and be transparent about our expectations.

So that there is a clear foundation for the systematic integration of responsible business conduct in our supply chain, we have developed a Supplier Code of Conduct (SCOC). 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 amongst our suppliers.

By the end of 2022, we aim to have 75 percent of our managed procurement spend (MPS)[6] in compliance with, or exceeding, our SCOC expectations. We measure compliance by asking suppliers to complete a self-assessment.

1 www.zurich.com/sustainability/governance-and-policies/exclusion-policies
2 www.zurich.com/-/media/project/zurich/dotcom/sustainability/docs/responsible-investment-at-zurich.pdf
3 www.zurich.com/en/sustainability/reporting-and-news/reports-publications
4 www.zurich.com/en/sustainability/governance-and-policies/sustainable-sourcing
5 UN Global Compact – Business Ambition for 1.5°C: www.unglobalcompact.org/take-action/events/climate-action-summit-2019/business-ambition
6 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.

2. Creating positive impact for stakeholders (continued)

At the end of 2021, we have confirmed that 55 percent of our managed procurement spend is with suppliers that meet or exceed our expectations. The SCOC and related self-assessment process was launched in June 2021. We will continue to invite suppliers to carry out self-assessments during 2022 as we move toward our target of 75 percent by end of 2022.

We are working with the suppliers comprising the top 75 percent of our MPS to address any areas where they do not meet expectations and are seeking to agree contractual clauses to embed our standards. This ensures a continuing focus on sustainability for the benefit of our business, our customers and society. We take our sustainability engagement seriously, now and for the future. So, where engagement fails and suppliers cannot or refuse to embed the minimum standards, we will review the relationship and consider phasing them out to protect our effort in doing the right thing.

As part of our continuous efforts to improve processes and guidelines for managing sustainability issues in the supply chain, we are currently working on a new third-party governance framework (TPGF). The TPGF aims to establish a globally consistent framework of Group minimum standards that applies to the onboarding and management of our suppliers. The TPGF will provide a risk-based approach for embedding sustainability in a consistent way across our supply chain.

2.3.3 Responsible tax[1]

WORLD ECONOMIC FORUM S

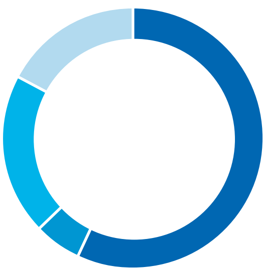
We aim to be recognized as a responsible member of the communities in which we operate and contribute to their prosperity. Being a responsible taxpayer is one of the ways we support their economic and societal development. We consider effective and efficient tax compliance to be a key objective and allocate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

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 own shareholders as well as those collected on behalf of tax administrations.

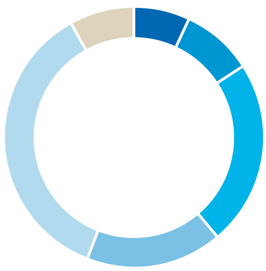
Figure 7:
Tax contribution 2020

Taxes borne by shareholders
Total 2020: USD 2.3bn
(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 2020: USD 6.1bn
(All numbers based on IFRS excluding deferred income tax)



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

Tax contributions include but are not limited to:

Corporate income taxes
Employment taxes
Insurance premium taxes
Value added taxes (VAT)
Stamp taxes and other transactional taxes
Real estate and other asset taxes
Excise taxes
Withholding taxes (WHT)

1 Results are reported with a one year time lag. This content is already available on our website (Being a responsible taxpayer Zurich Insurance: www.zurich.com/sustainability/governance-and-policies/being-a-responsible-taxpayer) and features a more detailed view on our tax strategy. Our 2021 tax results will be communicated on our website. Also see financial review page 229.

2. Creating positive impact for stakeholders (continued)

2.3.4 Community investment[1]

WORLD ECONOMIC FORUM S

Our community investment activities are mainly delivered by the Z Zurich Foundation (the Foundation), a charitable organization funded by various members of Zurich Insurance Group. The Foundation is at the heart of Zurich's ambition to be one of the most responsible and impactful businesses in the world and is creating a brighter future for vulnerable people with the aim to positively impact at least 11 million people worldwide by 2024.

In 2021, the COVID-19 pandemic continued to challenge the world and its population. 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 vulnerable people affected by the various natural hazards, mobilizing their network. These collective efforts led to results of which we are proud, with some of the highlights for 2021 being:

- A global fundraising campaign, engaging our employees and all business units to support UNICEF's efforts to deliver COVID-19 vaccines to low- and middle-income countries for the COVID-19 Vaccines Global Access (COVAX) Facility.
- Significant developments of the Foundation's 'Adapting to Climate Change', 'Improving Mental Wellbeing' and 'Enabling Social Equity' activities with new local grants and new global partnerships signed.
- Seventeen new local grant programs to support projects under the Foundation's strategic areas.
- Sixteen Community Hero Awards presented to recognize Zurich employees, who are going 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 2020 figures[2,3]

	2020	2019	Change
Fundraising and donations (USD millions)[4]	2.5	2.3	10%
Total time volunteered by workforce (business hours)	38,830	129,702	(70%)
of which skills-based hours	19,485	31,463	(38%)
Workforce actively volunteering (% of total headcount)	9.3%	20.9%	(11.5 ppts)

Table 2:
Charitable cash contributions 2021 figures (USD millions)

	2021	2020	Change
Charitable cash contributions by Zurich business units[5]	15.6	31.9	(104%)
Charitable cash contributions by Zurich to Z Zurich Foundation[6]	43.8	42.7	3%

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

1 Note: Zurich Insurance Group and its employees are contributing through fundraising, volunteering and cash contributions apart from the community investment activities carried out by the Foundation.
2 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.
3 2021 figures will be disclosed in the Foundation's annual report published in June 2022.
4 Mostly includes Zurich employees' fundraising and donations. As the share of the Zurich business units' matching becomes negligible, the split of these two sub-categories is no longer reflected.
5 'Charitable cash contributions' captures voluntary contributions from Zurich business units to non-profit organizations, excluding the Foundation. Once a year the data is consolidated and the total group number is reported. The decrease in cash contributions in 2020 is mainly due to a one-off donation to the COVID-19 Support Fund in the UK in 2020.
6 Charitable cash contributions captures voluntary contributions from Zurich to the Foundation. The donation is made yearly and reported once a year. The donation is made by various legal entities of the Zurich Insurance Group and amounted to CHF 40 million in 2020 and 2021. The dollar amount increase in the table above is due to foreign exchange rate movements.

3. Governance: Sustainability is embedded in our governance

Our governance structure supports a stakeholder-inclusive approach. As we believe sustainability needs to be embedded in the existing business to optimize our impact, it is treated as an integral part of our governing system.

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 recommends the Group's sustainability strategy and objectives and exercises oversight on sustainability-related matters.
- the Audit Committee provides oversight on the 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 Group's strategy.

For example, the target card framework used to assess individual performance of the ExCo for the 2021 short-term incentive plan (STIP) awards, includes both financial and non-financial targets. The non-financial targets are related to customers, employees, and strategic projects such as those with an ESG, including climate, focus.

The Board of Zurich Insurance Group Ltd is a supervisory board. Its members receive fixed remuneration as an annual fee, of which the basic fee is paid half in cash and half in five-year sales-restricted shares which are not subject to the achievement of any specific performance conditions[1] (see the remuneration report, pages 84 to 117 for further details).

At management level, accountability for different areas of expertise, including sustainability aspects related to each of these areas, are 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 Governance Nominations and Sustainability Committee, the Group CEO and the ExCo.

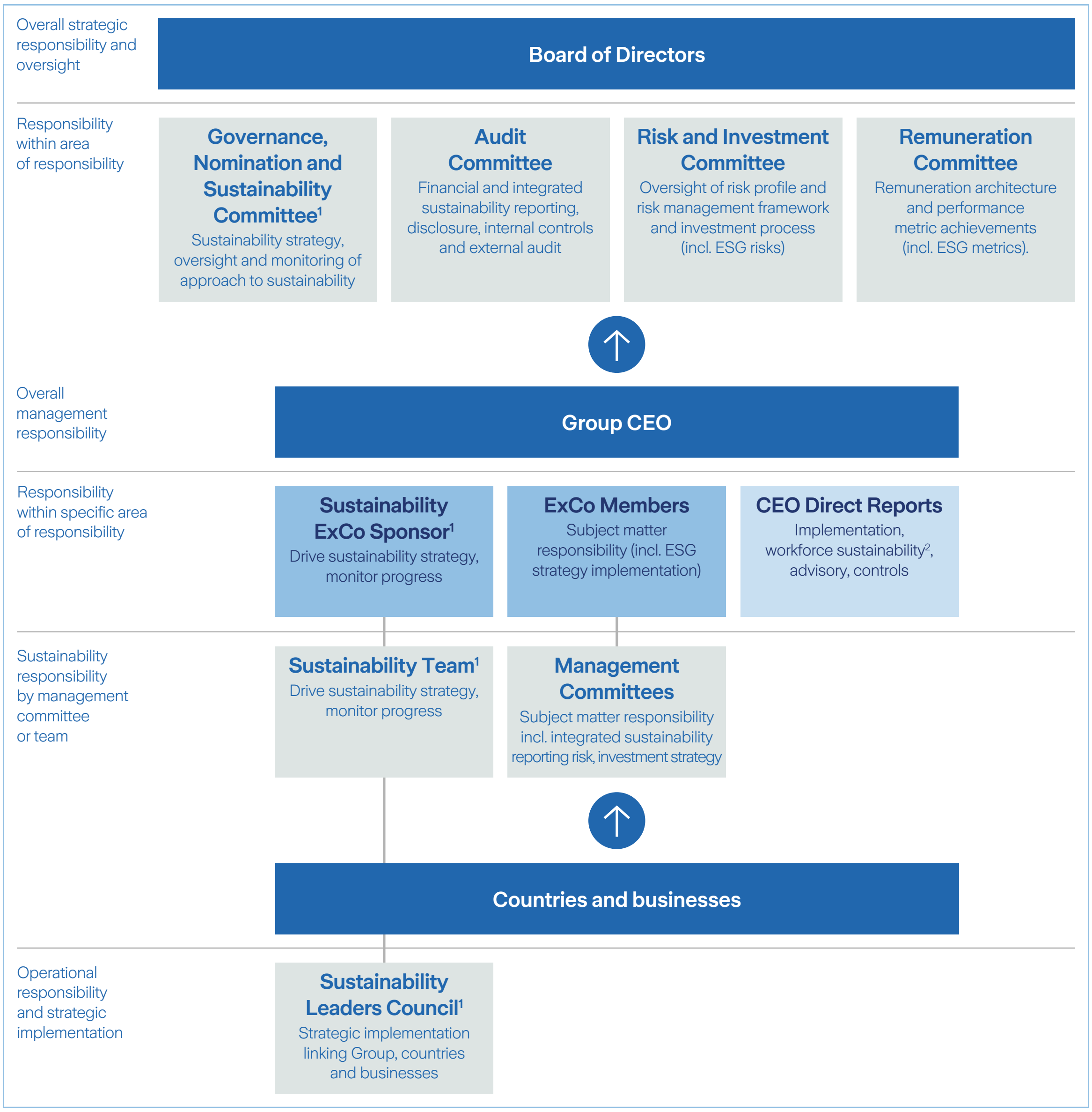
By opting for an integrated approach, our existing governance bodies are responsible for sustainability related topics that concern their field of expertise.

The implementation of the sustainability strategy and objectives in the businesses, function, 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.

1 In line with the TCFD disclosure, we specify that the remuneration of the Board is not impacted by climate-related performance.

3. Governance: Sustainability is embedded in our governance (continued)

Sustainability is fully embedded in our governance



1 ESG-specific responsibilities.
2 Within responsibility of Group Chief Transformation Officer.

4. Our planet: Drive positive impact

Climate change is perhaps the most complex risk facing society today. It is intergenerational, international, and interdependent. We strive to be a leader in helping the world better manage climate risk and improve resilience to the adverse consequences of climate change.

Significant reductions in greenhouse gas emissions are required to achieve the outcomes of the Paris Agreement, with current political will as demonstrated in COP26 falling short of what is required to achieve a 1.5°C future. Through engagement and collaboration with our stakeholders, we remain committed to aligning our underwriting activities, our investment activities and our own operations with a 1.5°C future. The risks and opportunities associated with climate change affect our products, services, and operations. Understanding, measuring, and managing these impacts – while seizing the opportunities that arise from the transition to a climate-neutral world – is important to sustainable value creation for all our stakeholders.

Linda Freiner
Group Head of Sustainability

TCFD This section presents our disclosure in line with the recommendations of the Financial Stability Board's Taskforce on Climate-related Financial Disclosure (TCFD). It outlines our understanding of potential climate risk impacts to our insurance 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 forms the focal point of this section, we are dedicated to environmental aspects in a broader sense.

Read more about our broader approach to sustainability
in our Sustainability Report 2021[1] and on www.zurich.com/sustainability

Our goals

1. **Setting ambitious science-based CO2e reduction targets**
2. **Innovating for sustainable solutions**
3. **Deeply understanding and integrating climate risk into the way we conduct business**

1. Setting ambitious science-based CO2e reduction targets

We became a founding member of the Net-Zero Insurance Alliance (NZIA)[2] in 2021 and in doing so, committed to individually transition our underwriting portfolios to net-zero GHG emissions by 2050.

Further, we announced interim 2025 climate targets for investments and operations to curb emissions in line with the Paris Agreement ambition to limit global warming to 1.5°C.

Our achievements in 2021:

–21%
reduction in corporate financed emission intensity (vs. 2019 baseline)

4.6m tCO2e
avoided through USD 5.1bn in climate-related impact investments

–6%
reduction real estate emission intensity (vs. 2019 baseline)[3]

USD 8.2bn
investments in climate solutions

–59%
(not: reductions) in operational emissions (vs. 2019 baseline)[3]

2. Innovating for sustainable solutions

We continued to provide sustainable solutions to our customers to enhance resilience and advocate for solutions to prevent or minimize damage and harm from climate-related perils. We continued 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 have defined internal criteria[4] for sustainable solutions (products and services) based on environmental and social features.

USD 289m
associated with sustainable solutions meeting our stringent criteria

1 www.zurich.com/en/sustainability/reporting-and-news/reports-publications
2 www.unepfi.org/net-zero-insurance/
3 In 2020.
4 For a thorough definition, see the metrics and targets section, pages 157 to 158.

4. Our planet: Drive positive impact (continued)

3. Deeply understanding and integrating climate risk into the way we conduct business

We progressed in our efforts to develop a deeper understanding of potential climate risk impacts to our business by performing our first portfolio-level scenario-based climate risk assessment.

This exploratory exercise considered all aspects of our business, including underwriting, investment and our own operations.

The assessment suggests our customer-focused approach and diversified portfolios, supported by strong risk management practices, provide the resilience and flexibility to adapt to the impacts observed.

4.1 Strategy

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

Our three-pillar climate strategy is reflected across our organization and reinforces our move in 2019 to become the first insurer to sign the Business Ambition for 1.5°C commitment[1]. 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 available to accelerate this transition.

4.1.1 Our climate-related strategy

1. Setting ambitious science-based CO2e reduction targets

Aligning our business practices with the outcomes of the Paris Agreement is critical to delivering the low-carbon transition and achieving a 1.5°C future. Ambitious science-based targets are a key element of our climate strategy in recognition of the pivotal role they play in this effort.

Climate targets for our underwriting portfolio | **Climate targets for our investment portfolio** | **Climate targets for our own operations**

Climate targets for our underwriting portfolio

We are a founding member of the NZIA and, as such, have committed to:
- Transition all operational and attributable greenhouse gas (GHG) emissions[2] from our insurance and reinsurance underwriting portfolios to net-zero emissions by 2050.
- Establish, to the extent permissible by applicable laws and regulations, our intermediate, science-based targets every five years in line with Article 4.9 of the Paris Agreement.

Climate targets for our investment portfolio

As a founding member of the Net-Zero Asset Owner Alliance (NZAOA)[3], we are on a journey to holding a net-zero investment portfolio by 2050 and in 2021, set interim targets based on the NZAOA Protocol’s recommendations. Our roadmap to achieve these targets includes:
- Reducing emissions of our portfolio by 2025 both for listed equity and corporate bond investments by 25 percent in terms of tons of CO2e per million USD invested, as well as direct real estate investments by 30 percent in terms of kg of CO2e per square meter.
- Engagement with companies to promote change toward sustainable practices and aligning their business to the Paris Agreement.
- Direct investment in climate solutions (impact investment and green real estate).

Read about our targets and progress
in the metrics and targets section, pages 160 to 166

Climate targets for our own operations

While the Group’s operations have been carbon neutral since 2014, we announced further greenhouse gas emissions reduction targets in 2021:
- 50 percent by 2025 against a 2019 baseline.
- 70 percent by 2029 against a 2019 baseline.

Read about our progress
in the metrics and targets section, page 166

1 UN Global Compact – Business Ambition for 1.5°C: www.unglobalcompact.org/take-action/events/climate-action-summit-2019/business-ambition
2 GHG emissions here refers to insurers’ and reinsurers’ scope 1, 2 and 3 emissions. Insurers’ and reinsurers’ scope 3 emissions should include their customers’ scope 1 and 2 and scope 3 emissions, where significant, and where data allows.
3 www.unepfi.org/net-zero-alliance/resources/alliance-2025-target-setting-protocol/

4. Our planet: Drive positive impact (continued)

2. Innovating for sustainable solutions

We believe insurance is key to facilitating the change required to achieve the low-carbon transition. 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. We develop insurance and risk management solutions for new technologies, business models and approaches that are needed to achieve a climate-neutral economy. We also use capital markets to search for and fund solutions to many pressing social or environmental issues. We apply our leading impact investing approach to build a portfolio of green impact investments that helps avoid five million tons of CO2e per year. We are working with the NZAOA to increase the pipeline of investment opportunities in climate solutions that are suitable for institutional investors.

Unit-linked sustainability solutions

We launched a set of innovative unit-linked sustainability solutions that leverage our responsible investment expertise for the benefit of our unit-linked customers. For example, we launched an industry-first Carbon Neutral World Equity Fund[1] that combines a low-carbon investment strategy with carbon offsetting. The fund is available in Germany, Italy, Portugal and Switzerland, with rollout to additional markets expected in 2022.

Read more about our unit-linked funds
in our Sustainability Report 2021[2], section Customer

Climate risk solutions

To enhance our customers' ability to manage transition risk, we have strengthened our support for renewable energy through the addition of specialist roles within the organization to help manage and develop risk positions. This will help ensure we maintain a balanced portfolio, keeping in mind the potential for higher risks associated with renewable energy construction projects.

We have expanded our existing natural hazards risk advisory service to address customers' physical climate change risks. As part of our Climate Change Resilience Services (CCRS)[3], 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.

Read more about our CCRS
in our Sustainability Report 2021[2], section Customer

Measuring sustainable solutions based on an internal definition

In 2021, we established an internal definition of sustainable solutions and measured their associated revenue for the first time. Those stringent criteria have been thoroughly assessed through an internal process to be qualified as sustainable solutions. Meeting those criteria are also a pre-requisite to promoting a product as sustainable.

Read more about our definition and progress
in the metrics and targets section, pages 157 to 158

Fostering internal innovation

To foster innovative thinking internally, we set up a community of practice focusing on knowledge sharing and the development of customer-facing solutions to support the transition (mobility, green consumerism, energy, carbon and sustainable infrastructure). We encourage our workforce to engage in efforts to reduce our operational footprint and in 2021 established an internal carbon fund to support this objective. Governed by the SLC, this fund supports the implementation of initiatives proposed by employees and intended to address operational emissions and ensure our continued carbon neutrality. Our internal carbon price – set at USD 15 per ton in 2021 – is subject to annual increase.

Read more about our carbon fund
in our Sustainability Report 2021[2], section Planet

1 www.zurich.com/media/news-releases/2021/2021-0907-01
2 www.zurich.com/en/sustainability/reporting-and-news/reports-publications
3 www.zurich.com/products-and-services/protect-your-business/risk-engineering/climate-change-resilience-services

4. Our planet: Drive positive impact (continued)

3. Deeply understanding and integrating climate risk into the way we conduct business

Understanding and managing climate impacts is an important aspect of maintaining our long-term profitability. Our approach to climate risk is part of our Group-wide risk management process. It is managed in a way that is consistent with other risks to which the Group is exposed. We are integrating 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 to improve our understanding of them, with modeling the effects of physical risk on our portfolios as a key focus area. While climate change models are constantly improving, they remain less accurate at the smaller spatial resolutions needed for a detailed analysis of the impact of natural catastrophe changes 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 Zurich view 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 the managing risks from climate-related natural catastrophes section, page 155

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 employ scenario analysis at the portfolio level to develop such an understanding. Our first exploratory scenario-based climate risk assessment, performed in 2021, considered outcomes from 2030 onward, with impacts quantified where possible. Outcomes of this analysis are used to determine appropriate responses and ensure the resilience of our strategy.

We view disclosure of the outcomes of these processes in line with the TCFD recommendations as a critical proof point to demonstrate our understanding and management of this risk.

Read more about the outcomes of our first scenario-based climate risk assessment
in the climate risk assessment 2021 section, pages 144 to 152

Read more about how we have integrated scenario analysis into our risk management processes
in the portfolio-level scenario-based climate risk assessment section, pages 153 to 154

4. Our planet: Drive positive impact (continued)

Climate action as part of our broader responsible investment strategy

As the ownership and management of assets carries broad responsibilities, we have established our responsible investment approach which goes beyond climate risk. It integrates environmental and social factors in addition to financial considerations for the assessment of performance. Accordingly, our climate-related strategy must be understood as feeding into a broader sustainable approach to investment management.

Our responsible investment approach as an asset owner and manager

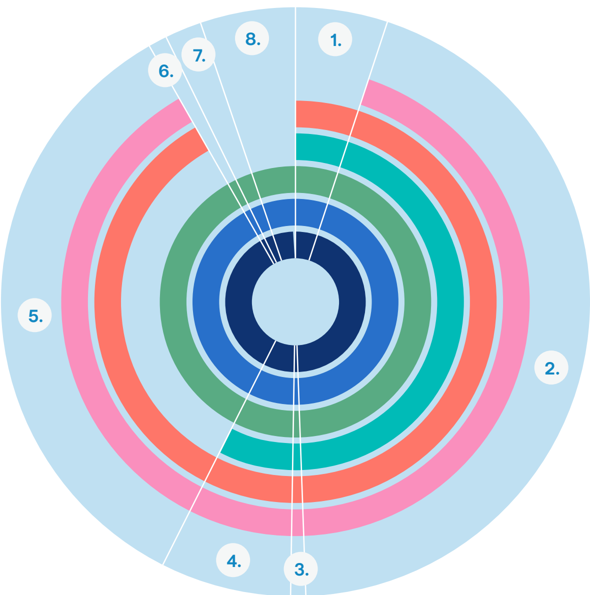
Responsible investment can mean different things to different people. We have primarily chosen to pursue it in three ways:

- ESG integration: Besides examining financial performance, we also assess environmental, social and governance (ESG) factors when analyzing individual investments and investment managers. We consider these sustainability risks and opportunities when we decide whether to buy or sell assets.
- Impact investing: We fund institutions or projects that, while generating a safe, adequate return on our premiums, also generate targeted and measurable positive environmental or social impacts. More specifically, we are aiming to build an impact investment portfolio that helps avoid 5 million metric tons of CO_2 equivalent emissions and benefits 5 million people every year.
- Advancing together: Responsible investing is becoming more sophisticated. We are glad to play a leadership role in developing new and innovative ways to measure impact, scale sustainable investment markets and practices with integrity, and promote climate action – working together with a broad group of stakeholders.

We apply a holistic responsible investment strategy across all our investments. Our three main ways of managing our portfolio responsibly, as described above, are supported by a variety of other technical approaches such as active ownership, selective exclusion screens and a net-zero by 2050 decarbonization target. This enables us to apply the appropriate responsible investment approach to each individual asset class. In 2021, nearly all of our own assets were managed by a signatory to the Principles for Responsible Investment (PRI) or asset managers meeting our requirements for responsible investment, giving us confidence that these assets are managed in line with our strategy. We also believe that we can achieve the best outcomes when we specify the responsible investment management approach used on an asset class level.

As the graph below illustrates, every asset class is covered by at least one element of our responsible investment approach. The graph is a simplified visualization of our holistic responsible investment strategy, comprising a variety of tools we match with the asset classes where they have the most practical influence.

Figure 8:
Our holistic responsible investment approach



Investment approach
- Managed by a responsible investor*
- Net-zero 2050 target
- Exclusion screens
- ESG integration
- Active ownership
- Impact investing

Asset class
1. Equities
2. Credit, private debt
3. Private equity
4. Real estate
5. Government and government-guaranteed
6. Hedge funds
7. Mortgages
8. Cash

* Signatory to the PRI or fulfilling Zurich minimum requirements.

Read more about our holistic approach to responsible investment on our website[1]

1 www.zurich.com/sustainability/responsible-investment

4. Our planet: Drive positive impact (continued)

Climate-related investment approach

As part of our responsible investment strategy, we have designed a proactive and holistic approach to deal with climate change-related risks and opportunities that is based on action in eight strategic areas.

Net-zero portfolio by 2050

We are dedicated to transition our investment portfolios to net-zero greenhouse gas emissions by 2050, consistent with a maximum temperature rise of 1.5°C above pre-industrial temperatures, taking into account the best available scientific knowledge. Science-based interim targets for 2025 have been set for listed equity, corporate debt and real estate. Additional asset classes will be added as methodologies become available.

Read about our progress in the metrics and targets section, pages 162 to 164

Scenarios

It is hard to take action without context. Scenario analysis is conducted using an integrated modeling approach for both investment management and underwriting portfolios to ensure that, to every extent possible, assumptions are used consistently across both portfolios. In addition, our Market Strategy and Macroeconomics team has defined high-level scenarios and is monitoring developments with the help of a scorecard that is updated regularly.

Read more about the outcomes of our first scenario-based climate risk assessment in the climate risk assessment 2021 section, pages 144 to 152

Strengthen ESG integration

Given its complexity and long-term nature, climate change represents a particular challenge for ESG integration. We will constantly evaluate additional data and tools to raise awareness among investment professionals and to support integration in investment strategies.

Read more about ESG integration on our website[1]

Benchmarks

ESG integration practices for passive investment portfolios can only be managed through benchmark adaptations. We launched a first pilot on policyholder money in the UK, where we use a customized benchmark that incorporates a climate risk assessment. We will evaluate the application of such benchmarks for new and existing portfolios on a case-by-case basis.

Finance the transition to a climate-neutral economy

As part of our ongoing commitment to impact investing and our target to help avoid the emission of 5 million tons of CO_2e per year, we will evaluate climate solution investments (impact investments and green real estate) across different asset classes on an ongoing basis.

Read about our progress in the metrics and targets section, page 164

Drive change through advocacy

Public and private sectors need to take decisive action. We have defined clear positions on topics such as transparent risk disclosure, carbon pricing, etc.

Read about our progress in the metrics and targets section, page 166

Engagement

As part of engaging with the companies in which we invest, climate change is reflected on the agenda of our bottom-up engagement approach. In addition, we drive a top-down climate engagement campaign for net-zero target setting, and consider climate change in voting actions.

Read about our progress in the metrics and targets section, pages 160 to 161

Selective exclusions

Recognizing the particularly harmful impact of coal on the climate, we have developed a Group approach on selectively excluding from our underwriting and investment activities companies related to the mining of, or electricity generation from, thermal coal, oil sands and oil shale.

Read more about our exclusion approach on our website[2]

Read about our progress in the metrics and targets section, page 160

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

4. Our planet: Drive positive impact (continued)

4.1.2 Climate-related risks

In alignment with TCFD recommendations, we broadly categorize climate-related risks as physical and transition risk and outline below potential impacts to our business.

1. Climate-related physical risk

TCFD E

Figure 9:
Climate-related physical risk

Physical risk

Acute physical risks
- Tropical and extra-tropical cyclones
- Severe convective storms
- Hail
- Floods (riverine, pluvial, storm surge)
- Heatwaves
- Droughts
- Wildfires

Chronic physical risks
- Sea level rise
- Variability in temperature
- Variability in precipitation
- Water stress

Impact channels

Changes to extreme weather events
- Changes in severity of events
- Changes in frequency of events
- Geographic shifts of events

Land degradation

Changes in productivity
- Agricultural production
- Labor productivity

Economic impact

Individual companies
- Changes in revenue and costs from impacts on workforce and production assets
- Increased operating costs for adaptation measures
- Changes in revenue and costs from changes in supply chain costs and reliability
- Write-offs and early retirement of assets
- Increased costs of capital

Macroeconomy
- Higher infrastructure costs
- Increased disaster relief and recovery costs
- Changes in GDP and growth rates
- Changes in borrowing costs
- Interest rates changes

Impact to insurer's balance sheet

Liabilities (insurance)
- Changes in and shift of demand for products and services across geographies/ sectors/ lines of business
- Changes in loss ratios and profits
  - Changes in loss frequency
  - Changes in loss severity

Assets (investments)
- Valuation changes
- Changes in default rates

There is unequivocal scientific consensus that human greenhouse gas emissions are leading to an increase in global surface temperature and that this is driving changes in climate and weather systems across the globe. The Working Group I contribution to the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report, released in August 2021, provided further evidence that changes in climate extremes can already be attributed to the human-induced increase in global surface temperature, and that continuing emission trends will further exacerbate the direction of many of the emerging trends. Overwhelmingly, 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 there is high confidence 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. 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 when extreme heat and drought lead to more wildfires and the combination of sea level rise and changes in hurricane intensity or tracks lead to higher storm surge damage.

Impact to demand and loss profiles
Up to 2030, we expect climate change-driven changes to physical risks to become increasingly relevant, but not yet to become 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.

4. Our planet: Drive positive impact (continued)

Socioeconomic trends such as 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 modelling, 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. Increases in severity and frequency of natural catastrophes such as tropical cyclones, flood or hail can lead to higher losses by customers that are covered under our property policies. More droughts and extreme precipitation can also impact losses in our agriculture insurance. 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 142 to 144).

Impact through valuation changes
The physical impacts of climate change on the built environment are becoming more significant. With their locations fixed, buildings themselves may be at risk of suffering significant damage costs from climate change impacts. We currently explore possibilities to assess physical risks on property level by using our risk model on catastrophes and integrating data into our central portfolio management system.

The valuation of assets in our investment portfolio can also be affected by direct and indirect exposures to physical risk. Businesses will be directly affected through the impact on their costs and revenues, with a potential for supply chain disruptions and asset write-offs. The vulnerability of nations to physical risk, including through costs associated with infrastructure and adaptation measures, or through disruptions and vulnerability to extreme weather events, can also have an impact on the valuation of sovereign debt.

2. Climate-related transition risk

Figure 10:
Climate-related transition risk

Climate transition risk

Policy and legal
- Increased pricing of GHG emissions and removal of subsidies
- Enhance reporting requirements
- Restrictions on products and technologies

Technology
- New lower-carbon technologies
- New energy efficiency technologies

Market and sentiment
- Changing customer behavior and consumer preferences
- Stigmatization of sectors and technologies
- Changed cost of production inputs

Impact channels

Changes in demand
- Increasing demand for low-carbon products and materials
- Reduced demand for carbon intense technologies and products

Changes in costs
- Direct carbon costs
- Changes in operating costs (supply chain, commodity costs, compliance, new production processes)
- Abatement

Competition and pass-through effects
- Shifts in market share
- Pass-through of costs to end-customers for low price-elasticity products and services

Economic impact

Individual companies
- Lower product margins
- More operational break-downs
- Early write-offs and stranded assets
- Changes in borrowing costs
- Higher sales volumes and profits for companies providing low-carbon products and services

Macroeconomy
- Changes in GDP and growth rates
- Changes in borrowing costs
- Interest rates changes

Impact to insurer's balance sheet

Liabilities (insurance)
- Changes in and shift of demand across geographies/sectors/lines of business
- Changes in loss frequency
- Changes in loss severity

Assets (investments)
- Valuation changes
- Changes in default rates

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 as 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 steep rise in carbon prices and removal of subsidies on carbon-intensive resources and activities that is expected in this transition can 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. The transition will also shift demand 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 greatly vary across individual actors, depending on their detailed business models, assets, and transition strategy, complicating the assessment of aggregate transition impacts.

4. Our planet: Drive positive impact (continued)

On a portfolio level, for both our proprietary investments and underwriting, there will be winners and losers in any transition scenario. There will also be aggregate macro effects arising in a transitioning scenario, including the impact on economic activity, inflation and potentially also 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 have high dependencies 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 will threaten to impact asset values.

The transition will also bring legal or litigation risks. Carbon intense 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 impacts 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 that could potentially present 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 Climate risk assessment 2021

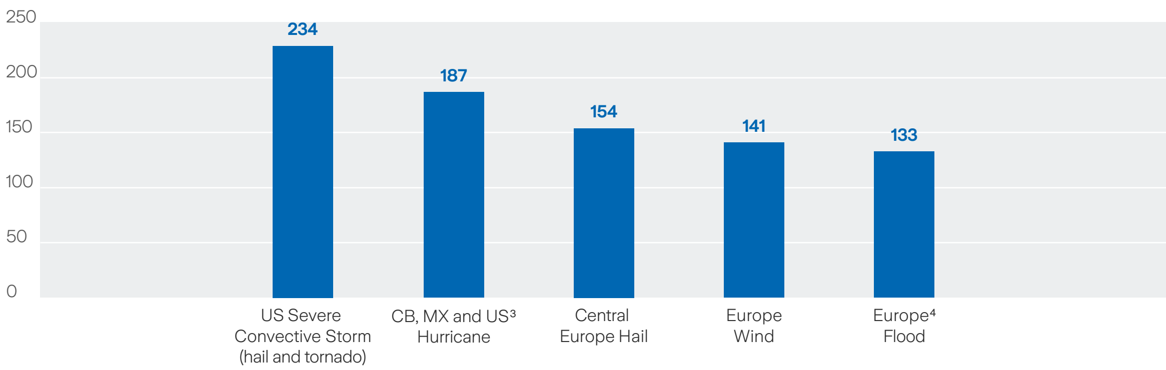
1. Current exposure to physical risk[1]

Current exposures to physical climate risk are expressed through average expected loss (AEL) and probable maximum loss (PML). Note that PML is a tail metric that looks at severe unexpected outcomes as opposed to AEL that provides a view on the expected. The PML is driven by different peril regions compared to the AEL.

Modelled exposures are shown below.[2] Our approach to modelling is discussed further in the managing risks from climate-related natural catastrophes section (page 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 modelling output (e.g., AEL, PML) over time.

TCFD *Average expected loss*

Figure 11:
Average expected losses for top five peril regions
in USD millions



Our modelled AEL from climate-related natural catastrophes provide 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.

1 Countries comprising the peril regions referred to here are as follows:
– Central Europe Hail: Austria, Belgium, France, Germany, Italy, Luxemburg, the Netherlands and Switzerland.
– Europe Wind: Austria, Belgium, Czech Republic, Denmark, France, Germany, Guernsey, Ireland, Isle of Man, Jersey, Luxemburg, 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 US Hurricane: Caribbean, Mexico and the U.S.

2 Results from the Q4 2021 Group Cat Model are presented. There are timing differences in the underlying exposures considered in this analysis (underlying exposures by peril region are generally as at June or September 2021, and in exceptional cases as at September or December 2020).

3 The geographic scope is extended when compared to 2020 TCFD to include correlated exposure in the Caribbean (CB) and Mexico (MX). The AEL for US hurricane only is USD 169 millions in 2021.

4 The 2020 reporting for flood in Europe included the UK only which on a stand alone basis is not in the top 5.

4. Our planet: Drive positive impact (continued)

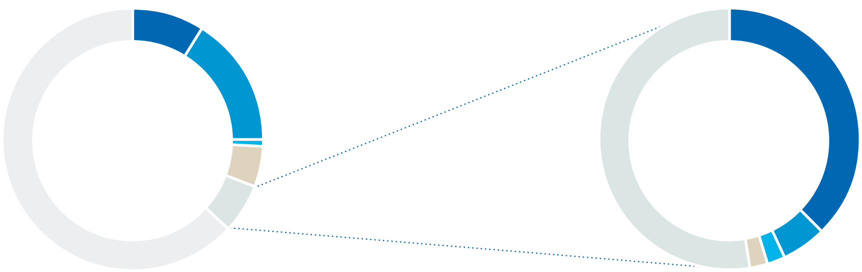
Probable maximum loss

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 nat cat total SST

SST total risk capital contribution by risk type

Climate-related perils as a fraction of nat cat SST total risk capital[1]



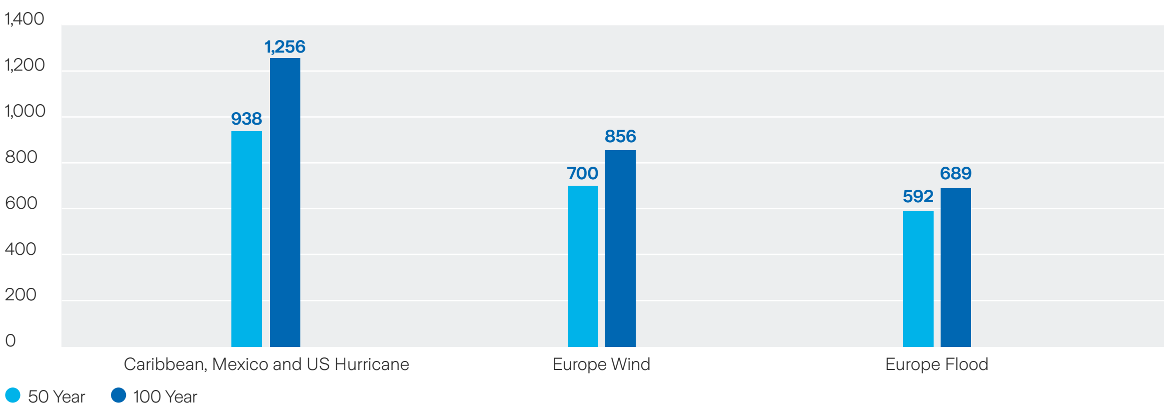
Business risk	9%
Premium & reserve risk	16%
Other credit risk	1%
Life insurance risk	5%
Natural catastrophe risk	6%
Market risk	63%

North America Hurricane	37.8%
Europe Wind	5.3%
Europe Flood	2.3%
Other climate-related	2.3%
Non-climate related	52.4%

Our 50 and 100 year PML measured by the net annual aggregate loss are shown below based on our top three peril regions.

Figure 13:
Probable maximum loss by top three peril regions
in USD millions

Probable Maximum Loss



Total monetary losses from natural catastrophes

Our loss ratio for the full year 2021 was 63 percent with 5.3 percentage points attributable to the following natural catastrophes experienced throughout 2021: Winter freeze in Texas, Hurricane Ida, European Hail and Central European Floods. These events and figures have been reviewed by the Group's Catastrophe Response Group (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 phenomena that produce unusually large aggregate losses.

1 The nat cat 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).

4. Our planet: Drive positive impact (continued)

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 on climate-related perils in order to reflect trends in the hazard, whereas exposure trends are naturally captured by exposure data updates. 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 focuse substantial time and resource 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.

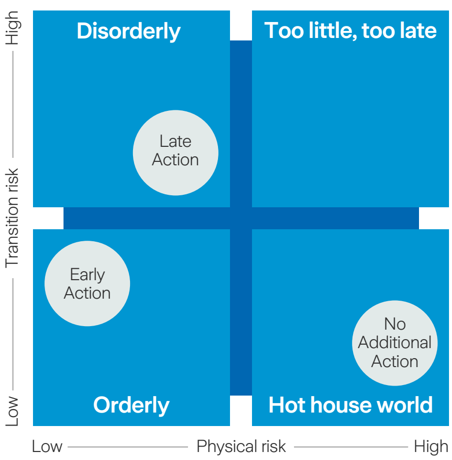
2. Forward-looking scenario analysis

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 improve 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 NGFS suite, with scenarios chosen to cover a relevant set of emissions pathways and modelled to closely incorporate specific attributes required as part of the Bank of England Climate Biennial Exploratory Scenario (CBES) exercise.[2] The emissions pathways of the selected scenarios correspond broadly to representative concentration pathways (RCP) 2.6 and RCP 6.0.[3] The selected scenarios afford a broad analysis of potential risks and opportunities, covering high and low physical and transition risks. As shown below, the no additional action (NAA) scenario primarily explores physical risks from climate change where no new climate policies are introduced, while both early- and late-action scenarios consider alternative routes to net-zero emissions by 2050, and as such are aligned with our strategic objectives. Both scenarios anticipate significant transition risks due to the rapid change in the economy over that period as emissions decrease.

Figure 14:
NGFS scenario framework[4]



As outlined in the risk management section (pages 153 to 155), our scenario analysis leverages a third-party model to assess both our insurance and investment business.

As physical risk is assumed identical for both early- and late-action scenarios (per CBES guidance) and as transition risk is considered materially the same in both late-action and NAA over the quantification window (10 years), analysis of our underwriting portfolio excludes the late-action scenario.

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 RCPs assumed (RCP 2.6 & RCP 8.5).[5]

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 153 to 154).

Scope

The scenario-based assessment of our proprietary investment portfolio considers listed equities, corporate credit and real estate and places a focus on understanding potential risks to the valuation of corporate equities. While equities as an asset class has a low absolute share in our investment portfolio (5 percent), it has a material impact on our investment-related market risk position. 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.

1 For details on the Total Risk Profiling™ methodology and scenarios analysis process, see the risk management section (pages 153 to 155).
2 In line with the requirements of the CBES exercise, and to ensure severe physical risks that may crystallise post 2050 are considered, physical risk is stressed in the NAA scenario by calibrating physical risk in the period 2021–2050 based on the level of physical risk that could be prevalent between 2050 and 2080. This is achieved by assuming temperature increases in this scenario are at the 90th percentile of expected temperature increases; a higher level than the expected (mean) temperature increase. Physical risks are therefore modelled based on a temperature trajectory that reaches 3.3°C by 2050. Because the level of physical risk is similar in the early-action and late-action scenarios, it is assumed when modelling physical risk that the early-action scenario has the same temperature trajectory as the late-action scenario in the period 2021–2050.
3 As described by NGFS, "the RCPs are greenhouse gas concentration scenarios that are commonly used in the climate modelling community. […] They were officially adopted by the IPCC and provide a basis for the projections and predictions of the Fifth Assessment Report of the IPCC". The correspondence between CBES/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 falls in the range of RCP 6.0. (More details available in the NGFS Technical Documentation).
4 www.ngfs.net/ngfs-scenarios-portal
5 These correspond to SSP1-2.6 and SSP5-8.5 respectively according to the new IPCC designations.

4. Our planet: Drive positive impact (continued)

The analysis of our underwriting portfolio leverages outputs from the same third-party model as inputs to a bespoke modeling of the relationship between key climate drivers, insurance demand, and loss experience. The total book was analyzed by line of business, geographic region and industry/sector to identify a set of nine at risk 'clusters' with potentially high exposure to the impacts of physical and transition risks. Each cluster was then subject to a deep dive analysis to identify and translate key drivers of physical and transition risk into quantitative impacts. The resultant deep dives performed consider 49 percent of the total Property & Casualty (P&C) portfolio (USD 18 billion of USD 37 billion), mostly concentrated in North America (NA) and Europe, reflective of our underwriting footprint. Analysis of our Life book focuses on protection-related products in EMEA and Latin America (LATAM), representing 37 percent of the Life portfolio (USD 5 billion of USD 14 billion).

Quantification is performed to underpin our medium-term assessment (to 2030), an approach considered reasonable for determining strategic management actions in response to risks identified given the prevalence of annual policy renewals across a high proportion of our portfolio. Given the increasing uncertainty inherent in considering longer time periods, impacts to 2050 are analyzed qualitatively.

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

- **percentage change in demand:** estimated impacts on size and composition of demand for insurance products due to physical and transition climate risk drivers in each scenario, compared with a baseline of no further climate action and no further climate change relative to current day levels.
- **percentage change in expected losses:** estimated impacts on claims due to physical and transition climate risk drivers in each scenario, compared with a baseline of no further climate action and no further climate change relative to current day levels.

A scenario-based assessment of the potential impacts of physical climate risk on our business operations was performed, leveraging a separate modelling approach underpinned by third-party data. This assessment focused on employee locations, strategic data centers and critical supplier locations.

4. Our planet: Drive positive impact (continued)

Sierra Signorelli
CEO Commercial Insurance

Underwriting analysis

High-level outcomes

The heatmap below presents a view of potential Group-level climate risk impacts and opportunities across key areas of our underwriting portfolio in 2030 as modeled under the NAA and early-action scenarios. As with all forward-looking analysis, the estimated movements in demand and loss experience presented below and throughout this disclosure are derived through the use of numerous assumptions, including for example the timing and severity of policy responses, the magnitude of temperature rises, future GHG emission trajectories and global energy mix. Analysis outcomes are therefore subject to considerable uncertainty and should not be interpreted as projections of future outcomes.

Figure 15:
Potential climate change-related impacts to our underwriting portfolio under NAA and early-action scenarios with strategically aligned responses[1]

Sector	Line of business	Portfolio weight	Demand impacts: No additional action	Demand impacts: Early-action	Loss impacts: No additional action	Loss impacts: Early-action	Responses
All sectors	Retail and commercial motor	High	Low risk	Low risk	Low risk	Low risk	Monitor loss trends associated with electric vehicles to reflect appropriately in pricing. Optimize claims network for emerging technology.
All sectors	Property	High	Low risk	Low growth	High risk	High risk	Continue best-in-class CAT modelling, accumulation management and continued development of Zurich Resilience Solutions. Reshape portfolios in case of NAA.
Construction	–	Medium	Low risk	High growth	Low risk	Medium risk	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 risk	Low risk	Low risk	Low risk	Deepen ESG review as part of the underwriting process within Financial Lines, with a focus on customers' climate-related reporting.
Agriculture	–	Medium	Low growth	Medium growth	Low risk	Medium risk	Continued investment in models developing insights at commodity, product and country level to support adjusting mix. Assess potential growth in private products.
Heavy industry and mining	–	Low	Low growth	Medium risk	Low risk	Low risk	Leverage carbon capture and storage and energy knowledge for customers developing own solutions. Explore customer activities around transition to understand growth opportunities.
Fossil fuels	–	Low	Low growth	High risk	Low risk	Low risk	Understand customers' transition plans and how Zurich can support. Increased risk engineering focus on maintenance of facilities that may be in run-off.
Power	–	Low	Low growth	Low growth	Low risk	Low risk	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 risk	Medium risk	Low risk	Low risk	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)
- High (>10%)
- Medium (5–10%)
- Low (<5%)

Impact thresholds
- High risk (managed through Group actions)
- Medium risk (managed through local actions)
- Low risk (managed through local actions)
- Low growth (managed through local actions)
- Medium growth (managed through local actions)
- High growth (managed through Group actions)

Overall impacts to P&C demand at Group-level in 2030 under the scenarios considered as modelled and with assumptions made are estimated to be of low materiality in both scenarios. Demand impacts related to Life protection products are observed to be higher under the early-action scenario. Impacts to Group-level P&C loss experience are observed to be more pronounced before mitigating actions are considered. In general, the diversification of our P&C business in terms of geographic footprint, industry mix and line of business provides a degree of insulation to potential negative changes in demand at Group-level. Material opportunities for growth are noted in an early-transition scenario, with only minor growth opportunities in areas not aligned with our strategic outlook observed in NAA (e.g., fossil fuel).

Analysis to date does not suggest material impacts to fee income received from Farmers Group Inc. through to 2030.

1 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.

4. Our planet: Drive positive impact (continued)

NAA: a closer look
No additional climate action leads to an increased need for more sophisticated modelling as weather events increasingly impact portfolio, as well as stronger push on resilience. It also requires the focused reshaping of portfolios away from areas with high risk from physical impact of unabated climate change.

Physical risk is assumed to dominate in the NAA scenario. In line with scenario narratives, increased levels of physical risk modestly suppress economic activity up to 2030 due to impacts on productivity, reducing GDP and consequently demand for insurance. Impacts to demand quantified at the Group level are observed to be pervasive, relatively low and geographically inhomogeneous. The reduction in GDP impacts the motor book by reducing demand in commercial insurance and declining retail purchasing power leading to overall decline in vehicle sales. Retail property and life protection demand is similarly impacted due to suppressed economic activity. Impacts from insuring financial services are mostly second order, being driven by the exposure companies have to climate sensitive sectors.

Potential increase in demand in the agricultural sector is driven by the expansion of the North American biofuel sector and could represent an opportunity in this scenario but is expected to be offset by a decrease in other crop types. Other minor growth opportunities are noted in books to which we have limited exposure and in areas which are not aligned with our strategic objectives as we commit to move our underwriting portfolio toward net-zero.

The impact of climate change on physical losses in property, and to a lesser extent, construction is expected to be the main driver of increased losses under the NAA scenario. Adverse loss trends in property are reflective of expected average annual loss increase due to (extra-)tropical cyclones, floods and severe convective storms. Increase in frequency and severity of claims due to hydrological events such as heavy rain, cyclones and flooding are noted to drive trends for construction.

Early-action: a closer look
The early-action scenario aligns to our commitment to a 1.5°C future, and brings greater opportunities for growth in various sectors. The well-balanced nature of our portfolio limits negative demand impacts even before strategic actions aimed at maximising growth and limiting loss exposure are considered.

The transition to low carbon is observed to have pervasive impacts on our portfolio under the early-action scenario.

Increasing explicit and implicit carbon prices will in particular affect the heavy industry, mining and the fossil fuels sectors and the expected shift away from fossil fuels will in turn benefit the power sector, as end-use sectors move energy demand toward alternate sources of power.

Within the power sector, the transition will yield a shift toward renewables. The resulting impact on demand for insurance from the power sector will be contingent on the price trajectory of renewable assets. Indeed, by 2030 the increase in demand for electricity is expected to be offset by fast decreasing renewable asset prices in some regions, meaning overall sector revenue and insurance demand will stabilize.

Significant investment in the power sector to increase renewable generation capacity and grid infrastructure will have positive spillover impacts on the construction sector, together with the growing need to renovate and rebuild to reduce building emissions.

The increasing importance of biofuels to power the clean-energy transition will potentially drive growth in the agriculture sector (above that observed in the NAA scenario), together with increased yield size due to adoption of more efficient farming practices.

Heavy industry and mining will suffer from increased carbon costs potentially resulting in reduced demand. However, increases in demand for minerals critical to the transition to a low-carbon future, particularly cobalt and copper, which are input into key low-carbon technologies like batteries and photovoltaic panels, represent an opportunity for the mining portfolio.

The cumulative effect of corporate sectoral shifts associated with an early-action scenario contribute to overall decreases in demand for Life protection products.

Increasing carbon costs will drive the uptake of new low-carbon technologies; such emerging technologies represent opportunities for insurers, but they will also come with increased risk. This applies to new technologies in renewables, carbon capture and storage for power and industry, hydrogen for industry, as well as new construction materials and techniques in the construction sector.

The transformation of the motor industry, with increasing uptake of electric or alternatively fueled vehicles, is not expected to significantly impact demand or expected losses, as the behavior of drivers of electric vehicles will align with that of standard vehicles, meaning loss profiles will in turn align.

In the agriculture sector the increased productivity of land serves as an additional loss driver for agriculture as any loss event would potentially have a greater financial impact, however this would potentially be compensated for through the pricing mechanism within the crop business.

4. Our planet: Drive positive impact (continued)

Looking to 2050

In the long term (beyond 2030), the severity and frequency of acute and chronic physical risks are expected to increase, shifting loss profiles across many lines of business including, for example, property, given the expected concentration of acute hazards around high-risk regions (e.g., coastal areas, wildfire zones). The high degree of uncertainty over how electric vehicles and autonomous technology affects the functioning of the transport system (e.g., car sharing, modal shifts, self-driving vehicles) and the resulting demand for cars will likely lead to demand and loss impacts to our motor book. Overall, shifting loss profiles could mean that certain impacts can no longer be compensated through pricing, and that some risks may become uninsurable.[1]

The energy transition continues beyond 2030 and extends to other industrial sectors: this could further increase risks for sectors such as fossil fuels and create opportunities in others such as construction and power. The scale of electrical and mechanical construction projects required to deliver the low-carbon stock necessary for net-zero is a once-in-a-generation opportunity, but it will also come with new risks. Offsite construction, increasing value of materials and components and unknown risk profiles could all contribute to an increase in the number and value of claims in our property and engineering lines book.

Demand for insurance due to the growth in cropland for biofuels will continue to increase in the long term, as biofuel production picks up pace. Improvements in crop yields will remain constant after 2030 due to high initial penetration of new technologies in the sector. Demand profiles for financial services are likely to shift as exposure to climate sensitive holdings by financial institutions becomes a key driver of demand from individual companies. Liability risks are also likely to increase as stricter climate-related accountability and responsibility on financial institutions are introduced.

Proprietary investment portfolio analysis

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, even without considering the potentially mitigating effect on liability valuation. This conclusion considers impacts across three major asset classes (listed equities, corporate credit and real estate) covering 36 percent of the investment portfolio, without considering the potential mitigating effect on liability valuation, and is made in accordance with our Total Risk Profiling™ methodology.[2] This methodology considers a major risk to be one that could have a negative impact on the Group's economic capital position in excess of USD 5 billion, either at aggregate portfolio or individual asset class level.

In the NAA scenario, physical risk is limited over the time horizon in 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 the transition risk scenarios, the aggregate impact is also low as transitioning is modelled as being relatively frictionless. Moreover, while some industries and businesses would experience a large negative impact on their market valuations in these scenarios, the aggregate risks stemming from this are limited.

Given the enormous transformation that is required, an orderly and smooth transition, such as the one described by the two 1.5°C scenarios, may be difficult to achieve, with periods of higher volatility likely. There is 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 productivity gains. As the scenarios highlight, there will also be large divergencies across businesses and sectors, with opportunities, as well as risk, associated with the transitioning.

Listed equities: a closer look

Applying the various scenarios and third-party model to our global listed equity portfolio in comparison with a broad market benchmark, transition risk is found 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 approach also sheds light on transition opportunities, including those that stem from the greening of the economy.

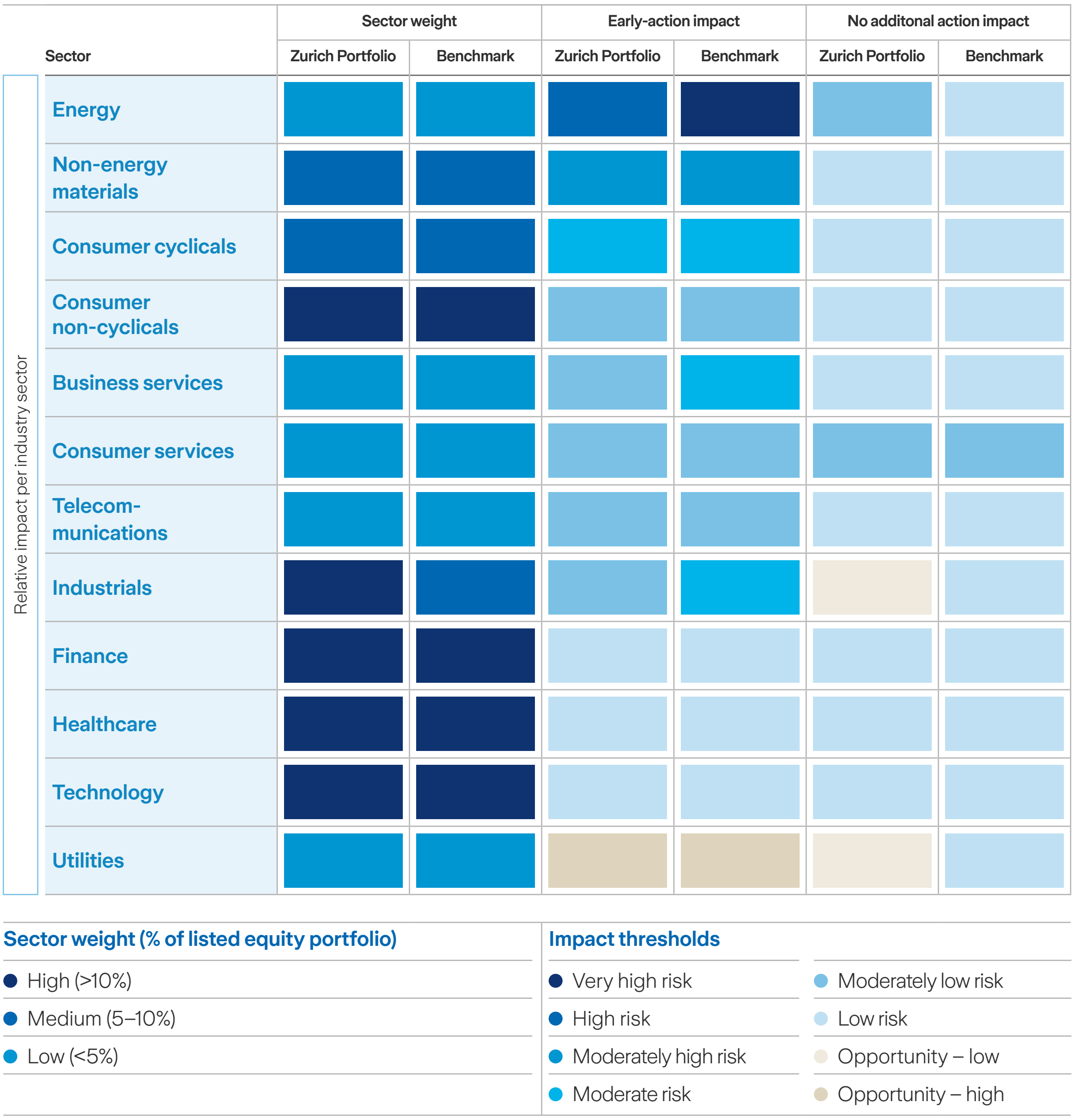
In contrast to transition risk, additional physical risk relative to today's level is estimated to be relatively limited over the time span considered, even in the NAA scenario, as it will take time before more significant additional climate change effects materialize. More severe impact will therefore be restricted to a few regions and sectors such as agriculture and tropical regions, to which we have limited investment exposure.

As shown below, the largest relative valuation effects on our global listed equity portfolio are found in the early-action scenario, where the impact is somewhat higher than in the late-action scenario, due to the discounting of future impact, and a very front-loaded, albeit gradual, rise in the carbon price. From a financial materiality perspective, only minor impacts to our listed equity portfolio are observed.

1 This risk was not analysed quantitatively.
2 See the risk management section (pages 153 to 155) for further details on the Total Risk Profiling™ methodology.

4. Our planet: Drive positive impact (continued)

Figure 16:
Estimated impact on listed equity portfolio across early-action and NAA scenarios in comparison to a well-diversified global equity benchmark[1]



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.

4. Our planet: Drive positive impact (continued)

The results demonstrate how relatively higher transition risks to our listed equity portfolio are limited to 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, the services sector, which contributes the largest share to global economy activity, sees little impact. The relative resilience of services appears reasonable, 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, which are arguably more important in a transitioning scenario, are not captured. Additionally, if rapid transitioning were to lead to energy scarcity and 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.

Overall, the impacts on our global equity portfolio are somewhat smaller than those of a broad market benchmark. Reasons contributing to the difference are differing sector weights and geographic exposure; differing 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 mining of or generate more than 30 percent of electricity from thermal coal, oil sands and oil shale.

The applied model assumes that an early-transition scenario can lead to transition opportunities and risks within industry sectors. Within the energy, utilities, and non-energy materials sectors that 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 emissions-intensive rivals, leading to reduced profitability and market share. Other utilities with lower emissions intensity benefit from increased electricity demand, higher electricity prices, and the ability to gain market share at the expense of more emissions-intensive rivals. This variance in individual counterparty impacts also occurs in other sectors, including for example industrials and consumer cyclicals, where median impacts are small.

Overall, the applied model suggests a manageable level of risk across all scenarios and results in a valuation impact of minor materiality. Relatively more material risks are connected to 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. It is also managed to become net-zero by 2050, with the progressing decarbonization successively shielding it from the companies that are lagging behind 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 disproportionally concentrated in a few sectors (utilities, energy, materials, agriculture, forestry and land use) and so 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. However, sector deep dives show that there are also investment opportunities in these sectors.

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

Own operations
An assessment of potential climate change impacts on our own business operations was performed in collaboration with our CCRS team.

Physical risk assessment scope and approach
A scenario-based assessment of physical risk was performed leveraging a third-party model and data[1] with quantification performed for 2030 and 2050.

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).

An assessment of physical perils was conducted to understand exposure level and criticality under two scenarios: early-action and NAA. 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 upon 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.

4. Our planet: Drive positive impact (continued)

The consequences of some of these hazards (hail, lightning, precipitation, wildfire, wind) may affect both property (buildings, equipment, cars, etc.) and employee safety, while others are limited to employees' wellbeing (temperature, drought). There is a potential interdependency (or combined effect) of some hazards. Increased temperature and drought may influence water availability and quality, and increase demand for electricity. Increased thunderstorm and temperature hazard may increase the likelihood of hailstorms. Roof-mounted equipment may be damaged (impact by lightning or hailstones). High wind speeds (intense rainfall may occur concurrently with windstorms) may displace (poorly anchored) roof-mounted equipment, with ensuing damage to the roofing system, resulting in ingress of water to the building interior. Poorly maintained or older roofing systems may also be damaged during a windstorm. Water penetration/ingress into the building may also occur if the roof drainage systems are poorly maintained (blockage of drains or collector pipes).

For data centers, a particular vulnerability is related to lightning strikes (thunderstorm). Loss of power or even data transmission cables may be exposed in thunderstorms if the lightning protection system (internal and external, e.g., power surge protection as well as lightning arrestors) is not effective or reliable.

Key outcomes

- Current exposure levels across offices, strategic data centers and suppliers are effectively managed through existing processes.
- In the early-action scenario, precipitation and drought demonstrated increased exposure (by at least 15 and 10 percent, respectively) between 2030 and 2050 across offices, strategic data centers and supplier locations.
- In the NAA scenario, the increased risk exposure for these perils persisted, most notably leading to an at least 90 percent exposure by 2050 across offices, strategic data centers and supplier locations. In the same scenario, thunderstorm risks are at least high across 70 percent of strategic data center locations already in 2030.
- We did not observe significant variances in risk exposures levels across either of the two scenarios between 2030 and 2050.

Our existing business resilience activities focus on protecting and recovering critical business assets and resources from a wide range of existing and developing risks, including those related to the impacts of climate change. Corporate real estate and security teams are responsible to ensure offices comply with evolving building safety and security codes and requirements. Local teams are aware of risks associated with public infrastructure including risks from aging infrastructure that impact mobility and security of energy supply. To avoid situations where safety, security, and business continuity can no longer be effectively managed, office re-locations would be planned for. These activities are forward looking and iterative, taking into account the changing and evolving risk landscape. The adaptive nature of the resilience program and daily operational planning requirements mean that processes will continue to change in response to the risks resulting from climate change. We note the significant increase in distributed workforces as a result of COVID-19, something which has redefined the operational boundaries to be considered for business continuity. Further analysis is required to identify opportunities to adapt our business continuity planning to a distributed workforce.

Business resilience planning is carried over into supply chain relationship management. We are aware of and manage concentration risks where multiple suppliers are located in a common geographic area. We run annual disaster recovery tests for our strategic data centers. The test assumes complete loss of the primary data center and recovery in the secondary data center which is located out of region or country.

Transition risks

Given the low-carbon intensity of the insurance sector's operations compared to more carbon-intensive manufacturing sectors, our focus on sustainability within our operations, and business-as-usual planning processes, we do not consider transition risk to be material for our own operations considering impacts through to 2050. Regulatory changes related, for example, to the price of carbon, are monitored and can be planned for, with impacts minimized by reducing our carbon footprint in line with our science-based targets.

Risks within our supply chain are mitigated by placing increasing scrutiny on our suppliers' sustainability performance and commitments and setting clear expectations for suppliers in our SCOC. Overall, price increases for products and services are anticipated with carbon pricing schemes and other policy or voluntary requirements to internalize the cost of climate change.

4. Our planet: Drive positive impact (continued)

Other climate risk assessment outcomes

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 deep dive areas, with none presently identified as a material risk driver in the medium term. We closely monitor developments potentially impacting litigation-related risks and drive actions to address them proactively.

Reputational risk: Given our strong 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 against our targets, we employ controls and monitor progress through the governance structures described in the corporate governance report (see pages 38 to 83). We believe strong internal focus on delivery coupled with detailed public disclosure on progress are sufficient to mitigate this risk.

3. Conclusions

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 to adapt to the impacts observed.

From an underwriting perspective, we believe annual repricing will provide mitigation against short-tail business lines and mitigate transition risk in our underwriting portfolio. As the effects of climate change materialize over time, we have the possibility to ensure that our risk appetite for natural catastrophe exposure is maintained or adapted accordingly. We also purchase reinsurance to protect the company's balance sheet from large natural catastrophe impacts and to support earnings volatility management. The reinsurance strategy is regularly reviewed to account for relevant loss trends.

We believe our multi-faceted responsible investment strategy is sufficiently flexible to adapt to the impacts highlighted by this analysis and will continue to demonstrate resilience. Our structured and disciplined investment management approach is carefully crafted to match liabilities, minimize unrewarded risks and remain stable throughout the macroeconomic cycle. The resulting portfolio is highly diversified across asset classes, sectors and geographies. On an issuer level, both transition risks and opportunities are reflected through ESG integration. Our net-zero 2050 strategy is leading to a continuous decarbonization of the portfolio, which also reduces transition risks stemming from highly carbon intensive issuers without adequate transition pathways that could mitigate their risk, while seizing opportunities created by the transition.

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 mean processes will adapt to changing physical risk profiles ensuring operational resilience.

We caveat these conclusions by acknowledging the hypothetical nature of scenarios, the uncertainty inherent in scenario modelling over the timeframes considered and the somewhat conservative modelling 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 provides the flexibility required to maintain our resilience and continue to serve our customers' needs as climate-related risk profiles evolve.

4. Our planet: Drive positive impact (continued)

4.2 Governance

TCFD “The organization’s governance around climate-related risks and opportunities.

As outlined in the governance section of the ISD (see pages 132 to 133), 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 2021, as part of regular strategy discussions, the Board requested a discussion of how major global forces stand to shape the future of our industry over a 10- to 15-year period. Considering the relevance of climate change to our underwriting and investing activities and our own operations, this topic was covered as part of the discussion. Outcomes of scenario-based climate risk assessments are considered as part of strategy setting processes.

To accelerate our understanding of climate risk and support consistent management of our aspiration toward a climate-neutral economy, we established a cross-functional 1.5°C taskforce under the sponsorship of the Group Underwriting Officer, reporting into the SLC.

4.3 Risk management

Peter Giger
Group Chief Risk Officer

TCFD “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 as drivers for other risks, such as market or natural catastrophe risks, that 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.

To identify, assess, manage, monitor and report risks that can have an impact on the achievement of our strategic objectives, including climate change, the Group applies a proprietary Total Risk Profiling™ methodology. This short-term 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.

Taking the long-term nature of climate change into account, we complement our Total Risk Profiling™ methodology with portfolio-level climate risk scenario analysis to provide an outlook on medium- and long-term risk developments relevant to our underwriting and investment portfolios, as outlined in the strategy section (see page 137). The details of our risk management framework are outlined in the risk review (see pages 182 to 215).

4.3.2 Portfolio-level scenario-based climate risk assessment

Assessments of the resilience of our business model to potential climate risks over longer time periods are performed using scenario analysis. To ensure a consistent Group view on potential climate change pathways, scenarios selected for this analysis will 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 exercise and 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, to the extent 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.

4. Our planet: Drive positive impact (continued)

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

Figure 17:
Underwriting analysis process

1 Develop heatmap

Objectives

– **Assess and prioritize risk channels** using consistent quantitative metrics
– Provide **basis for selecting deep dives**

Method

Criteria for heatmap include:

– **Portfolio importance** (Underwriting volumes (GWP) by industry sector, line of business and geography)
– **Demand impact** (sectoral revenue change for physical and transition risks)
– **Expected loss impacts** (transition and physical risks)

2 Conduct deep dives

Objectives

– Assess **impact on underwriting volumes of key sectors, lines of business and geographies due to climate risks in 2030** (relative to the baseline scenario)

Method

– **Impact on demand** due to change in climate-related exposure
– **Impact on expected losses** arising from transition and physical risks

3 Conduct portfolio-level risk assessment

Objectives

– Identify **key risks and opportunities** (for risk management framework and disclosure)
– **Quantification of portfolio-level impact** on underwriting volumes

Method

– Building on analysis in steps 1 and 2, quantify impacts on underwriting volumes in 2030 (relative to baseline) due to climate risks

Data sources and assumptions

– A fixed balance sheet approach is adopted to better allow the 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.

– Scenario analysis has been performed using year-end 2020 financial data with latest available emissions data (mostly 2019). Given this difference in data recency, baseline emissions intensities for the modelling were calculated for 2019 and then scaled to reflect 2020 revenues, in order to avoid the risk of emissions intensity numbers being distorted by year-on-year changes in revenue between 2019 and 2020.

– Modelled impacts of acute physical risks on expected losses are, to every extent possible, based on our own natural catastrophe modeling. Coupled with the narrower set of perils captured in the underlying third-party model, this introduces a slight discrepancy with the modelling of acute physical risk impacts on our investment portfolios where such data substitution was not possible. This discrepancy will reduce as the set of perils modelled in the third-party model is expanded.

– While the bottom-up approach adopted by the underlying model facilitates granular analysis of climate change-related risk, the model displays characteristics that serve to 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 ton 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, meaning aggregate estimates of physical risk are somewhat limited.[1]

For further details on our risk management process and supporting committees, see the risk review (pages 182 to 215).

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

4. Our planet: Drive positive impact (continued)

4.3.3 Managing risks from climate-related natural catastrophes

As outlined in the strategy section (see pages 140 to 141), changes in physical risks can impact us through the property business via changes in severity and probability of climate-related natural catastrophes. To manage our underwriting selection and ensure accumulations stay within intended exposure limits and assess the capital requirement due to natural catastrophes, we have established sophisticated natural catastrophe modeling capabilities. The resulting view on natural catastrophe risk also underpins profitability assessments and strategic capacity allocation and guides the type and quantity of reinsurance that 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 model validation and developed our proprietary 'Zurich View' of risk since 2005, giving us over a decade 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. 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. We supplement internal know-how with external knowledge (e.g., the Advisory Council for Catastrophes). We are also a shareholder of catastrophe exposure and loss data aggregation and estimation firm PERILS AG, Switzerland and are a member of the open-source initiative Oasis Loss Modeling Framework.

Catastrophe models that are generally based on historical data would not capture potential future climate change-related shifts of extreme weather events. However, when combined with general circulation models (GCMs) they are best positioned to help also understand the risk of future climate conditions. GCMs build representations of the Earth's physical climate systems and therefore can provide model results for climatic scenarios beyond past events. The quality of GCMs continues to evolve as scientific understanding of the earth's climate systems increases and is also driven by progress in computing power and artificial intelligence that extrapolates insights from current modeled regions to future climate scenarios. This science is evolving, and we have strengthened our catastrophe modeling team with dedicated resources to create methodologies to integrate forward-looking aspects such as this into our modeling approach.

4. Our planet: Drive positive impact (continued)

4.4 Metrics and targets

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

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 key performance indicators (KPIs) we track.

4.4.1 Our targets

Outlined below are the principle targets we have set to align our business activities with the outcomes of the Paris Agreement. In line with the efforts of the NZIA, we aim to establish, to the extent permissible by applicable laws and regulations, intermediate, science-based targets for our underwriting portfolios.

Target	Definition	Target year	Base year
Reduction of financed emissions	Our emissions reduction targets cover both listed equity and corporate bond investments as well as direct real estate investments. By 2025, we aim to: – Reduce the intensity of emissions of listed equity and corporate bond investments by 25 percent, in terms of tons of CO2e per USD million invested. – Reduce the intensity of emissions of direct real estate investments by 30 percent, in terms of kilograms of CO2e per square meter.	By 2025 (interim) By 2050 (net-zero)	2019
Engagement targets	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. We will: – Engage with the companies producing 65 percent of portfolio emissions and lacking targets aligned with the Paris Agreement. – Require these companies to set targets aligned with the Paris Agreement. – Collaborate with asset managers in highlighting best practice for climate-conscious active ownership and work together for a just transition. 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.	By 2025	2019
Financing the transition	Our targets for financing climate solutions enhance the Group's existing long-term impact investing strategy to provide green financing solutions under its impact investing strategy announced in 2017. We will: – Increase allocation to climate solution investments. – Avoid 5 million 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 over the years.	Ongoing	2019
Reduction in operational carbon emissions	Our 1.5°C journey envisages a reduction of our operational carbon emissions as well. Our targets for our own operations against a 2019 baseline as follows: – Total emissions: absolute reduction in all operational emissions of 50 percent by 2025, and 70 percent by 2029. – Scope 1 + 2: reduction in emissions from the vehicle fleet and onsite heating as well as from purchased electricity, heat and steam (e.g., district heating) of 55 percent by 2025 and 80 percent 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 50 percent by 2025 and 65 percent by 2029.	By 2025 (interim) By 2029	2019

4. Our planet: Drive positive impact (continued)

4.4.2 Our performance metrics

This section highlights our key metrics used 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 own metrics and in line with the guidance on metrics of the TCFD.

Underwriting

TCFD E

Carbon intensity

As a founding member of the NZIA, we have agreed to report the carbon intensity of our underwriting portfolio and to independently set targets as we move toward net-zero within our underwriting book. Ahead of an agreed methodology from the NZIA, we have already started work to understand our weighted average carbon intensity (WACI) at a Group level as well as a country level.

TCFD E

Revenues from sustainable solutions

As an insurer, we aim to support our customers in the transition toward a sustainable future. To succeed, we need to fully understand the changing world around us and respond to these emerging challenges through the lens of an underwriter. Our sustainable insurance and investment solutions enable us to formulate an answer to challenges such as climate change or changing demographics.

In order to measure the revenues from sustainable solutions, we developed an internal definition for sustainable solutions and collected data from business units for the first time in 2021.

The total revenue associated with sustainable solutions

Sustainable solutions refer to insurance products, add-on coverages, investment products and advisory services that are designed or adapted to support activities that generate positive environmental or social impacts and contribute to mitigating climate risks.

In the table, we share our definition of revenues from sustainable solutions of three categories (environmental, social and investment) and provide details for each category.

Table 3:
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: – 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.

4. Our planet: Drive positive impact (continued)

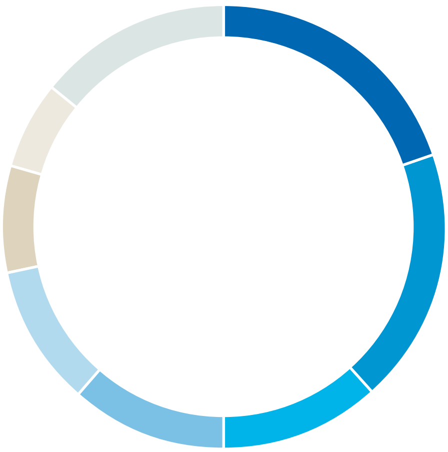
Revenues from sustainable social solutions	Solutions that enhance the social or financial inclusion of socially disadvantaged people, or are designed to incentivize healthy lifestyles and safe behavior.	Examples include: – Life protection for customers with existing chronic diseases such as diabetes 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: – Unit-linked products investing in funds focused on sustainable environmental and social factors, e.g., ESG funds.

By calculating the Group-wide revenues coming from products that comply with our definition of sustainable solutions, we can quantify how we are supporting our customers with their sustainability strategies. Our first analysis revealed that gross written premiums and policy fees from sustainable solutions based on approved products related to our own definition represent approximately USD 289 million for 2021.

Across business units, a number of different categories were identified, of which insurance for electric vehicles, renewable energy and unit-linked products had the highest number of products fulfilling our internal definition.

The complete overview of all product categories totaling to 156 approved solutions are as follows:

Figure 18:
Breakdown of sustainable solutions by product category



Electric vehicles	31
Renewable energy	29
Investment products	18
Micro-insurance	18
Life protection for customers with existing health conditions	16
Products sold in a bundle with LiveWell propositions	12
Zurich Resilience Solutions (including Climate Change Resilience Services)	10
Other	22

4. Our planet: Drive positive impact (continued)

Revenues related to energy efficiency and carbon technology[1]

More specifically, we also assessed products related to energy efficiency and low-carbon technology, separately priced, which amount to USD 121 million of gross written premiums and policy fees.

Description of product incentivizing sustainable behaviors

Several products incentivize health, safety, and/or environmentally responsible actions and/or behavior. Please find below a set of examples.

Supporting climate informed practices

Our 'Build Back Better' program is one of the responsible initiatives that can be found in a range of policy clauses. For example, we offer retail customers in Europe a 20 percent payback above the cost of a property restoration after damage when environmentally friendly materials are used. In North America, we cover additional costs that might occur when choosing environmentally friendly alternatives to rebuild property, thereby helping customers rebuild their property after damage in compliance with existing or emerging green standards.

We have also launched several initiatives for our commercial customers. For example, as part of our CCRS, we help businesses to identify, assess, mitigate and adapt to current and future climate change risks.

As well as incentivizing green building and resource-efficient investment, we encourage green travel. For example, we provide retail customers in Italy with a 50 percent discount on their third party liability car insurance if the vehicle is fully electric. In Switzerland, customers receive a discount on their insurance if the vehicle uses alternative fuels. In addition, we developed a product called 'AutoSense' that incentivizes safe and ecological driving and allows customers to compensate for their CO2 emissions.

Incentivizing healthy behavior

In 2020, we developed our LiveWell program with a mission to inspire positive change and provide services and solutions that encourage our customers to make positive lifestyle choices. In 2021, LiveWell added capabilities around lifestyle tracking, challenges, screenings and telemedicine. To date, we are supporting **one million contracted lives** (lives in scope as per the customer contracts) on a daily basis to live a healthy lifestyle. LiveWell has achieved a strong NPS score in its first year. We will continue to measure our progress to understand how to best serve our customers and improve their daily experiences.

1 Revenues capture gross written premiums and policy fees.

Underwriting and investment management

Exclusion screens

In line with our thermal coal and oil sands policy[1], all initial engagements with affected investee and customer companies were concluded in 2021. All companies covered by the thresholds have either been cleared, excluded or are under continued engagement, contingent on the presentation of credible transition plans. Progress on these targets is monitored and can be revoked if companies fail to meet their transition targets.

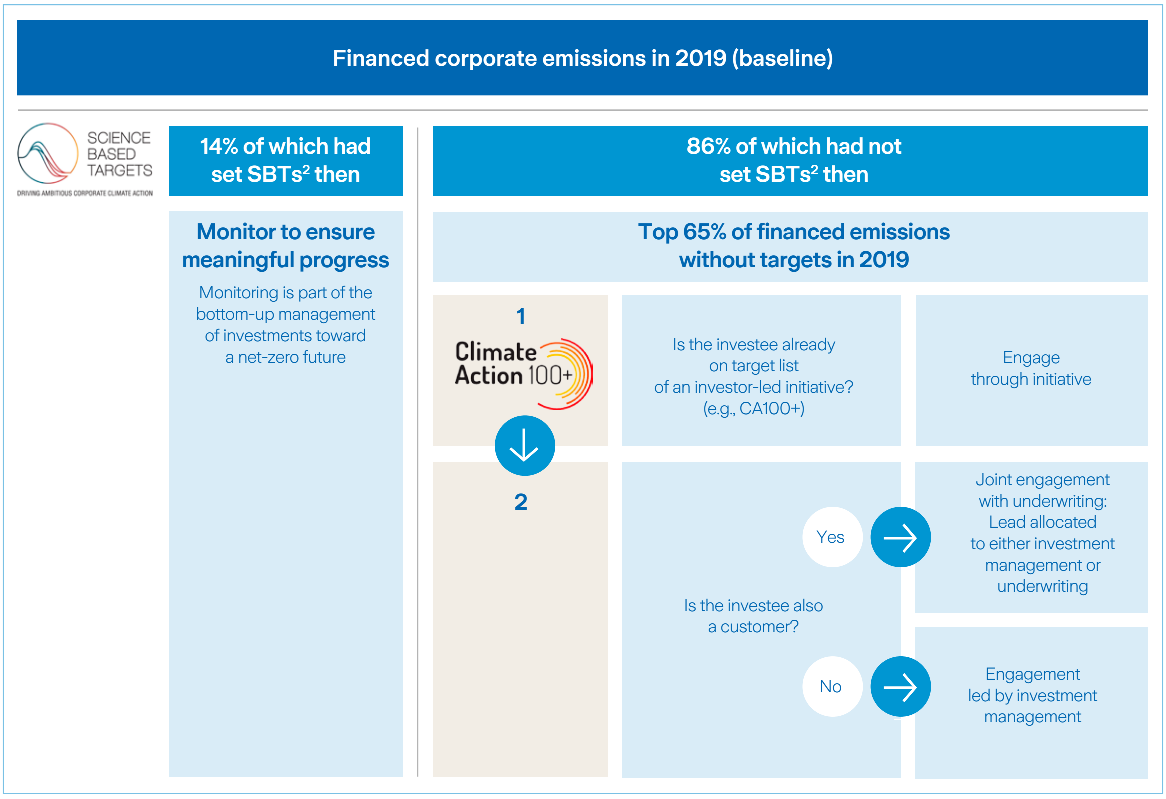
To measure the progress of the implementation of our coal policy, we are monitoring the number of companies affected by its thresholds and actions taken on both the insurance and investment side. Since the introduction of our first coal policy in 2017, our actions resulted in the divestment of USD 573 million in assets (equity and fixed income already disposed) and the phaseout of insurance relationships covering USD 38 million of gross written premiums. These figures represent less than half a percent of our respective investment or insurance portfolios, as our exposure to the thermal coal and oil sands industry was already limited before policy inception, reflecting our ESG integration approach.

Number of companies subject to our coal and oil sands policy since November 2017:

113	124	55
Excluded	Cleared	Engagement ongoing

Engagement for the transition

Figure 19:
Our engagement approach



1 www.zurich.com/en/sustainability/governance-and-policies/exclusion-policies
2 Science-based targets.

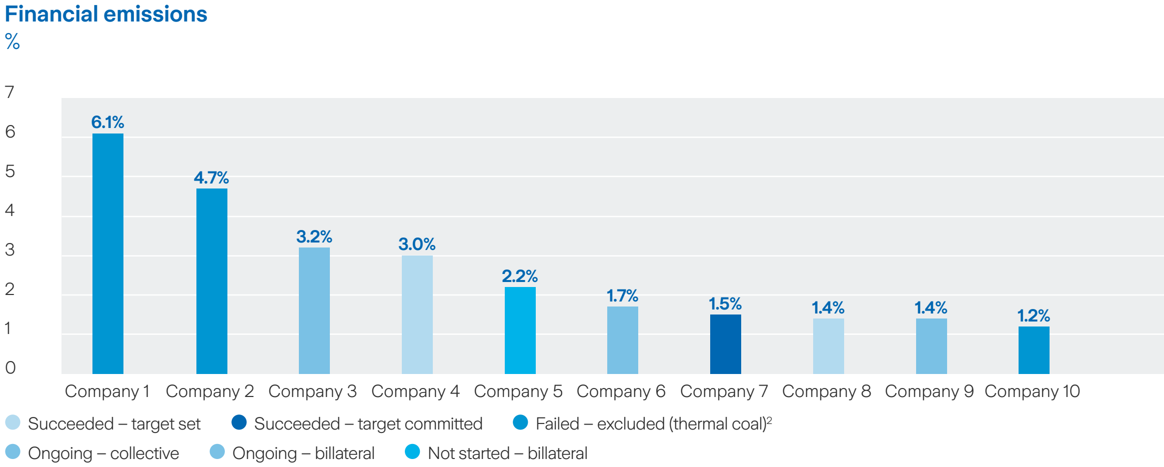
4. Our planet: Drive positive impact (continued)

Table 4:
Engagement progress in 2021

Engagement started	46%
Engagement not started	19%
= Target	**65%**
...of which	
Engagement as part of thermal coal/oil sands policy	17%
Engagement as part of net-zero journey	48%
Started engagements undertaken...	
Collectively	25%
Bilaterally	21%
...with outcome	
Failed[1]	16%
Ongoing	18%
Succeeded[2]	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 coal and oil sands 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.

Figure 20:
Engagement progress for top 10 emitters without science-based targets (SBTs)[1]



1 Corresponding to financed emissions in 2019 (baseline data).
2 Failed engagement under thermal coal program means that company was added to restricted list and hence equity exposure divested and credit exposure put in run-off.

In addition to direct company engagements (as illustrated above in figure 19), we also participated in roundtables supporting sector engagements and engaged with asset managers, bilaterally and as part of the NZAOA asset manager workstream. We contributed to an NZAOA paper that outlines how asset owners can engage their asset managers on climate-change topics. This can include: asking asset managers to set their own science-based targets; joining the Net-Zero Asset Manager Initiative; becoming a signatory to CA100+; and making sure their active ownership policies (proxy voting and engagement) are fit to manage climate transition risks and are conducive to climate change mitigation and the transition to a climate-neutral economy.

4. Our planet: Drive positive impact (continued)

Investment management

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

TCFD

Emission reduction targets

Table 5:
Emission reduction targets

Emission profile 2021

		In scope AuM 2021 (USDbn)	In scope AuM 2020 (USDbn)	In scope AuM 2019 (baseline) (USDbn)	Diff (2021 to baseline)
Zurich Corporate Portfolio		63.1	64.3	58.5	8%
By region	Asia Pacific (APAC)	6.0	5.1	4.5	35%
	Europe, Middle East and Africa (EMEA)	40.7	42.5	38.2	7%
	Americas	16.3	16.7	15.9	3%
By sector	Utilities	4.8	4.7	4.4	10%
	Government Owned Company	2.2	2.6	2.7	(18%)
	Energy	2.5	2.7	2.1	16%

1 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.
2 Committed or set targets under SBTi.

	In scope AuM 2020 (USDbn)	In scope AuM 2019 (baseline) (USDbn)	Diff (2020 to baseline)
Zurich Global Real Estate Portfolio[7]	12.5	11.7	7%
Asia Pacific (APAC)[8]			
Europe, Middle East and Africa (EMEA)	10.8	10.0	8%
Americas	1.7	1.7	1%

3 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.
4 The emission factors are retrieved from the International Energy Agency (2020) with the exception of Switzerland for which KBOB (2016) is used.
5 The relative emission intensity is calculated based on the gross floor area (GFA) of the buildings.
6 Market-value weighted and based on balance sheet investments, incl. buildings used by Zurich.
7 Real estate emissions are only available with a four-quarter lag. 2021 emissions will be reported in the 2022 report. Includes investment portfolio buildings only, as own-use buildings are part of Zurich's own operations net-zero boundary and report.
8 Zurich does currently not directly hold real estate investments in the APAC region. Given that direct holdings form the base for the emission reduction targets, there are no applicable figures for this region.

Absolute emissions

$$\Sigma_{i=1}^{n}\left(\frac{C_i}{EV_i}\times I_i\right)$$

Relative emissions (intensity)

$$\frac{\Sigma_{i=1}^{n}\left(\frac{C_i}{EV_i}\times I_i\right)}{\Sigma_{i=1}^{n} I_i}$$

* Carbon emissions = scope 1 and scope 2 emissions

I: Current value of investment on issuer i

EV: Enterprise value of issuer i

C: Carbon emissions of issuer i

Emission reduction target-setting methodology and scope

Following the release of the NZAOA Protocol, we announced our initial set of interim (2025) targets in March 2021. The target boundary – listed equity, listed corporate debt and direct real estate – covers 36 percent of our assets under management in the baseline year of 2019.

We chose to calculate corporate financed emissions and the resulting relative emissions intensity using the Protocol's preferred approach, based on enterprise value (EV), not revenue. While a revenue-based carbon intensity measure is a good way to compare companies based on their size and underlying technology, NZAOA members believe that

4. Our planet: Drive positive impact (continued)

Absolute financed emissions 2021 (m t CO2e)[1]	Absolute financed emissions 2020 (m t CO2e)	Absolute financed emissions 2019 (baseline) (m t CO2e)	Diff (2021 to baseline)	Relative emission intensity 2021 (tCO2e/1m MV)	Relative emission intensity 2020 (tCO2e/1m MV)	Relative emission intensity 2019 (tCO2e/1m MV) (baseline)	Diff (2021 to baseline)	Target	% of financed emissions with SBT 2021[2]	% of financed emissions with SBT 2020	% of financed emissions with SBT 2019 (baseline)	Diff (2021 to baseline)	% of financed emissions in run-off under coal/oil sands policy 2021
6.8	8.3	7.9	(15%)	108	128	136	(21%)	(25%)	19.9	19.5	14.3	39%	12.7
1.8	1.8	1.8	(2%)	292	355	400	(27%)		1.2	1.6	1.2	6%	44.7
3.9	4.8	4.5	(13%)	95	113	118	(19%)		32.4	31.3	22.9	41%	0.8
1.1	1.6	1.7	(32%)	70	98	105	(34%)		6.1	4.3	5.3	16%	3.8
2.9	2.7	2.7	7%	600	565	616	(2%)		16.7	17.9	14.4	16%	28.5
0.8	1.3	1.4	(42%)	375	498	529	(29%)		26.5	24.3	5.4	388%	2.1
0.8	1.0	0.7	18%	310	384	305	2%		–	–	–	–	1.1

Absolute emissions 2020 (tCO2e)[3,4]	Absolute Emissions 2019 (baseline) (tCO2e)	Diff (2020 to baseline)	Relative emission intensity 2020 (kg CO2e/sqm)[5]	Relative emission intensity 2019 (kg CO2e/sqm) (baseline)	Diff (2020 to baseline)	Target	% of green certified buildings 2021[6]
50,669	53,181	(5%)	20.4	21.6	(6%)	(30%)	19
37,244	41,153	(9%)	21.3	22.9	(7%)		20
13,425	12,028	12%	18.1	18.0	1%		19

the EV approach is a better measure to convert a corporation's operational emissions (scope 1+2) into the 'financed emissions' attributed to its underlying equity and debt investors who are ready to take additional responsibility for these emissions.

To calculate corporate financed emissions, we use the following methodology:

- Scope 1+2 emissions in line with the GHG Protocol are provided by S&P Trucost.
- EV 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 EV is not available (for example for financial companies) it is substituted with market capitalization. EV data is provided by S&P Trucost.
- Market value (MV) is defined as the market value of listed equities and listed corporate debt at fiscal year end.
- While all financial data (EV and MV) is calculated as of 31.12.xx, we use the latest available corporate emission data available as of January, when portfolio-level financed emissions are calculated on an annual basis. This means that emissions data is systematically lagging. For example, financed emissions for 2021 will be largely based on FY2020 emissions data, as FY 2021 emissions data will only be made available by investees in H1 2021, and tends to flow to data providers via Carbon Disclosure Project (CDP) submissions in Q4 of a given year.

4. Our planet: Drive positive impact (continued)

Coverage tends to be almost universal for our listed equity universe, where data gaps were almost exclusively due to missing look-through to single holdings for comingled funds and ETFs. In the listed debt portfolio, data gaps were largely due to missing reported or estimated emission data for smaller or emerging market-based companies. To close these data gaps, we have worked on creating proprietary industry-based estimates that are based on the sector emission intensities.

In addition, to address issues with emissions data in the wider portfolio, work is ongoing: to match ETFs and mutual funds with the financed emission intensities provided by their respective fund managers or benchmark provider; engage with data providers to increase coverage of modeled emissions to small-cap and emerging market issuer; and engage with companies directly, encouraging them to report their operational emissions.

We have already made substantial progress in reducing the emission intensity of our corporate portfolio, based on latest available emission data – which is predominantly from 2020. With the COVID-19 pandemic resulting in the largest-ever decline in global emissions, undoubtedly Zurich's emission reduction benefited from this effect. As primary energy demand dropped nearly 4 percent in 2020, global energy-related CO2e emissions fell by 5.8 percent according to the latest statistical data.[1] Unfortunately, we already know that global CO2e emissions have rebounded in 2021. In addition, the divestments of restricted names based on our thermal coal, oil sand and oil shale policy contributed to the financed emission reduction. These two effects positively impacted the reduction of financed emissions, which might not continue at the same pace in forthcoming years.

In real estate, the entire Swiss portfolio has been optimized and monitored since 2014. The target set to reduce 20 percent of total operational carbon emissions (scope 1 and scope 2 emissions) against the baseline of 2010 was achieved by the end of 2019. The target to reduce 80 percent by 2050 has been reviewed as it was not in line with our net-zero strategy and current science-based target setting methodology. Energy and carbon reduction data have been audited and published in our sustainability report since 2016. As agreed in the NZAOA's target setting protocol, we calculated a baseline 2019 for scope 1 and scope 2 emissions for our global real estate investments and communicated a 30 percent reduction by 2025. As a science-based scenario is required, the use of Carbon Risk Real Estate Monitor (CRREM) 1.5°C pathways was analyzed and piloted in the Swiss real estate portfolio, then applied globally. Over the course of 2021, a carbon management platform was implemented in order to evaluate and report the progress of the global real estate carbon reduction performance. According to the methodological framework of CRREM, the reference area for the calculation of carbon intensity (kgCO2e/m²) and energy intensity (kWh/m²) figures is the Gross Internal Area (GIA: Gross floor area minus area of external walls).

Given the importance of sovereign debt for institutional investors, we are currently working with the NZAOA to develop a methodology that allows the target-setting protocol to be expanded to sovereign debt.

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Financing the transition 2021

Table 6:
Financing the transition 2021

	2021	2020	2019 (baseline)	Diff (to baseline)	Target
Climate solution investments (USDm)	8,203	8,054	7,408	11.0%	**upward trend**
of which green impact investments[1]	5,115	4,424	3,662	39.7%	
of which green certified buildings[2,3]	3,088	3,631	3,747	(18.0%)	
Milllion tCO2e avoided through climate-related impact investments[4]	4.6	2.9	2.8	64.0%	**5**

1 Values refer to the environmental share of Zurich's impact investments displayed in table 8: 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 5: Emission reduction targets.
4 Impact numbers for 2021 include methodology upgrade from previous years, as explained in Zurich's impact measurement methodology paper: www.zurich.com/-/media/project/zurich/dotcom/sustainability/docs/zurich-impact-measurement-framework.pdf

1 www.iea.org/articles/global-energy-review-co2-emissions-in-2020

4. Our planet: Drive positive impact (continued)

Other Responsible Investment KPIs

The following section shows the progress we have made with our responsible investment strategy the last five years and 2021, specifically.

For more in-depth information please consult the latest Sustainability Report[1].

Responsible Investment strategy KPIs

Table 7:
Investment portfolio managed by responsible investors

	2021	2020	Change	2019	2018	2017
Assets managed by responsible investor[1]	99.6%	99.6%	–	98.2%	97.5%	97.5%
Total amount of impact investments (USD millions)	7,037	5,770	22.0%	4,555	3,790	2,830
Investment portfolio (USD millions)[2]	211,334	226,389	(6.6%)	204,803	195,472	207,261

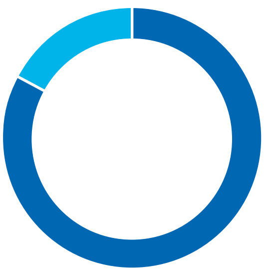
1 A United Nations supported PRI signatory or asset manager that fulfills our minimum requirements for ESG integration.
2 Investment portfolio is calculated on a market basis, and is different from the total Group investments reported in the consolidated financial statements, which is calculated on an accounting basis and doesn't include cash and cash equivalents.

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. We measure the votes we cast based on assets under management. Reasons for votes not cast are a combination of portfolio turnover and voting restrictions (such as demands to vote in person, share blocking or requirements that increase the cost of voting).

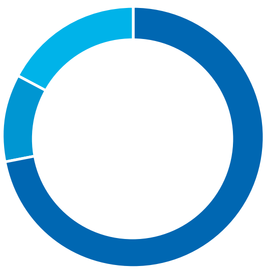
Figure 21:
Proxy voting 2021

Our voting activities in 2021



Votes cast	83%
No votes cast	17%

Our voting behavior in 2021



Voted with management	72%
Voted against management	11%
No votes cast	17%

1 www.zurich.com/en/sustainability/reporting-and-news/reports-publications

4. Our planet: Drive positive impact (continued)

Impact investing

In 2021, our impact investing portfolio of USD 7.0 billion helped avoid a total of 4.6 million tons of CO2e emissions and benefited 3.6 million people.[1]

Table 8:
Impact investing portfolio

	2021	2020	Change	2019	2018	2017
Total amount of impact investments(USD millions)	7,037	5,770	22%	4,555	3,790	2,830
Total amount of impact investments – environmental share	73%	77%	–	–	–	–
Total amount of impact investments – social share	27%	23%	–	–	–	–
Green, social & sustainability bonds (USD millions)	5,846	4,677	25%	3,645	3,104	2,714
Impact private equity (USD millions)	211	189	12%	163	145	116
Impact infrastructure private debt (USD millions)	980	904	8%	747	540	–

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

Advancing together

We believe that 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 a number of industry initiatives and research bodies. Most notably we are a founding member of the NZAOA, as well as Investor's Leaders Group at the University of Cambridge, have 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 2021, we participated actively in 23 membership organizations. Our colleagues spoke about responsible investment at 48 conferences and other industry events around the globe.

Own operations

Progress in the achievements of Group targets for its operations against a 2019 baseline is presented below. 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 9:
Absolute carbon emissions coming from our own operations[1]

Key performance indicator	Unit of measurement	2019 (base year)[1]	2020	2020 change relative to base year	Target reduction 2025	Target reduction 2029
Absolute carbon emissions Absolute reduction in all operational emissions	CO2e (metric tons)	164,346	66,708	(59%)	50%	70%
Scope 1 + 2 emissions Reduction in emissions from the vehicle fleet and onsite heating as well as from purchased electricity, heat and steam (e.g., district heating)	CO2e (metric tons)	49,042	27,714	(43%)	55%	80%
Scope 3 emissions 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	CO2e (metric tons)	115,304	38,994	(66%)	50%	65%

1 Operational emissions include extrapolations to ensure 100 percent data coverage while details by categories are explained here: www.zurich.com/sustainability/sustainable-operations/our-environmental-kpis

5. Our customers: Their needs are at the heart of everything we do

Conny Kalcher
Group Chief Customer Officer

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 as part of an ongoing transformation program.

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 society and people. However, customer expectations are evolving and lifestyles are changing, creating new demands. As technology has a profound impact on our lives, customers increasingly expect a seamless digital experience. They want more personalized products, faster delivery and simpler processes.

Our goals

5.1 Customer-centric solutions and experiences
5.2 Fair and transparent experiences
5.3 Digital confidence and trust

5.1 Customer-centric solutions and experiences

We aim to use every Zurich experience to build a meaningful relationship with our customers and become a trusted partner: so we feel confident together, connected to our community, and optimistic about the future. To create the solutions and experiences that support our customers, we must understand their evolving needs and innovate along the way.

This focus on innovative, customer-centric solutions is illustrated by the wide range of new products and services being developed across the Group. In the planet section, on page 136, of this report, we discussed the CCRS and the unit-linked sustainability solutions. Additionally, Zurich Global Ventures (ZGV), an innovation hub that drives the development of a series of independent and multi-faceted insurance-related solutions, was created 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, ensuring that we are providing our customers with a wide range of solutions that meet their needs.

5. Our customers: Their needs are at the heart of everything we do (continued)

5.1.1 Customer attraction and retention

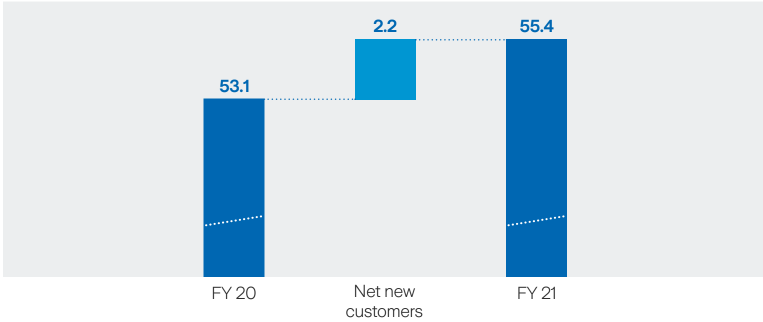
Customer retention rate

Figure 22:
Retail – customer retention rate and net new customers 2021[1]

P&C retail retention rate
(FY 21 vs. FY 20)

+1.5ppts

Net new customers
Customer (m)



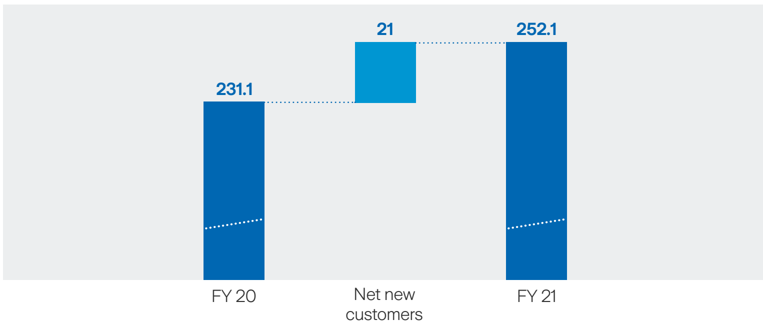
Within our insurance business, we have seen continued growth in our retail customer base driven by strong customer retention, which improved slightly in 2021, and growth in our partnership deals. Our ability to continue driving growth here is testament to our constant efforts to build long-term relationships with our customers and distribution partners. In 2021, this led to a net growth of 2.2 million new customers. 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.

Figure 23:
Commercial insurance – customer retention rate and net new customers 2021[2]

P&C commercial retention rate
(FY 21 vs. FY 20)

Stable

Net new customers
Customer (k)



Looking at Commercial Insurance, it is testament to Zurich's strength and position in the market, that customer loyalty has remained strong during a period of hard market conditions. Commercial Insurance executed on its customer-focused strategy throughout the year and in conjunction with achieving the desired rate increases, achieved a flat customer retention compared to 2020. This, coupled with targeted new business growth in selected markets, has resulted in almost 21,000 net new customers in 2021 through either organic growth or acquisition.

This strong performance gives us confidence that we are providing products and services that are attractive to our customers. In addition, we continue to evolve our customer experience by listening and acting on customer feedback through our NPS programs. We interviewed around one million customers in 2021 across our business and took action based on their feedback. Actions ranged from small process optimizations to more sizeable measures, such as collaborating with leading tech firms to co-create new technology solutions to deliver a more frictionless customer experience. One example is the collaboration with Sprout.ai in the UK, which has cut property claim settlement decisions to a few hours and gives customers additional clarity on the outcome of the claim. The combination of these small and large actions contributed to record levels of customer satisfaction, achieving a 4.1-point increase in our overall TNPS score in 2021.

1 The customer retention rate and number of customers are calculated based on retail customers in our biggest business units: Australia, Brazil, Germany, Italy, Japan, Spain, Switzerland and UK. For both indicators, we report on the change between 2020 and 2021. To calculate customer retention rate, no split between voluntary and involuntary leave was made.

2 The customer retention rate and number of customers are calculated based on the following business units: Australia, Belgium & Luxemburg, Canada, Denmark, Finland, France, Germany, Middle East, the Netherlands, Norway, Russia, Singapore, Spain, Sweden, Switzerland, UK, U.S. (ex Crop & Programs). For both indicators, we report on the change between 2020 and 2021. To calculate customer retention rate, no split between voluntary and involuntary leave was made.

5. Our customers: Their needs are at the heart of everything we do (continued)

5.2 Fair and transparent advice and engagements

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. To support strong customer management, including fair communication practices, in all our business units, we have a Global Customer Facing Conduct Framework[1] in place.

As part of our continued focus on enhancing customer experience, we have also defined a set of customer experience standards. These standards define what good customer experience looks like at Zurich and provide a common benchmark of quality for the whole organization. By going beyond what is required in local laws and regulations to strive for customer experience standards, we are better positioned to meet and exceed customer expectations.

5.2.1 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.

5.2.2 Continuously measuring and improving claims handling

As part of our TNPS survey, we strive to get a better understanding of how our customers experience different aspects of the customer journey. One of the elements that is very important to our customers, is the way we handle claims when we receive them. The claims TNPS provides us with insights on how our customers value our claims handling procedure and which aspects, or drivers affect their experiences most over time. The claims TNPS is calculated for a broad set of countries[2], both for retail and commercial insurance.

Compared to 2020, the claims TNPS score increased by 3.4 points[3] by end of 2021. In general, our customers value that we are easy to deal with and that we have helpful advisors in customer support. The lead time to handle claims and the quality of the information we provide, are the areas most in need of improvement. The main difference compared to last year is that the driver 'it was easy to deal with Zurich' has moved from an area in need of improvement to one of our strengths.

The results shown above prove that dedicated initiatives can have a direct impact on customer satisfaction. Some examples that helped us increase customer experience in 2021 include the obligatory onboarding of all advisors in Switzerland on the Digital Agents Workplace, leading to more personalized advice for our customers. Furthermore, we invested in additional education for our Swiss staff and the recruitment of extra advisors for the high-volume summer months.[4] All of this has led to quicker and easier claims settlements in Switzerland. In Brazil, we introduced several initiatives to simplify the communication toward our customers and reduced the lead time by digitalizing our processes. And in Japan, we simplified our claim process, which led to a steady increase in customer satisfaction. These initiatives confirm that our efforts improve our customer experience and, by consequence, strengthen our claims TNPS score.

1 www.zurich.com/about-us/corporate-governance/code-of-conduct/we-care-about-our-customers
2 Argentina, Austria, Australia, Brazil, Canada, Chile, China, Germany, Hong Kong, Ireland, Indonesia, Italy, Japan, Malaysia, Mexico, Portugal, Singapore, Spain, Switzerland, Turkey, UK, U.S., and Zurich International.
3 Due to optimizations in our system, we continue to collect feedback from an increasing number of customers. This can also impact the TNPS score, meaning that part of the increase should be attributed to this trend.
4 High volumes due to increased need for road assistance during the holiday period.

5. Our customers: Their needs are at the heart of everything we do (continued)

5.3 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 we believe 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.

5.3.1 Data Commitment[1]

We have accelerated global efforts to deliver on our Data Commitment, which aims to go beyond regulatory compliance. Particular focus is given to enhancing standards, processes, systems and controls across regions to ensure an increased level of transparency on how we collect, use and share personal data. The analysis of the effectiveness, strength and robustness of processes and controls in place is used to calculate the transparency score per country.[2]

In EMEA and North America (NA), more than 90 percent of countries achieved the transparency score we aim for.

Across LATAM and APAC, more than 70 percent of the countries have also achieved the targets we aim for, in spite of the different level of robustness of local data protection and privacy regulations. Countries with less demanding data protection and privacy regulations are using ongoing transformation and digitalization initiatives to enhance processes and systems, so they can proactively inform customers[3] about how their personal data is being used (and with whom it is being shared) and obtain appropriate consent. Overall, since Q1 2020 our transparency score has increased by 30 percent globally, taking into account the ratio of countries that made major improvements against the targets we aim for.

5.3.2 Cybersecurity[4]

Given the scale of the cybercrime threat, we have opted for a layered approach to protect our data and ensure resilience, by leveraging industry best practices and frameworks such as the NIST Cybersecurity Framework.[5] We continuously work on important areas of focus such as data protection, attack surface reduction and security capabilities development.

To strengthen our data protection, we have developed a global standard policy for data loss prevention (DLP), and we provide solution for DLP to our business units throughout the EMEA region, and this will be expanded globally over time. Local data protection coordinators for each country and business unit ensure responsiveness to local regulatory requirements for data protection. Data is protected and stored in accordance with its level of sensitivity. We address privacy by design from a forward-looking perspective for all new systems.

Our attack surface reduction efforts are focused on finding, reporting, and reducing risk associated with vulnerabilities and exploitable configuration issues for systems and applications. Cybersecurity and response capabilities allow us to understand the cyber threat environment and prevent, detect, and respond to malicious threats. To ensure proper oversight, our defense-in-depth security model enables us to identify information security risk across the organization through programs such as phishing and awareness training, insider threat detection, strategic and dedicated risk assessments, threat intelligence acquisition and vulnerability management. During 2021, we met all targets for application website protection from malicious threats and continued an aggressive attack surface reduction campaign to ensure positive management of all IT vulnerabilities.

We leverage dedicated security technologies with detection, protection, logging and monitoring capabilities and we are making additional investments to counter growing security threats. In 2021, we significantly enhanced our server and workstation threat protection capabilities by upgrading to an industry-leading threat management solution.

Our focus moving forward is to bring all privileged user[6] and system accounts under management, continuing vulnerability reduction, conducting dataflow analysis for confidential data, strengthening third-party information security governance, and continuing to enhance business resilience.

Since 2021 we have begun to implement a new internal controls integrated framework[7], which will provide control testing and assurance to ensure the effectiveness of information security controls (see the risk review, pages 210 to 211 for more information).

We are also dedicated to full transparency concerning information security and cyber incidents that may affect 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, Joint Ventures and Zurich Global Ventures except for Zurich International.
2 The calculation of the score is based on self-assessment by reporting units, complemented by quality assurance reviews conducted at regional and Group level.
3 In the section on 'our digital society', customer refers to policyholders, claimants, beneficiaries and employees.
4 Reporting excludes Farmers Group Services, and Zurich Global Ventures except for Zurich International.
5 A set of guidelines for mitigating organizational cybersecurity risks, published by the U.S. National Institute of Standards and Technology (NIST) based on existing standards, guidelines, and practices.
6 A privileged user has special/higher access rights. These elevated access rights are usually given to superusers and allow for full control of systems, applications and data.
7 The framework covers the development, implementation, execution and monitoring of internal controls. Cybersecurity is just one topic.

5. Our customers: Their needs are at the heart of everything we do (continued)

5.3.3 Business resilience[1]

The increased sophistication of cyberattacks also means we must continuously enhance our protective, responsive and recovery capabilities. Our goal is to be able to continue providing highly critical services to our customers under a "total loss of technology" scenario.

To do this, we have identified all critical services and management activities in all countries and functions. Services are considered end-to-end, to the ultimate third-party provider. They are defined as critical if their disruption, whether internally within Zurich or with a third party, can generate distress to our customers or threaten our viability under an extreme loss of technology scenario. The combination of these services and management activities represents the Zurich minimum viable operating environment (MVOE).

To ensure continuity of MVOE services and activities, we are implementing a set of digital capabilities that are required for internal and external communication (email, telephony), and to make key customer, policy and claims data available for minimum service, such as claims notification and claim settlement.

In parallel, we are building recovery capabilities, beyond traditional disaster recovery, to allow restoration of our critical IT infrastructure, and, ultimately, recovery of critical business applications before a transition to business as usual.

We set out clear expectations for suppliers in our SCOC including in relation to data protection, privacy and cyber security. We carry out risk based due diligence to verify that the supplier meets Zurich's expectations and have in place detailed policies and guidelines which our Procurement and Vendor Management teams follow. Our due diligence is based on the nature of the supplier engagement and the relevant risks. With supplier engagements that involve the processing of personal data, we carry out extensive checks on a supplier's cyber security and compliance measures. Once completed, we enter appropriate contractual clauses with robust obligations to keep personal data secure.

5.3.4 Ethical use of artificial intelligence (AI)[2]

In Q3 2021, we initiated the roll-out (field-testing phase) of an AI assurance framework – a governance model that ensures the ethical use of AI solutions taking into consideration emerging regulations (e.g., EU AI Act).

We use AI for several purposes, including i) to better understand our customers' needs; ii) to enhance the efficiency of our business operations; iii) to develop innovative solutions that best protect and serve our customers; and iv) to contribute to positive and sustainable societal outcomes, such as financial and social inclusion, affordability and fair treatment of vulnerable customers.

In the course of 2021, new AI/machine learning (ML) solutions have been implemented across the value chain in major markets, for example in Germany, Japan, Switzerland and the UK with processes and controls to ensure adherence to globally consented ethical principles of fairness, transparency and accountability. Currently, we have three focus areas for AI/ML. First the deployment of predictive models to better understand risks, e.g., in the area of property risk engineering or property enrichment with open data. Second, document classification techniques, e.g., to generate efficiency gains in the areas of underwriting or claims. And finally, testing of conversational AI by using chatbots to improve customer experience and increase operational efficiency.

Given this domain's growing importance, we are establishing AI ethics committees to provide assurance and guidance over implementation of AI solutions. These committees provide a holistic, diverse and balanced view on the risks and potential benefits of the AI solution and its compliance with our Ethical AI Principles.

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

6. Our employees: Let's grow together

Kathleen Savio
Group Chief Transformation Officer

"Let's grow together", reflects our aspiration to support employees in their lifelong learning and growth. It is a shared engagement that asks our people to play an active role in shaping their careers and reinforces the provision of good working conditions and fair and equal compensation, in line with our focus on work sustainability.

Our goals

6.1 Talent attraction for a sustainable future

6.2 A safe working environment that supports health and wellbeing

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

6.4 Prevention of bribery and corruption

6.1 Talent attraction for a sustainable future

6.1.1 Talent attraction and retention

In 2021, we observed an increase in headcount composition across the organization, with a 6 percent increase year on year. At the same time, we have seen the continued effects of high demand for key skills and capabilities, with candidates holding strong choice and negotiating power in certain markets. In response, we have closely examined where to invest and how to attract and retain talent.

We have seen a decrease in Group employee turnover since 2016, with a drop in 2020 as a result of the COVID-19 pandemic. Although we had anticipated an increase in 2021 as labor markets picked up, the impact was less than expected, with continued low employee turnover across the Group.

We saw a higher turnover in NA, APAC and LATAM in 2021. This is partly in line with historical trends and the local context of more dynamic markets.

A particular area of attention for us is the increasing voluntary turnover of next-generation (NextGen) employees compared to other employee groups. In addition to us strengthening our junior pipeline, we are running "listen and act" initiatives to understand more about their preferences, pain points, and recommendations for developing potential solutions. We are also focused on offering more transparent and flexible career paths, which will form an integral part of developing and retaining all segments of the workforce.

6. Our employees: Let's grow together (continued)

Table 10:
Turnover in 2021[1,2,3]

Dimension	Voluntary Turnover	Involuntary Turnover	Total Turnover
Female	7.8%	4.0%	11.9%
Male	7.5%	4.2%	11.7%
Baby boomers and prior generations (before 1964)	2.2%	10.6%[4]	12.8%
GenX (1965–1980)	4.7%	3.1%	7.8%
NextGen (1981 and after)	12.2%	3.2%	15.5%
Asia Pacific	11.6%	4.7%	16.2%
Corporate Center	4.0%	1.9%	5.9%
Europe, Middle East & Africa	4.6%	3.1%	7.6%
Latin America	9.1%	6.8%	15.9%
North America	10.0%	4.6%	14.6%
Career level A[5]	7.4%	4.8%	12.2%
Career level B	6.3%	3.0%	9.2%
Career level C	4.7%	3.0%	7.7%
Career level D	3.5%	4.9%	8.4%
Career level E	4.2%	11.5%[6]	15.6%
Total	**7.8%**	**4.2%**	**11.9%**

1 Reporting excludes Bolivia, Chile sales force, Covermore, Farmers Management employees, 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, better offer elsewhere. 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 (0.04 percent).
4 The high involuntary turnover for Baby boomers and prior generations can be attributed to retirement.
5 Our internal grading system determines the following progression by career level: career level A comprises all entry level and low specialization roles, career level B includes technical staff and frontline managers, career level C includes middle managers and highly specialized technical staff, career level D comprises senior managers and business unit leadership teams while career level E incorporates the most senior roles (Country CEOs and other senior business leaders). Unranked employees refer to employees in Germany and Farmers Management who are not assigned career levels and are not included (25 percent).
6 The high involuntary turnover for career level E can be attributed to retirement.

6. Our employees: Let's grow together (continued)

As part of our 'Rethink Recruitment' vision, we launched a new global technology solution to support our talent acquisition requirements and improve the candidate's user experience for internal and external talent.

Table 11
New hires in 2021[1]

Dimension	New hires #	New hires %
Female	2,530	51%
Male	2,455	49%
Baby boomers and prior generations (before 1964)	140	3%
GenX (1965–1980)	1,018	20%
NextGen (1981 and after)	3,838	77%
Asia Pacific	831	17%
Corporate Center	135	3%
Europe, Middle East & Africa	2,207	44%[2]
Latin America	912	18%
North America	911	18%
Career level A	2,492	50%
Career level B	2,198	44%
Career level C	216	4%
Career level D	83	2%
Career level E	7	–
Total	**4,996**	**100%**

We seek to provide all generations within our workforce with the opportunities and skills they need to grow. Our NextGen population continues to increase, representing 47 percent of the workforce at the end of 2021. With 77 percent of our new hires belonging to NextGen, this segment of our workforce will continue to grow. We remain dedicated to our youth employment programs, particularly in light of the COVID-19 pandemic's impact on career starters entering the workplace.

Table 12
Internal hires in 2021[3,4,5]

		Career level			
Gender	Metric	B	C	D	E
Female	% Internal hires	67.9%	77.2%	75.2%	100.0%
Female	% External hires	32.1%	22.8%	24.8%	0.0%
Male	% Internal hires	63.4%	82.2%	78.5%	45.5%
Male	% External hires	36.6%	17.8%	21.5%	54.6%
Total	**% Internal hires**	**65.5%**	**80.2%**	**77.5%**	**50.0%**

In 2020, we adapted our onboarding and hiring programs to be fully virtual as a result of the ongoing pandemic and work- from-home requirements around the world. We continued to leverage this approach in 2021, adapting these programs to align with our hybrid working model.

1 Reporting excludes Bolivia, Chile sales force, Covermore, and Farmers Management employees. Gender breakdown excludes employees with no declared gender (0.04 percent). For career level, unranked employees are excluded. Unranked employees refer to employees in Germany and Farmers Management who are not assigned career levels and are not included (25 percent).
2 EMEA represents almost half of our total workforce, excluding Farmers Management, hence this number is in line with our expectations.
3 Internal hire % represents the proportion of appointments filled internally (through lateral or vertical career moves) versus through a new external hire. International transfers are considered external hires and rehires are excluded from the metric.
4 Reporting excludes Bolivia, Chile sales force, Covermore, Germany and Farmers Management employees. Gender breakdown excludes employees with no declared gender. For career level, unranked employees are excluded. Unranked employees refer to employees in Germany and Farmers Management who are not assigned career levels and are not included (25 percent).
5 Entry-level roles (career level A) are disproportionally filled with external candidates, therefore not included in the table.table 1 as in ().

6. Our employees: Let's grow together (continued)

6.1.2 Training and development

We continue to place a strong emphasis on upskilling and reskilling our employees and giving them access to new and interesting job opportunities. Our approach will help us to target where upskilling and reskilling is needed, while helping to mobilize our talent around the organization.

To build new and diverse skills, we continue to support formal learning. Our global learning platform, MyDevelopment, houses more than 18,000 courses, including the full library of LinkedIn Learning. Our employees spent a total of 0.6 million hours on online learning in 2021, resulting in an average of just below 23 hours per employee. Courses completed in 2021 include bespoke curricula across our business, linked to our 12 technical academies, which focus on building relevant technical skills.

WORLD ECONOMIC FORUM S

In 2021, we spent more than USD 36 million on training across the Group, an average of USD 870 per employee.[1]

Table 13:
Average learning hours in 2021[2,3]

WORLD ECONOMIC FORUM S

Dimension	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Total 2021
Female	4.6	7.5	6.4	7.1	25.5
Male	4.3	5.8	5.5	5.2	20.8
Career level A	3.8	6.7	5.3	6.8	22.6
Career level B	4.4	6.6	5.6	5.8	22.4
Career level C	5.8	7.3	9.4	6.4	28.9
Career level D	5.5	6.8	5.2	5.8	23.3
Career level E	4.8	4.2	2.8	5.0	16.8

On average, we see that women spend more time learning than men, and our middle career levels spend the most time learning within our organization. To promote a learning culture, we launched a "Let's be curious and learn" month in January/February 2021 and built a network of 'Curiosity Ambassadors', a group of volunteers who are passionately curious and help shape a brighter future for Zurich through sparking the curiosity of their colleagues.

Lower numbers at career level E could be attributed to the fact that the development of individuals on this career level takes place through channels that we are not yet measuring, such as mentoring and coaching.

6.2 A safe working environment that supports health and wellbeing

Throughout the pandemic, we have seen an increased focus on health and wellbeing in the workplace. In 2021, we developed our global wellbeing strategy and launched a wellbeing employee resource group through which employees can support each other with emotional, physical, financial and social wellbeing. To find out more about the global employee wellbeing framework and initiatives, see Employee Wellbeing at Zurich.[4]

WORLD ECONOMIC FORUM S

We are supporting the physical safety of our employees and continue to report a low accident frequency rate of 84 accidents[5] and zero fatalities per almost 109 million working hours.

1 Reporting excludes Bolivia, Chile sales force, Covermore, Germany and Farmers Management employees. 'Employee' refers to both full-time and part-time employees.
2 Reporting excludes Bolivia, Chile sales force, Covermore, Germany and Farmers Management employees. Gender breakdown excludes employees with no declared gender (0.04 percent). For career level, unranked employees are excluded. Unranked employees refer to employees in Germany and Farmers Management who are not assigned career levels and are not included (25 percent).
3 Only includes hours tracked centrally on MyDevelopment. Does not include locally run trainings not recorded in the system.
4 www.zurich.com/careers/our-people/employee-wellbeing
5 Reporting excludes Bolivia and Covermore.

6. Our employees: Let's grow together (continued)

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 have a strong focus on gender equality in our workplace and have implemented measures globally to track progress. We have successfully pursued and obtained an EDGE[1] certification for several business units across our Group.[2] Following the EDGE certification process, we have developed an in-house equal pay for equivalent work (EPEW) methodology to embed a consistent evaluation approach across the Group. Our EPEW analysis looks at whether men and women are paid equally for the same or similar roles. Businesses with more than 100 employees are reviewed annually with our externally assured methodology. This analysis forms part of our yearly remuneration review cycle.

To find out more about our EPEW, see Pay Equality at Zurich.[3]

6.3.2 Global DEIB framework

Alongside the EPEW, we have a DEIB framework which provides a global direction while empowering local action. It focuses on targeted actions related to gender diversity, generational diversity, cultural diversity and LGBT+ and other aspects of diversity. To learn about our efforts to support diversity and inclusion, see DEIB at Zurich.[4]

Table 14:
Ratio of majority vs. minority in 2021[5]

	Career level				
Dimension	A	B	C	D	E
Female	64.0%	46.8%	37.6%	26.5%	23.5%
Male	36.0%	53.1%	62.4%	73.4%	76.5%
Baby boomers and prior generations (before 1964)	10.3%	12.8%	13.1%	15.0%	21.2%
GenX (1965–1980)	30.1%	41.5%	59.0%	71.0%	78.8%
NextGen (1981 and after)	59.6%	45.7%	27.9%	14.0%	
National[6]	94.3%	90.0%	82.6%	73.5%	38.7%
Non-National	5.7%	10.0%	17.4%	26.5%	61.3%

At Zurich we have established a strategy and tools to help monitor gender representation amongst both external applicants and current teams. With this strategy we aim to reach gender balance across the organization. To increase gender balance, we are continuing to run a number of initiatives to support the development and promotion of women across the Group. For example, we have rolled out female sponsorship programs in Group Functions and business units to promote visibility of women. Another example is our FlexWork@Zurich program enabling flexible working arrangements for employees so that they can work in ways that better suit their lifestyles. As a result of these and other initiatives, we have seen some evolution in gender diversity in our workforce since 2017, particularly at the senior leadership level. In 2017, the percentage of senior executives at career level E who were female was 18 percent. At the end of 2021, it was 24 percent.

We also see that across the Group, non-national employees tend to have a larger representation at more senior career levels. This can be explained by the movement of seasoned, internal talent to new opportunities across our Group.

1 www.edge-cert.org
2 As of December 2021, the following business units are EDGE certified: Argentina, Australia, Brazil Chile, Corporate Center, Ireland, Mexico, Santander Brazil and Mexico, Spain and Switzerland. This covers 31 percent of our total employee population.
3 www.zurich.com/en/careers/our-people/pay-equality
4 www.zurich.com/en/careers/our-people
5 Reporting excludes Bolivia, Chile sales force, Covermore, Germany and Farmers Management employees. Gender breakdown excludes employees with no declared gender (0.04 percent). For career level, unranked employees are excluded. Unranked employees refer to employees in Germany and Farmers Management who are not assigned career levels and are not included (25 percent).
6 This data excludes NA, for additional information on ethnicity in NA, refer to: 9 actions on racial equity from Zurich North America. www.zurichna.com/knowledge/articles/2020/08/9-actions-on-racial-equity-from-zurich-north-america

6. Our employees: Let's grow together (continued)

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 are firmly engaged with 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 and employees need to comply, and provides a list of best practices and recommendations that business units should adopt.

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 is also responsible for maintaining the local framework and reviewing it regularly to ensure that it appropriately addresses bribery and corruption risks in the business unit.

Our Group Policy ABC sets out minimum requirements in relation to the following, amongst others:

– Associated persons due diligence.

– Third-party payment due diligence.

– Incentives.

– Gifts, entertainment, and other adavantages.

6.4.2 Training and awareness

We are aware of the importance of fostering a culture of compliance among all our employees, and we understand that creating general awareness and understanding of potential areas of bribery and corruption risk, applicable laws, and our policies is critical to achieving this.

We frequently educate our employees and senior management on topics related to compliance and ethics. This begins with mandatory Code of Conduct training.[1] This annual training raises awareness on what it means to do the right thing and makes employees and managers 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 2021, almost all our employees and senior management completed the training, resulting in a global completion rate of 99.96 percent. The completion rate was above 99 percent in all regions.[2]

Employees and managers whose role exposes 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 managing the prevention of bribery and corruption and helps us make good on our ambition of being a responsible and ethical business.

6.4.3 Protected advice

As discussed above, Zurich and its employees are all subject to our Group Policy ABC[3] and Code of Conduct[4], 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 (external) stakeholders to raise concerns. Reports to the ZEL can be made anonymously. We do 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 The Code of Conduct training includes the topic of anti-bribery and anti-corruption.
2 The Code of Conduct training is shared with Board members and may be shared with various business partners depending on country requirements. Completion for both groups is not centrally tracked.
3 www.zurich.com/sustainability/governance-and-policies/anti-bribery-and-anti-corruption
4 www.zurich.com/about-us/corporate-governance/code-of-conduct

7. Independent assurance report

EY Building a better working world

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To the Executive Committee of
Zurich Insurance Group Ltd, Zurich

Zurich, February 18, 2022

Independent assurance report

We have been engaged to perform assurance procedures to provide limited assurance on Sustainability Disclosures of the Zurich Insurance Group Ltd and its consolidated subsidiaries ('ZIG' or 'Zurich Insurance Group' or 'Zurich'). Our engagement is focused on selected quantitative performance indicators (the "performance indicators 2021") disclosed in the Annual Report 2021 of ZIG "Integrated sustainability disclosure" ("the sustainability disclosures") for the twelve-month period ending December 31, 2021. A listing of these performance indicators 2021 including section references and page numbers is attached as appendix to our independent assurance report.

Other than as described in the preceding paragraph, which sets out the scope of our engagement, we did not perform assurance procedures on the remaining information included in the sustainability disclosures, and accordingly, we do not express a conclusion on this information.

Applicable criteria

Zurich Insurance Company Ltd defined as applicable criteria (the "applicable criteria"):

- World Economic Forum's (WEF) Metrics of Sustainable Value Creation for performance indicators 2021 listed under "WEF IBC metrics" section in the appendix. The guideline is presented on the WEF webpage.
- SASB Insurance reporting standard for performance indicators 2021 listed under "SASB standard disclosures" section in the appendix. The guideline is presented on the SASB webpage.
- ZIG's own methodology for performance indicators 2021 listed under "Disclosures based on Zurich Insurance Group Ltd'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.

We believe that these criteria are a suitable basis for our limited assurance engagement.

Responsibility of Zurich Insurance Group's management

ZIG's management is responsible for the selection of the applicable criteria and for the preparation and presentation of the performance indicators 2021 in accordance with the applicable criteria. This responsibility includes the design, implementation, and maintenance of internal controls relevant to the preparation of the performance indicators 2021 that are free from material misstatement, whether due to fraud or error.

Independence and Quality Control

We have complied with the independence and other ethical requirements of the *International Code of Ethics for Professional Accountants (including International Independence Standards)* of the International Ethics Standards Board for Accountants (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 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.

7. Independent assurance report (continued)

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Our responsibility
Our responsibility is to express an opinion on the performance indicators 2021 based on the evidence we have obtained. We conducted our limited assurance engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 *Assurance Engagements Other than Audits or Reviews of Historical Financial Information.* That standard requires that we plan and perform the engagement to obtain limited assurance about whether the performance indicators 2021 are free from material misstatement, whether due to fraud or error.

In accordance with the engagement agreement, our duty of care for this engagement only extends to the management of Zurich Insurance Group.

Based on risk and materiality consideration we have undertaken procedures to obtain sufficient appropriate evidence. The procedures selected depend on the practitioner's judgment. This includes the assessment of the risks of material misstatements in the performance indicators 2021. The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in scope than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had we performed a reasonable assurance engagement.

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

- Assessment of the suitability of the underlying criteria and their consistent application
- Inquiries of company's representatives responsible for collecting, consolidating and calculating the performance indicators 2021 in order to assess the process of preparing the data, the reporting system, the completeness of the data capture and compilation methods as well as internal controls 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 performance indicators 2021 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 performance indicators 2021
- Analytical procedures of the sustainability report regarding plausibility and consistency with performance indicators 2021

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

Our conclusion
Based on the procedures performed and the evidence obtained, nothing has come to our attention that causes us to believe that the performance indicators 2021 have not been prepared, in all material respects, in accordance with the applicable criteria.

Ernst & Young Ltd

Isabelle Santenac (Qualified Signature)	Mark Veser (Qualified Signature)
Partner	Director

Appendix:
Selected quantitative performance indicators (performance indicators 2021)

7. Independent assurance report (continued)

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Appendix: Selected quantitative performance indicators (performance indicators 2021)

WEF IBC metrics

- Section 2.3.3 Responsible tax on page 130
- Table 10: Turnover in 2021 in Section 6.1.1 Talent attraction and retention on page 173
- Table 11: New hires in 2021 in Section 6.1.1 Talent attraction and retention on page 174
- KPIs on training spend and Table 13: Average learning hours in 2021 in Section 6.1.2 Training and development on page 175
- Table 14: Ratio of majority vs. minority in 2021 in Section 6.3.2 Global DEIB framework on page 176
- Section 6.4.2 Training and awareness on page 177
- Financial assistance received from the government in WEF IBC index table online, disclosure 'Employment and wealth generation', reference 'Economic contribution'

SASB standard disclosures

- Figure 13: Probable maximum loss by top three peril regions in Section 4.1.3 Climate risk assessment 2021 on page 143, see also FN-IN-450a.1 in SASB index table online
- Revenues related to energy efficiency and carbon technology in Section 4.4.2 Our performance metrics on page 159, see also FN-IN-410b.1 in SASB index table online
- Section 5.1.1 Customer attraction and retention on page 168, see also FN-IN-270a.3 in SASB index table online

Disclosures based on Zurich Insurance Company Ltd.'s own methodology

- KPI on percentage of managed procurement spend with suppliers meeting or exceeding Zurich's expectations in Section 2.3.2 Sustainable sourcing on page 130
- Table 2: Charitable cash contributions 2021 figures in Section 2.3.4 Community investment on page 131
- Figure 11: Average expected losses for top five peril regions in Section 4.1.3 Climate risk assessment 2021 on page 142
- KPIs on revenue and number of sustainable products in Section 4.4.2 Our performance metrics on page 158
- KPIs on coal and oil sands policy in Section 4.4.2 Our performance metrics on page 160
- Table 4: Engagement progress in 2021 in Section 4.4.2 Our performance metrics on page 161
- Table 5: Emission reduction targets in Section 4.4.2 Our performance metrics on pages 162 to 163
- Table 6: Financing the transition 2021 in Section 4.4.2 Our performance metrics on page 164
- KPIs on Assets managed by responsible investor in Section 4.4.2 Our performance metrics on page 165
- Figure 21: Proxy voting 2021 in Section 4.4.2 Our performance metrics on page 165
- KPI on people benefited and emissions avoided through impact investment portfolio in Section 4.4.2 Our performance metrics on page 166
- Table 8: Impact investing portfolio in Section 4.4.2 Our performance metrics on page 166
- KPIs on transparency score in Section 5.3.1 Data commitment on page 170
- Table 12: Internal hires in 2021 in Section 6.1.1 Talent attraction and retention on page 174