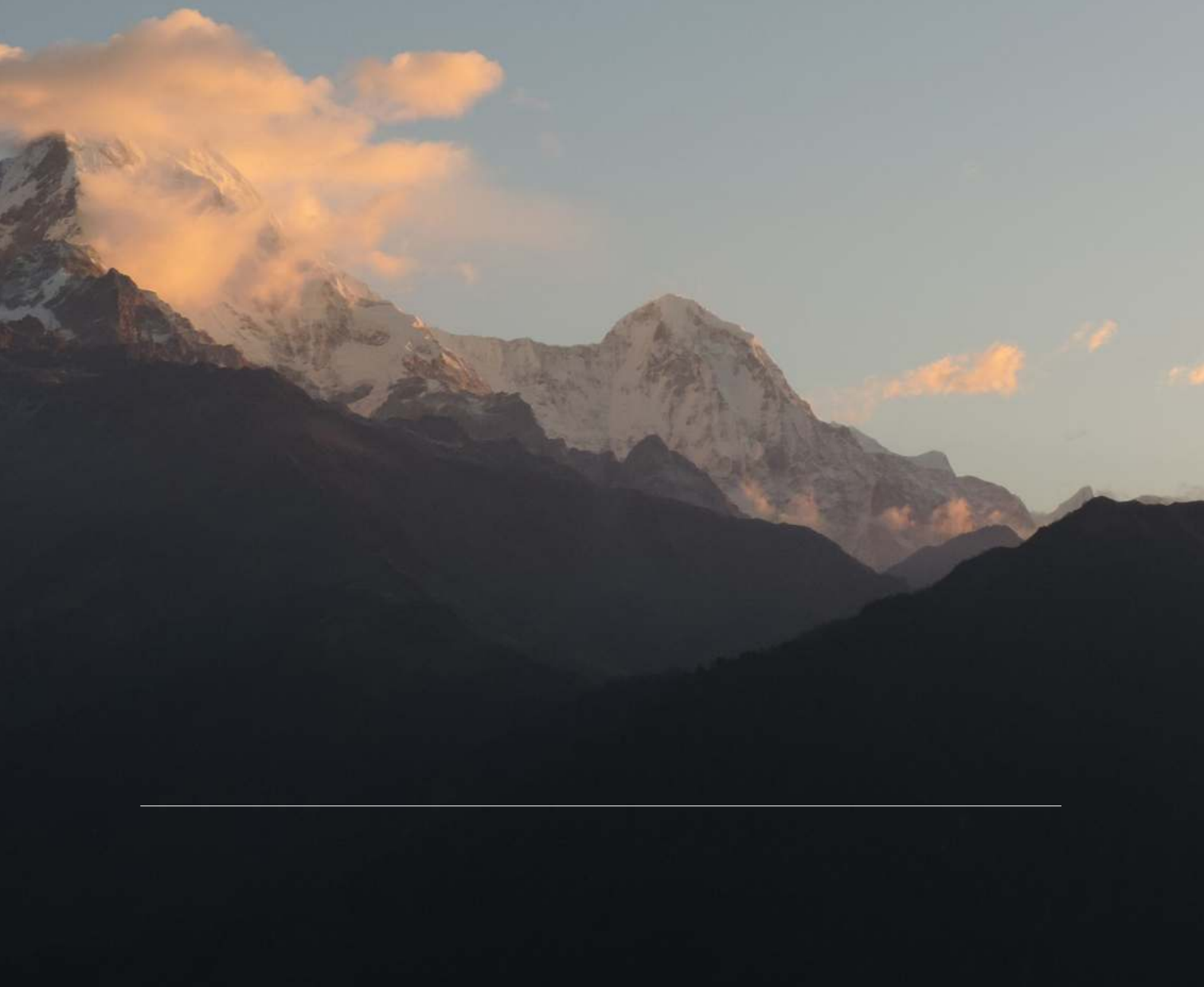
SCOR
The Art & Science of Risk

2020 SUSTAINABLE INVESTMENT REPORT

ACTING THROUGH KNOWLEDGE

Our responsible investment journey



Cover image

Part of the Annapurna Mountain Range (Nepal) – Rapid climate change in the Himalaya region threatens the traditional livelihoods of remote mountain communities, challenges traditional systems of knowledge, and stresses existing socio-ecological systems. At SCOR, we continuously invest in understanding and modeling the climate change-related risks threatening the world, taking a dual perspective: assessing the impact of climate change on our investment portfolio and assessing the impact of the portfolio's performance on the environment.

Despite the unexpected challenges of the Covid-19 pandemic and the resulting uncertainties around the world, SCOR sustained its momentum in its responsible investment journey. In 2020, the Group revised its sustainable investing policy, committing to higher standards to both improve the resilience of its invested assets portfolio and limit its environmental footprint.

This report presents the Group's key achievements in 2020, as well as its on-going endeavors to improve its investment practices. We also highlight the inherent limitations faced by investors, as sustainability is a wide and evolving topic which is still in its early stages.

This report was produced in line with the recommendations of the Task Force on Climate-related Financial Disclosures and complements disclosures addressing Article 173 of the French Energy Transition Law, available in SCOR's 2020 Universal Registration Document.

08 GOVERNANCE 16 STRATEGY

Contacts

Group Communications

Email: **media@scor.com**
Jérôme Guilbert, Chief Communications Officer
Tel: **+33 (0)1 58 44 82 82**

Investor relations

Institutional investors and equity analysts: **ir@scor.com**
Private investors: **actionnaires@scor.com**

François de Varenne, Chief Executive Officer of
SCOR Global Investments

A SOLID AND SUSTAINABLE INVESTOR

In 2020, Covid-19 changed our lives. As a side effect of multiple lockdowns across the world, greenhouse gas (GHG) emissions have decreased to unprecedented levels, demonstrating the concrete impact of individual and collective choices on the environment. Unexpectedly, the crisis has also highlighted the urgency of protecting natural ecosystems, further demonstrating the interconnectedness of all environmental objectives. Thinking about climate change is no longer possible without considering the impact of biodiversity loss on the environment. As responsible investors, we need to look at nature in its entirety.

Over the past few years, SCOR has demonstrated its strong commitment to tackling climate change and to considering environmental, social and governance aspects in its investment decisions. 2020 was another critical year in SCOR's sustainable investment journey. Despite financial market turmoil and public health uncertainty, SCOR's determination to act for a more sustainable world has not faded. More stringent European and French regulation on Sustainable Finance is about to come into force, supporting SCOR's ambition to be part of the green recovery. Joining the Net-Zero Asset Owner Alliance mid-2020 has been a major milestone and a catalyst for action in this respect. The Alliance is unique in the way it combines decarbonization and engagement to impact the real economy. It highlights the need to decarbonize not just portfolios but the entire economy, aligning the interests of investors and communities. Knowledge sharing among the Alliance's members has speeded up the selection of jointly approved science-based pathways towards realistic interim targets, supporting the race to net zero. In this regard, SCOR has committed to reducing the carbon intensity of its corporate bond and equity portfolios by 27% by the end of 2024. It will do this by combining best-in-class selection with active engagement with investees, to impact the real economy.

Thanks to its core business as a reinsurer, SCOR has reached an outstanding level of maturity on climate change that enables it to better address double materiality. Steering investments to deliver on our targets serves both the resilience of the portfolio and its impact on the environment. Nevertheless, it is becoming urgent to think beyond climate mitigation and adaptation, and to encompass all environmental challenges.

SCOR has signed the Finance for Biodiversity Pledge, with the aim of onboarding biodiversity in its investment decisions and widening its sustainable investing approach over the coming years. 2020 was an important year for innovation, thanks to key European milestones in Sustainable Finance. Although much is still at an experimental stage and will require further development, SCOR is keen to constantly improve its knowledge to better understand the challenges and limitations of cutting-edge methodologies. This stimulates our curiosity and improves our expertise in terms of steering our investments towards a more sustainable future. Sustainable investing is a key part of our strategy to unlock long-term value while limiting negative impacts on ecosystems. Biodiversity is now at the top of our agenda.

CHAPTER 01

GOVERNANCE

Batangas (the Philippines) – Batangas is one of the Philippines' most popular tourist destinations near Metro Manila. The seas around Batangas are home to more than half of the world's species of coral.

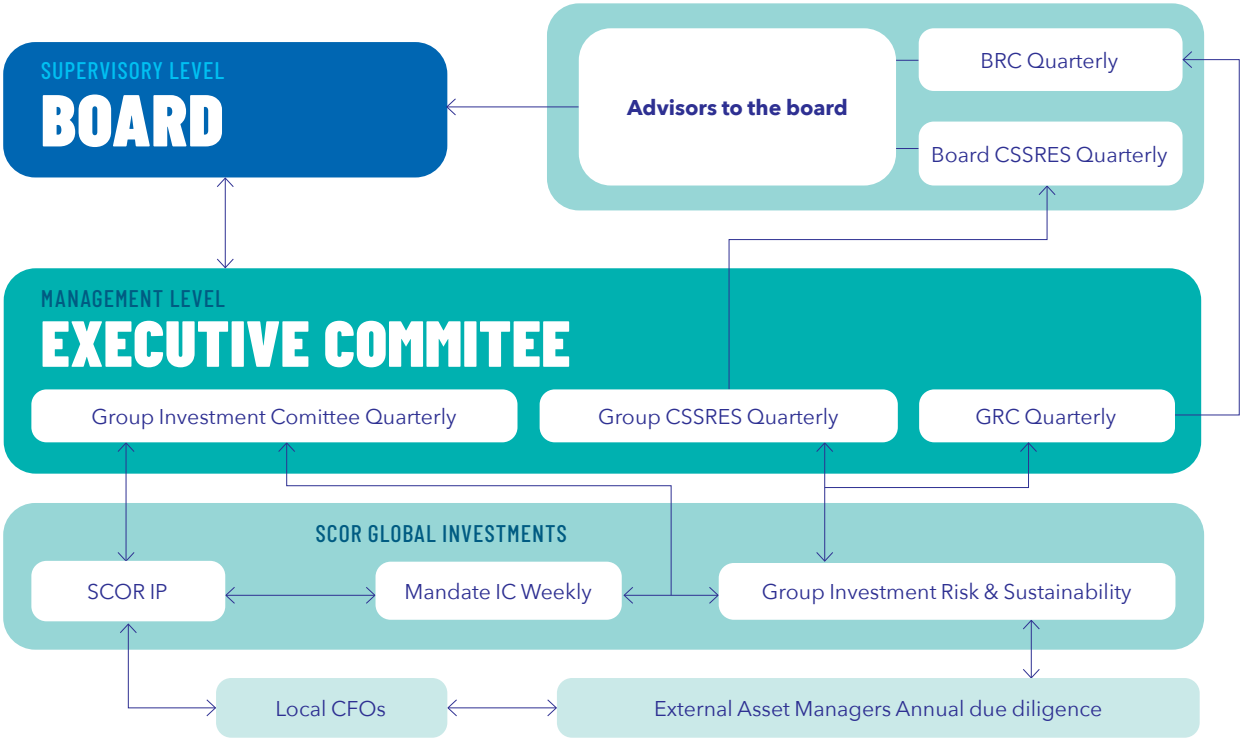
1.1. ROLE OF THE BOARD OF DIRECTORS

— SCOR's Board of Directors has several advisory committees responsible for preparing its deliberations, assisting it in its oversight role, and making recommendations in specific areas, including environmental, social and governance issues. Three of the Board's specialized committees are more specifically involved in the supervision of initiatives undertaken in the context of the Sustainable Investing Policy and the Climate Policy and according to the rules defined in the Board's internal regulations:

- **The Risk Committee** examines, on the basis of risk and solvency assessments, the major risks facing the Group on both the assets and liabilities side of its balance sheet and ensures that the means to monitor and control these risks have been implemented as far as possible. It examines strategic risks, including emerging risks, as well as the Group's main technical and financial commitments, which consist of underwriting (Life and Non-Life), reserving (Life and Non-Life), market, concentration (assets and liabilities), counterparty, asset-liability management, liquidity and operating risks, as well as risks arising from changes in prudential regulations.
- **The Corporate Social and Societal Responsibility and Environmental Sustainability Committee** (CSSRES) ensures that the Group's CSR and ESG approaches are consistent with its long-term development, and that the direct and indirect effects of its activities on the environment and society are properly integrated into its strategy. As such, this committee oversees the execution of the CSR action plan, including its climate section, which puts the Group's approach in this area into practice on an annual basis. In addition, this committee is also responsible for making proposals to the Board of Directors on how to take social and environmental issues, including climate change issues, into account in the Group's activities and operations.
- **The Compensation and Nomination Committee** is charged with drawing up the rules used to calculate variable remuneration payments to executive corporate officers and ensuring that these rules are in line with the annual assessment of the performance of executive corporate officers, taking the Group's strategy into account. The Group's environmental and social performance, especially the implementation and the development of SCOR's policies with respect to climate change, is one of the performance conditions associated with these compensation instruments.

Frequency of discussions on climate change

Committee	**Number of times the committee has discussed climate change**
Risk Committee	3 times
CSSRES	4 times, at each session



THE GROUP INVESTMENT COMMITTEE MEETS QUARTERLY, AND:

- defines portfolio positioning within the limits set by the strategic plan
- approves normative and thematic exclusions, as well as major asset reallocations related to risk management – including climate and other sustainability-related risks
- approves sustainable investing initiatives with a direct impact on portfolio allocation

THE GROUP CORPORATE SOCIAL AND SOCIETAL RESPONSIBILITY AND ENVIRONMENTAL SUSTAINABILITY (CORPORATE & SOCIAL RESPONSIBILITY) COMMITTEE MEETS QUARTERLY, AND:

- approves the sustainable strategy for the Group's investments
- validates the action plan

THE GROUP RISK COMMITTEE MEETS QUARTERLY, AND:

- monitors and ensures compliance in relation to risk appetite and capital management
- discusses climate risks and extreme events, and their direct impact on SCOR's risk profile

THE MANDATE INVESTMENT COMMITTEE MEETS WEEKLY, AND:

- assesses the feasibility of the sustainable investment strategy before submission to the Group Investment Committee or the Corporate & Social Responsibility Committee
- approves its implementation

SCOR INVESTMENT PARTNERS IMPLEMENTS THE SUSTAINABLE INVESTING STRATEGY

THE GROUP INVESTMENT RISK & SUSTAINABILITY DEPARTMENT:

- monitors trends in sustainable finance
- proposes a sustainable investment strategy including initiatives linked to climate change and biodiversity risks and opportunities
- coordinates the implementation of the sustainable investment strategy across the Group and ensures that external asset managers onboard every initiative
- reports on SCOR's achievements in terms of sustainable investments

For investment purposes, SCOR Global Investments interacts on a quarterly basis with the Group Investment Committee to report on the implementation of the investment strategy and present the roadmap for the months to come. Whenever sustainability considerations have a direct impact on the investment universe or the expected return on invested assets, they are discussed within this committee.

Sustainability risks on investments may be discussed at the Group Risk Committee meetings if they have an impact on the risk profile of the invested assets portfolio.

The sustainable investing strategy is discussed on a quarterly basis at both the Group CSSRES and the Board CSSRES Committee meetings. This includes topics relating to climate change such as stress testing, sustainable investing policy updates and the validation of the sustainable investment report. It also includes other ESG-related topics such as initiatives to improve ESG leadership or new ESG axes to further limit the adverse impacts of investment decisions.

1.2. GROUP INVESTMENT COMMITTEE

- **In Q1 2020,** SCOR Global Investments also presented the results of the DNB climate risks scenario stress tests on SCOR's invested assets portfolio. The Group Investment Committee validated SCOR Global Investments' proposal to join the Net-Zero Asset Owner Alliance (NZAOA), with the aim of implementing a strategy for net-zero by 2050.
- **In Q2 2020,** SCOR Global Investments proposed to the Group Investment Committee to take further steps in terms of phasing out fossil fuels and moving to a best-in-class strategy. SCOR Global Investments also presented the draft of the 2019 Sustainable Investment Report.
- **In Q3 2020,** the Group Investment Committee validated amendments to the Sustainable Investing Policy.
- **In Q4 2020,** SCOR Global Investments proposed to the Group Executive Committee an investment portfolio decarbonization pathway in line with the Target Setting Protocol of the NZAOA.

1.3. GROUP CORPORATE SOCIAL AND SOCIETAL RESPONSIBILITY AND ENVIRONMENTAL SUSTAINABILITY COMMITTEE

Each quarter, SCOR Global Investments presents an update of the investment section of the CSR action plan, which includes specific sections on climate stress testing. Special topics are presented separately as necessary.

- **In Q2,** the CSSRES Committee validated the 2019 Sustainable Investment Report, including disclosures around climate stress testing performed in 2019 based on the 2° investing initiative scenario provided in their Storm Ahead study and in early 2020 based on the DNB scenario.
- **In Q3,** SCOR Global Investments presented i) an initial introduction on how biodiversity could be rolled out within investment over the next three years and ii) a divesting strategy from upstream oil and gas to move forward in the journey towards net-zero.
- **In Q4,** SCOR Global Investments presented an update on its biodiversity journey to raise awareness and proposed to join initiatives to move further on biodiversity and start engaging with companies around deforestation. SCOR Global Investments also presented the Target Setting Protocol ahead of the discussion on hard decarbonization targets at Executive Committee level.

Setting Sub-Portfolio Targets within the NZAOA

After joining the NZAOA, SCOR contributed to the design of the Target Setting Protocol. To prepare for commitments on decarbonization pathways and to set targets for 2025, SCOR Global Investments conducted a road test on several asset classes. The Protocol and its expected targets were presented to the CSSRES Committee. Following internal discussions, a decarbonization target was validated by the Group Investment Committee, as part of the investment strategy. The CSSRES Committee will be kept informed of the pathway and will oversee its implementation over time.

1.4. THE SUSTAINABLE INVESTING POLICY

— SCOR's Sustainable Investing Policy complements the Group Climate Policy and is part of the Group Investment Guidelines. It sets the principles for the integration of sustainability within the investment strategy and is based on the following five pillars:

- **Building** a resilient portfolio thanks to strong risk management
- **Enhancing** sustainable investment decisions with portfolio screening
- **Fostering** more sustainable behavior through engagement
- **Financing** a more sustainable world by selecting thematic opportunities
- **Supporting** climate awareness among the financial community

It encompasses all aspects of non-financial risks and opportunities and presents the way SCOR intends to consider them in its strategy. It is validated by the Board and reviewed on an ad-hoc basis in line with the sustainable investment agen-

da. In 2020, several actions were taken to improve SCOR's sustainability in its investment strategy:

- **Regarding exit strategies,** the scope on thermal coal was extended to all new developers and the threshold was lowered to 10%
- **SCOR committed to exiting** thermal coal in 2030 in EU and OECD countries and in 2040 in the rest of the world
- **SCOR implemented** additional restrictions applying to upstream oil and gas, allowing only investments in best-in-class issuers.

SCOR intends to apply restrictions in its investment universe, leveraging the EU taxonomy and taking into account the need for a just transition. This means that priority is given to exiting sub-sectors where more sustainable alternatives exist, but also that support is provided to companies committed to transitioning to a low carbon economy.

1.5. THE ROLE OF ASSET MANAGERS

— SCOR has delegated the management of its assets to its fully owned asset management company, SCOR Investment Partners (SCOR IP), alongside external asset managers. SCOR's Sustainable Investing Policy is foundational to its sustainable investment strategy. Publicly available and referenced in every investment guideline provided to asset managers, it forms part of the investment management agreement and ensures the consistency of the Group's strategy across its legal entities throughout the world. SCOR relies on the expertise of its investment managers, who will ultimately select securities based on their own ESG processes. SCOR IP plays a predominant role in the integration of ESG criteria in investment decisions, given the size of the assets it manages. External asset managers are asked to provide their ESG principles and processes during the selection process. Their engagement and capabilities vis à vis ESG are key factors alongside risk management processes. Once selected, the way investment managers factor ESG criteria into investment decisions relating to SCOR's mandate forms part of the annual due diligence performed by Group Investment Risk & Sustainability. During the meetings, updates and in-depth discussions ensure a good understanding of the status of the Group in its journey towards sustainability. Investment managers can also be asked to provide ESG analyses of issuers to support Group Investment Risk & Sustainability supervisory tasks.

As an asset owner, SCOR has ultimate responsibility for its portfolio positioning. As such, the Group performs independent ESG analysis, including climate stress tests on an aggregated basis, using its own data providers and methodologies.

1.6. ESG INFORMATION

— The Group relies mainly on information provided by extra-financial rating agencies and ESG consulting firms. As industry consolidation continues, Group Investment Risk & Sustainability pays specific attention to its data providers and reassesses its selection on a yearly basis. This may hamper year-on-year comparability but allows for the most recent innovations and the highest level of expertise.

1.7. COMMUNICATION AND SPREADING KNOWLEDGE ON SUSTAINABILITY

— SCOR is a reinsurance company providing Property, Casualty and Life biometric risk transfer solutions to insurance companies and corporates. As such, premiums remain in its ownership until claims need to be paid. SCOR sets its own preferences for investment decisions in line with its own risk appetite.

SCOR issues a sustainable investment report on a yearly basis, complementing i) regulatory information on sustainability under Article 173 of the French bill on Energy Transition and Green Growth available in section six of its Universal Registration Document and ii) its Climate Report, providing a holistic view on how the Group tackles climate change in its business, investments and operations.

Group Investment Risk & Sustainability regularly updates the SCOR Global Investments business unit, including SCOR Investment Partners, on its sustainability journey. Employees are also regularly invited to Group Investment Risk & Sustainability presentations on how sustainable finance impacts SCOR's investment strategy. People from SCOR Global Investments also participate in external conferences on sustainability as panelists or speakers to share their experience on tackling climate change in investments and to foster good climate-related reporting practices. In 2020, SCOR Global Investments participated in 15 public events on sustainability in France and abroad.

1.8. PARTICIPATION IN THE PUBLIC DEBATE

— The Group commits to dialogue with regulators and institutions, providing support through its internal expertise and promoting responsible investment. SCOR has been active over the last two years as a member of the Technical Expert Group on Sustainable Finance at the European Commission, and has chaired the Project Task Force on Climate Related Reporting at the European Corporate Reporting Lab @ EFRAG. SCOR is a member of the Climate and Sustainable Finance Commission at the Autorité des Marchés Financiers, the French securities and market authority. The Group also commits to participating in working groups and initiatives led by national and international professional associations, to foster a better understanding and implementation of sustainability in investment decisions. SCOR participates in various working groups on climate scenario analysis and carbon neutrality. At the forefront of climate risk thanks to its core business, SCOR is also regularly invited by regulators to share insights on how it tackles climate change in its investment strategy.

Area	Data methodology or provider	Asset class	Type of data provided	Comment
Climate change	ISS	• Sovereign bonds • Corporate bonds • Equity • Corporate loans • Real assets loans • Real assets	Carbon footprint	• Carbon intensity by revenue: in tCO_2e per EUR million of revenue or GDP • Carbon intensity by enterprise value: in tCO_2e per EUR million invested
		• Corporate bonds • Equity	EU taxonomy for sustainable activities	Alignment assessment
	Carbone 4	• Sovereign bonds • Corporate bonds • Equity	Implied Temperature Rise	Global temperature rise associated with the forward-looking GHG of a portfolio or entity expressed in a temperature unit typically °C
	SCOR P&C	• Real assets	Physical risk	Impact of extreme weather events expressed in EUR million
	ACPR or other	• Sovereign bonds • Corporate bonds • Equity	Stress testing: transition risk	Impact on assets valuation in EUR million
Biodiversity	CDP	• Corporate bonds • Equity	Deforestation risk assessment	Companies scores
	Forest 500	• Corporate bonds • Equity	Deforestation risk assessment	Companies scores
	Iceberg Data Lab	• Corporate bonds • Equity	Biodiversity footprint	Biodiversity impact expressed in km² MSA (Mean Species Abundance)
ESG General data	ISS	• Sovereign bonds • Corporate bonds • Equity	ESG ratings	Countries and companies scores
		• Corporate bonds • Equity	Controversies	Controversies analysis
	RepRisk	• Sovereign bonds • Corporate bonds • Equity	Controversies	Systematic screening

1.9. PARTICIPATION IN PUBLIC INITIATIVES

SCOR'S JOURNEY TOWARD SUSTAINABILITY

- Environmental and climate commitment
- General commitment
- Health commitment
- Human rights and diversity commitment

FEBRUARY 21, 2007
SCOR is leading the debate on the financial protection of developing countries from natural catastrophe risks

MAY 1, 2015
Denis Kessler co-chairs the Extreme Events and Climate Risk program of the Geneva Association

JUNE 9, 2015
The SCOR Foundation hosts a seminar on Climate Risks

NOVEMBER 26, 2015
SCOR commits to the first French climate pledge

NOVEMBER 19, 2015
SCOR reaffirms its commitment to the management of climate risk, announces its divestment from all exposure to coal and invests EUR 930 million in low-carbon projects

2003 2007 2008 2012 2015 2016

JUNE 3, 2003
SCOR joins the Global Compact initiative

JUNE 25, 2012
SCOR is a founding signatory of the Principles for Sustainable Insurance (PSI)

NOVEMBER 1, 2016
SCOR, a member of the CRO Forum Emerging Risks Initiative, publishes a report on water risks

FEBRUARY 20, 2008
SCOR (Paris office) commits to a policy of anti-discrimination and to male/female equality among its staff

NOVEMBER 7, 2016
SCOR signs a global charter on professional equality between women and men

MARCH 9, 2017
The SCOR Foundation hosts a seminar on climate risks with the Geneva Association

MARCH 21, 2017
SCOR signs the Shift Project's "Decarbonize Europe Manifesto"

SEPTEMBER 6, 2017
SCOR announces further environmental sustainability initiatives

DECEMBER 11, 2017
SCOR reaffirms its commitment to the environment at the One Planet Summit and signs the second French Climate pledge

APRIL 26, 2018
SCOR expands its coal divestment strategy based on the Global Coal Exit List (GCEL)

DECEMBER 1, 2018
SCOR commits to protecting World Heritage Sites

JULY 9, 2019
SCOR releases its Sustainable Investing Policy

SEPTEMBER 11, 2019
SCOR signs the United Nations Principles for Responsible Investment (PRI)

MAY 2020
Net-Zero Asset Owner Alliance

DECEMBER 2020
Finance for Biodiversity pledge

2017 2018 2019 2020

MAY 31, 2017
SCOR sponsors a global statement supporting stronger regulation around tobacco control

SEPTEMBER 26, 2018
SCOR is a founding signatory of the tobacco-free finance pledge

novethic cercle

SCOR is a member of Novethic's "Cercle des Institutionnels", a French institutional investment community dedicated to supporting investors who wish to strengthen their commitment to sustainable finance.
www novethic fr/cercle desinstitutionnels.html

CHAPTER 02

STRATEGY

Omo Valley (Ethiopia) – A UNESCO World Heritage Site since 1980, the Omo Valley is home to diverse ecosystems including grasslands, volcanic outcrops, and one of the few remaining pristine riverine forests in Africa. The valley is inhabited by semi-nomadic tribes, including the Hamar and Karo people.

2.1. SCOR'S INVESTMENT PHILOSOPHY

— As far as invested assets are concerned, SCOR's primary investment objective is to generate recurring financial income in accordance with the Group's risk appetite framework, and to ensure that the Group:

i. is always able to meet its claims and expense payment obligations, and

ii. creates value for its shareholders in line with the objectives set out in the strategic plan, while:

i. preserving the Group's liquidity and level of solvency,

ii. protecting its capital,

iii. allowing the Group to operate on a day-to-day basis as well as over the long term, and

iv. contributing to the welfare and resilience of societies, in compliance with the investment regulations, risk appetites and regulatory capital requirements (level of capital and type of admissible assets) of the Group's legal entities, and with Group-wide and local investment guidelines.

The bulk of the invested assets portfolio backs SCOR's liabilities, i.e. technical reserves for Life and P&C reinsurance. In view of business constraints, investments are mainly in liquid, high-quality fixed income assets in order to ensure Group solvency in the event of large claims. ALM (Asset and Liability Management) is a critical factor in the selection of assets used to cover SCOR's technical liabilities. In addition, the Group applies strict congruency principles, which ensures that cash is always invested in the same currency as underwriting commitments.

Asset allocation is the backbone of SCOR's investment strategy. Limits by asset classes and by credit quality are stated in the Group's Investment Guidelines, which are reviewed at least once a year and approved by the SCOR SE Board of Directors. Those Guidelines encompass the Sustainable Investing Policy.

Over the last few years and acting as a responsible investor, SCOR has developed a robust strategy to assess climate-related risks and opportunities alongside other non-financial criteria, in line with two objectives:

- **To protect** the value of its invested assets against non-financial risk factors as well as financial risks
- **To benefit** from opportunities stemming from the transition to a sustainable economy

2.2. SCOR'S SUSTAINABLE INVESTING APPROACH

— SCOR's sustainable investing approach is structured around the five pillars of its Sustainable Investing Policy, which form a consistent and robust framework for the strategy. The Group addresses both the resilience of its invested assets vis à vis ESG risks and the positive and adverse environmental and social impacts of its portfolio. The current state of play of sustainability is evolving very fast, advocating for flexibility and constant improvement in terms of approach, methodologies and tools.

2.3. BEING A RESPONSIBLE INVESTOR

A strong risk management culture

— Thanks to its core business as a reinsurer, SCOR has developed a strong risk culture across the entire Group. Risk management includes sustainability in terms of non-financial risks and opportunities, as well as potential impacts of the portfolio on ecosystems. Environmental, social and governance criteria are embedded in investment decisions and monitored closely during the investment life cycle. SCOR considers E, S and G criteria as potential early signals of future risks. As such, issuers' extra-financial ratings are screened within risk management processes to better anticipate potential deterioration of credit quality and environmental and social impacts. Controversial issues are also analyzed to detect potentially at-risk positions at an early stage. Identifying risks – financial as well as non-financial – and managing them to increase the resilience of the portfolio, serves the investment strategy and the long-term profitability of SCOR.

Embedding new trends and opportunities

— Monitoring new trends is critical to maintain momentum and detect not only new risks but also new opportunities. SCOR is involved in several initiatives at national, European and international levels to stay connected with innovation around sustainable finance and non-financial corporate reporting. Detecting opportunities is part of the Group's strategy to build a resilient portfolio and create long-term value. As an example, SCOR has developed a unique real estate business model based on buying "brown" buildings in core locations to retrofit them following the highest environmental and energy efficiency standards, before selling them to externalize the value created. Over the last 10 years, SCOR has also built a material bucket of infrastructure debt and real estate debt financing the transition to a low carbon economy. This "green bucket" has been built leveraging SCOR Investment Partners' historical expertise in real estate and debt investments.

SCOR also invests in insurance-linked securities (ILS) that contribute to the resilience of communities following extreme events. Unlike the physical risks borne by direct investments, with ILS, SCOR is compensated for exposing itself to selected physical risks, which can be either climate-driven like storms or other types of extreme events like earthquakes. As there is limited correlation between financial market developments and the occurrence of natural catastrophes, this strategy provides the invested assets portfolio with diversification and increases its resilience. The Group leverages SCOR Investment Partners' longstanding performance in managing this asset class.

2.4. CLIMATE CHANGE: THE RATIONALE OF TIME HORIZONS

—Time horizons are important drivers of decisions and must align with the objectives of the strategy. The duration of invested assets is relatively short, around four years, in line with SCOR's reinsurance business. This enables SCOR to increase the resilience of the portfolio against long-term adverse trends. Bonds represent the bulk of the portfolio. Time horizons can be split into three buckets: less than two years, two to five years and above five years. We can consider that below two years, the risk is mainly a default risk as the sensitivity of bonds is relatively small. Above five years, uncertainties – mainly around policy responses for transition risks and climate evolution for physical risks – may lead to higher volatility in asset valuation.

Climate risks and opportunities

CLIMATE PHYSICAL RISK					
	Short term (below 2 years)	**Medium term (2 to 5 years)**	**Long term (above 5 years)**	**Risk management / impact assessment**	**SCOR mitigation action**
Within investments, physical risk relates to exposures to climate-related extreme events (acute) or to global trends due to climate change (chronic)					
Acute	**Directly:** Related to investments in physical assets (buildings and real estate debt, infrastructure debt)			Models and simulations Assessment of climate risk performed internally using property cat models	Location of invest-ments; Focusing on deforestation risk as a mitigation action to climate-change risks
	Indirectly: Related to corporate exposures Companies in which SCOR invests may suffer from climate-related extreme events depending on their geographical locations			Models and simulations: portfolio monitoring	
Chronic			The business models of companies in which SCOR invests may suffer from major climate-related trends (increase of sea level, droughts…)	Models and simulations: portfolio monitoring	Focusing on deforestation risk as a mitigation action to climate-change risks

CLIMATE TRANSITION RISK					
	Short term (below 2 years)	**Medium term (2 to 5 years)**	**Long term (above 5 years)**	**Risk management / impact assessment**	**SCOR mitigation action**
Within investments, this risk mainly relates to carbon intensive sectors which may be hit by new regulation. It can also relate to more stringent regulation and reputation risk linked to deforestation. Risks may differ between investments in equities and in bonds as equity prices may never recover whereas bonds may be redeemed at par at maturity. For SCOR the risk is on corporate bonds given the low appetite of the Group for investments in equities.					
Carbon Intensity	Coal Coal power	Oil Gas	Automotive	Models and simulations Portfolio monitoring Footprinting	Divest from highest emitters or sectors with alternative activities Implement a best in class strategy and engage companies to foster an orderly transition Set decarbonization pathways Limit exposures to most carbon intensive sectors and divest from laggards to limit market downside
		Cement Steel Gas power			
			Real estate	CRREM	Certification Retrofit
Deforestation		Agri food Personal care / Cosmetics		Screening of the portfolio	Joining initiatives to engage with companies Finance for biodiversity CDP forest champion

CLIMATE-RELATED OPPORTUNITIES				
	Short term (below 2 years)	**Medium to long term (above 2 years)**	**Assessment**	**SCOR response**
Physical	Insurance linked securities		Diversification effect	Selection of perils / geography
Transition	Green bonds Solar, wind (corporate bonds, infrastructure debt) Energy efficiency (direct real estate and real estate debt)	Potential new technologies providing diversification to the invested assets portfolio (including carbon sinking solutions and clean energies)	Internal taxonomy Leverage the AOA financing transition initiatives	7.3% of the portfolio invested in green investments as of the end of 2020

2.5. ADDRESSING DOUBLE MATERIALITY

— When considering environmental, social and governance criteria in its investment strategy, SCOR believes that materiality is key to both assess potential risks and identify the best opportunities. Protecting the portfolio from downside effects linked to non-financial risks, and particularly climate-related adverse impacts, is at the heart of SCOR's investment risk management. Resilience protects the value of assets against both transition and physical risks. These two risks move in opposite directions, as the faster the transition, the greater the possibility of containing global warming. However, this only works to the extent that transition occurs early enough and in an orderly enough manner. Otherwise, transition damage – mainly in the form of stranded assets – and significant increases in the severity and/or frequency of climate-related extreme events, may both hit the value of investment portfolios. In order to improve longer-term resilience, it is crucial to also address the inside-out effects of investment decisions. By doing this, SCOR actively contributes to a faster transition and, in return, protects its portfolio against physical damage over a much longer time horizon. This loopback effect drives back the long-term horizon within shorter-term investment decisions.

This has led SCOR to make an early exit from some sectors that are not compatible with the Paris Agreement, with the Group extending its divestment from thermal coal in 2020 as part of its strategic plan. The Group has also taken additional steps to better impact the real economy. This includes joining engagement initiatives and developing a best-in-class strategy initially applicable to upstream oil and gas companies.

2.6. MAJOR STEPS IN SCOR'S INVESTMENT STRATEGY IN 2020

— In 2020, SCOR accelerated its investment journey toward sustainability:

- **SCOR committed to exiting thermal coal by 2030** in the EU and OECD, and by 2040 in the rest of the world
- **SCOR decided to apply** a best-in-class strategy when investing in upstream oil and gas, limiting its investments to companies with credible transition pathways towards a low carbon economy
- **SCOR decided to increase** its dialogue with investees and joined several initiatives

Net-Zero Asset Owner Alliance

— In May 2020, SCOR joined the Net-Zero Asset Owner Alliance. This initiative aims to support asset owners in their commitment to net-zero portfolios by 2050.

Net-Zero Asset Owner Alliance: impacting the real economy

The Net-Zero Asset Owner Alliance provides a unique framework for investors to design, implement and report on their decarbonization strategy. The science-based Target Setting Protocol provides investors with a credible set of assumptions supported by robust academic research. It enables them to combine portfolio targets, sector targets and engagement targets to ensure the actual translation of investment decisions into the real economy. Calling for an enlarged investment universe in terms of transition solutions complements the "toolkit" for designing a net-zero world. The Protocol provides a collective response from investors and a relevant benchmark to support decision making in the near future. As such, it brings the long-term vision of a net-zero world back into the time horizon of investment decisions.

The pathway that investees follow in their decarbonization journey is a critical element of investors' success in their attempts to align their portfolios with the Paris Agreement.

The Net-Zero Asset Owner Alliance invites all members to set targets for the end of 2024 based on 2019 portfolio positioning, called the "baseline".

- **Engagement targets** are mandatory as the Alliance considers dialogue to be the most powerful tool to impact the real economy. However, this needs to be combined with decarbonization targets to ensure that investors actually deliver on the commitments they have made.
- **Portfolio decarbonization:** Using IPCC P1 to P3 pathways, the Alliance has concluded that investors should set an interim target of decarbonization in the range of -16% to -29% by the end of 2024, to align with a carbon budget compatible with net-zero by 2050. Each member sets its own targets depending on its portfolio sector mix and the efforts already made prior to the baseline. Initially,

targets are expected for publicly traded corporate bonds and listed equities, as well as real estate for investment purposes when possible. Other asset classes will be progressively covered over time. Sovereign, supranational and agency bonds are expected in 2021.

- **Sector decarbonization:** The Alliance has used the One Earth Climate Model produced by the University of Technology Sydney (UTS) to set decarbonization objectives for the highest emitting sectors.
- **Members are strongly encouraged** to develop financing solutions to support the transition to a low carbon economy and are invited to set targets on initiatives or contributions to foster new solutions.

Several simulations have been performed since summer 2020 to road test decarbonization pathways and select the most relevant one to address investment financial constraints, risk limits, and impact on the real economy. Fully and systematically exiting the highest emitting sectors is not compatible with engagement with the companies operating in those sectors that most need to transition to a low carbon economy. Setting targets means designing the right balance between fast decarbonization and engagement results. This also aligns with SCOR's principles set out in its Sustainable Investing Policy, to apply a balanced approach between enhancing access to development and reducing CO_2 emissions.

Finance for Biodiversity pledge

— Carbon sinking contributes to climate change mitigation and SCOR recognizes the need to better consider biodiversity when tackling climate change. In 2020, SCOR signed the Finance for Biodiversity pledge and became a member of the CDP Forest Champion initiative. The Group is also an observer of the TNFD initiative. Leveraging its approach on climate-related topics, the Group strives to better understand biodiversity risks and opportunities. Preliminary discussions have begun at Executive Committee and Board levels to increase awareness and develop an action plan to address deforestation risks as an initial step to onboarding biodiversity.

2.7. ENGAGEMENT

— SCOR intends to contribute to supporting a more sustainable world. This will be based on selecting investments but also on engaging in fruitful dialogue with companies to foster actions towards more sustainable business models. Despite the Covid-19 environment, which has made regular processes more complex, SCOR exercised most of its voting rights in 2020. For all resolutions, the Group followed the recommendations of its Glass Lewis proxy.

Beyond voting and exercising its shareholder's duties, SCOR has decided to join several initiatives for efficient engagement. Given its low appetite for equities as an asset class and the limited amount of its invested assets (circa EUR 20 billion), the Group favors collaborative initiatives rather than individual dialogue.

SCOR also fosters dialogue with its external asset managers, mainly during the yearly due diligence monitoring processes. This is an opportunity to give an in-depth explanation of the philosophy underpinning the Sustainable Investing Policy and to engage in fruitful dialogue on the way investment managers consider SCOR's preferences in their investment decisions to ensure alignment between investment managers' calibration tools and SCOR's investment strategy. Compliance ensures that restrictions are correctly coded in their systems. Best-in-class strategies are discussed and detailed to ensure they are based on the same understanding and criteria.

London office / United Kingdom – Certified BREEAM

CHAPTER 03

RISK AND RISK MANAGEMENT

Wuling Mountains (China) – Running from eastern Guizhou to western Hunan, the Wuling Mountain range was designated a UNESCO Biosphere Reserve in 1986. Its Fanjingshan Mountain became a World Heritage Site in 2018.

3.1. ORGANIZATION

— Group Investment Risk & Sustainability encompasses financial risks, non-financial risks and the impacts of investment decisions. It monitors portfolio positioning and ensures that this complies with the risk limits set globally by the Group as part of its risk management framework. Four people are in charge of sustainability, analyzing risks, impacts and opportunities.

3.2. TOOLS AND PROCESSES

— Group Investment Risk & Sustainability has developed a robust risk management toolkit to address both financial and non-financial risks as well as double materiality. The department uses different approaches, depending on the availability of data and the maturity of methodologies. Some are qualitative, others are more quantitative. As maturity evolves and methodologies become more robust, Group Investment Risk & Sustainability improves its awareness and understanding of sustainability issues and enhances internal expertise. Partnering with external data providers and consulting firms speeds up the journey from awareness to understanding and decision making. As we push the envelope to explore unknown territory, we often start with exploratory and very preliminary results that may not be robust enough to take sound investment decisions. However, it helps the Group fine-tune its approach and better anticipate the next challenges.

Models and simulations

— Two main quantitative tools are used to assess climate-related risks.

- **Nat cat modeling tools:** the natural catastrophe modeling tool is SCOR's proprietary tool developed internally for pricing natural catastrophe business. Based on scenarios validated by the Group's modeling teams, this model estimates potential losses from natural catastrophes. It enables the teams to calculate damage rates which provide estimates of the potential losses physical assets may suffer in the event of different perils such as Japanese earthquakes, European wind, U.S. hurricanes, etc. The intensity and frequency of perils are provided by zip codes, facilitating a granular assessment of the risks borne by each physical asset on the portfolio.
- **CRREM:** the Carbon Risk Real Estate Monitor is a tool using science-based decarbonization pathways aligned with the Paris Agreement to measure the (mis)alignment of direct real estate investments with 2°C and 1.5°C pathways. It enables investors to assess the risk of write-downs due to changes in market regulations and consumer behavior, depending on current levels of consumption linked to national determined contributions. Limited to the EU, it works well with SCOR's real estate investment portfolio, which is mainly located in France. However, as there is currently a lack of consumption data, Group Investment Risk & Sustainability has focused its analysis on real estate for own use located in Europe, representing around EUR 625 million. About one quarter of SCOR's operating real estate is located outside of Europe and cannot be considered in this first assessment.

Scenario / stress testing: for liquid and listed securities – usually government and corporate bonds as well as equities – stress tests have been developed based on IPCC or IEA climate scenarios. They are designed to translate the consequences of "temperature scenarios" into macro-economic variables, enabling investors to project the value of investment portfolios in a certain time-horizon and under certain rate, credit spread and equity level assumptions. The higher the temperature scenario, the higher the physical risk. The lower the temperature scenario, the higher the transition risk. SCOR recognizes the limitations of this approach as the superposition of assumptions (e.g. climate scenarios, NDC realization, macroeconomic consequences, expected positioning of the portfolio in the future, mitigation actions, etc.) may limit conclusions. However, SCOR sees a lot of benefits in running these scenarios. It raises awareness internally at every level of the company, from the Group Investment Risk & Sustainability teams to the Executive and Board Committees. It fosters fruitful discussions on the level of maturity and demonstrates constant improvement and involvement on the topic. It speeds up processes when data and methodologies become robust enough to start using the results to amend the Sustainable Investing Policy and drill it down into the investment strategy. The transition from experimental to usable information becomes smoother with experience and the comparison of results under different scenarios. In 2020, SCOR ran the stress tests proposed by the French insurance regulator (*Autorité de Contrôle Prudentiel et de Resolution*) on its invested assets portfolio. The simulations related to transition risks on government and corporate bonds as well as the equity portfolio. Extensive results and comparisons with previous exercises are shown in section 3.4.

Foot-printing

— Foot-printing is an attempt to assess the "inside out" impact of investments. It can be also considered as a preliminary assessment of future risks, as negative impacts may in turn harm the portfolio over a longer time horizon.

- **Carbon footprint:** Despite many attempts to foster transparency and comparability, carbon foot-printing is a complex exercise as it relies on a large amount of data, much of which is either unavailable or not robust. When it relates to past information on GHG emissions, data may be criticized for being backward-looking. When trying to assess forward looking foot-printing, for example for implicit temperature rise, data may be based on assumptions of a company's future behavior or pathway, with all the surrounding uncertainties. There is no ideal metric nor solution, but this should not prevent investors from acting to better align their investment portfolios.

Combining both carbon footprint and implicit temperature rise gives an indication of how a company is engaged in its transition to a low carbon economy and how it actually delivers on its own targets. Tracking both backward and forward-looking information helps investors to select best-in-class companies and provides a benchmark by which to regularly reassess their progress.

- **Biodiversity footprint:** Assessing the impact of investments on biodiversity requires natural capital indicators and meaningful methodologies. Several approaches to measure impacts and dependencies on ecosystem services and biodiversity are being developed. For the time being, no standard has emerged because of the complexity of the topic: dependencies on nature are not the same for different sectors and hence for different companies. Moreover, each ecosystem is sensitive to different pressures.

Portfolio screening

— Portfolio screening is useful as a first attempt to assess the materiality of a nascent topic. Group Investment Risk & Sustainability usually uses it on a top-down basis, isolating sectors that may be at risk for a specific sustainability topic. Such analysis enables Group Investment Risk & Sustainability to assess how much of the portfolio may be at risk. It needs to be complemented by a bottom-up approach, as non-financial risks may be mitigated at company level. This approach has been used in the past to try to assess how much of the corporate bonds and equity portfolio could be exposed to carbon pricing transition risk. It was tested again in 2020 to try to assess the materiality of deforestation risk within SCOR's investment portfolio.

Taxonomy: As a member of the European Commission's Technical Expert Group on Sustainable Finance, SCOR was involved in designing the EU Taxonomy for Sustainable Activities, and firmly believes in the benefits of using this screening criteria. Activities falling within the framework of the taxonomy are likely to be less exposed to environmental risks, and the "Do No Significant Harm" factor ensures minimum safeguards in the sense that addressing one environmental objective is compatible with the protection of environment as a whole. Applying the taxonomy to investment portfolios provides a robust assessment of the opportunities provided by the transition to a sustainable economic model.

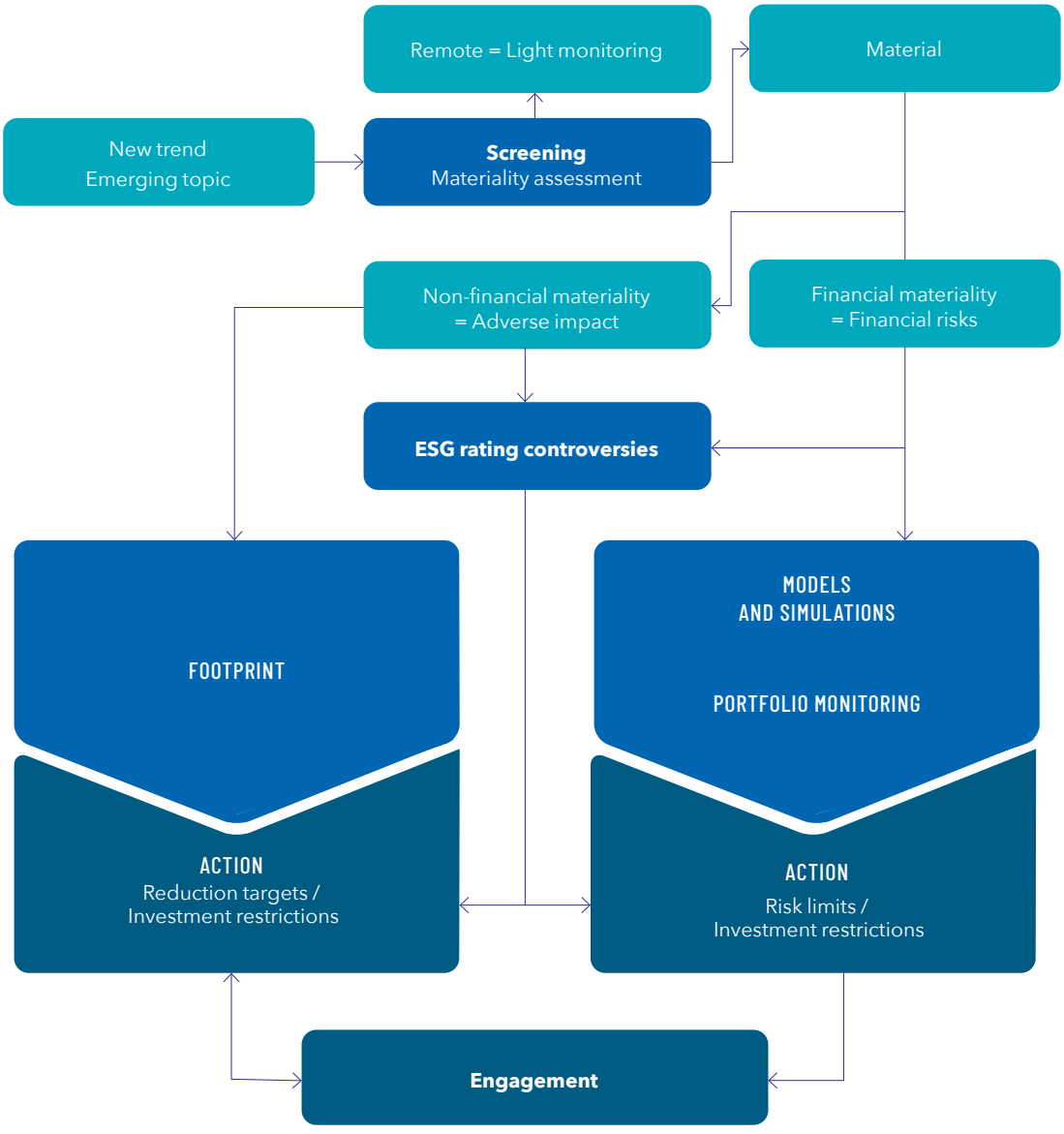
ESG rating and controversies: Sustainability encompasses many aspects and climate change is just one broad topic among others that need to be considered. SCOR relies on data providers for ESG ratings on most liquid asset classes. It provides additional information on the potential adverse impact of its investments. Controversies complement individual screening and contribute to a more robust monitoring of positions within the portfolio. They can also support decisions to ban a specific issuer.

The integration of ESG criteria is measured primarily by assessing the quality of the asset portfolio. Given the extremely high level of diversification of its investments, the Group works with the independent, non-financial ratings agency ISS-ESG to assess its portfolio's standard instruments. The agency assesses mainly government bonds, corporate bonds and listed equities. For debt instruments, particularly infrastructure and real estate debt, the Group relies on the expertise of its subsidiary SCOR IP, a recognized leader in the European debt instrument management industry. Issuers with the lowest ratings may be on a watchlist, and investment managers may be asked to provide the rationale for selecting or keeping the position. SCOR does not apply systematic exclusions based only on ESG rating but favors a pragmatic approach. The Group aims to reconcile risk control with profitability and solvency targets. Like all reinsurers operating in multiple jurisdictions, SCOR is subject to multiple regulatory and business constraints. The main growth drivers are in Asia, where national law often requires that assets be owned and held locally. In those locations, to optimize its capital allocation, the Group focuses primarily on its core business and often refrains from allocating capital to market risks. Investments in those countries are strictly designed to back liabilities and address ALM constraints. Consequently, the bulk of the portfolio is invested in government bonds in the riskiest countries. This asset class has been growing steadily in line with the expansion of SCOR's Asian business. At the same time, the Group is mindful of any local initiatives, especially on sovereign green bonds.

Sustainability is still evolving and there is no "one size fits all" type of assessment. Assessing and managing sustainability risk is a combination of these different tools and methodologies, and the selection of the most relevant risk / impact assessment approach depends on maturity and materiality. There is no one single holistic way of tackling sustainability within investment, and the many dimensions of sustainability deserve agility, reactivity and adaptability. As the robustness of tools increases and makes their output more reliable, they provide better material for internal discussions, raising awareness, risk management and investment decision support.

Risk management process

— SCOR Global Investments strives to actively follow sustainability trends on investments by constantly monitoring initiatives and news-flow and stimulating discussions with peers, regulators, professional associations. New trends are analyzed using the two materiality lenses, and when considered material, they enter the double process of risk management and impact assessment. Depending on the maturity of methodologies and availability of data, the results can lead to internal discussions, or amendments to the investment strategy.



The outcomes of the process can be summarized as follows:

		Risk / Opportunities assessment	Impact assessment	Asset classes	% of coverage of related asset classes
Models and simulations	Nat cat modeling tool	Climate physical risk		SCOR's physical assets	10%
	CRREM	Climate transition risk		SCOR's real estate for own use	Real estate for own use – Experimental
	Climate stress testing	Climate transition risk Climate physical risk		Government bonds Corporate bonds Listed equities	84%
Foot printing	Carbon intensity	Climate transition risks		Government bonds Corporate bonds Listed equities Corporate and leverage loans	84% (on enterprise value)
	Implied temperature rise (ITR)	Climate transition risk	Pathway to reach carbon neutrality by 2050 including interim targets by 2025		89%
	Biodiversity	Transition risk			Experimental
Portfolio screening	Taxonomy	Resilience of activities		Utilities	Not relevant – Experimental
	Biodiversity	Deforestation risk		Corporate bonds Listed equities	
	ESG rating	Identify most critical positions for monitoring	Limiting adverse impacts Enhancing positive impacts	All invested assets	77%
	Controversies			Liquid assets	Not relevant

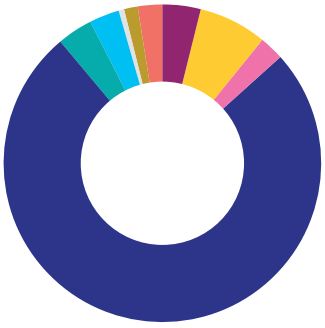
Figure1.

Source – Stockholm Resilience Centre: This graph shows the links between SDGs and the dependency of societies on the biosphere. By contributing to the achievement of SDGs 6, 13, 14 and 15, SCOR supports the wellbeing of the biosphere and therefore the sustainable development of societies.

3.3. ASSESSING ACUTE RISK ON PHYSICAL ASSETS

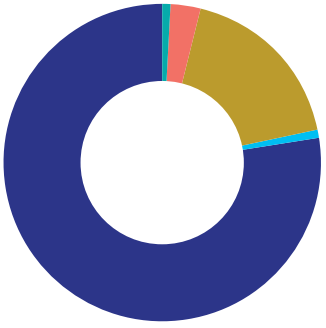
— SCOR uses internal modeling capabilities to assess "acute" physical risks which could affect its portfolio of real estate debt, infrastructure debt and direct real estate investments: 82% of the real estate and the real estate and infrastructure debt portfolio is located in France. The "acute" physical risks are assessed using SCOR's internal model for simulating natural catastrophes. Based on scenarios validated by the Group's modeling teams, this model estimates potential losses from natural catastrophes. Depending on the geographical location of the investments, the model calculates damage rates, which provide estimates of the potential losses that these investments may suffer in the event of a natural catastrophe. The modeling is run at the highest level of granularity available to ensure maximum accuracy of the results. Seventy-four percent of the portfolio feeds into the model at postcode level and some positions are even modeled at street address level.

Breakdown by country



ES		DE	
LU		GB	
FR		NL	
SG		DK	
		IT	

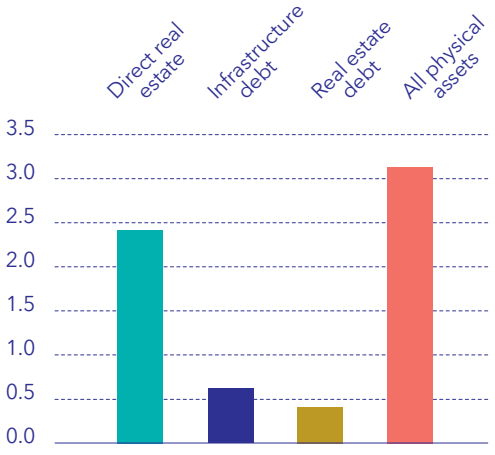
Granularity in the modeling tool



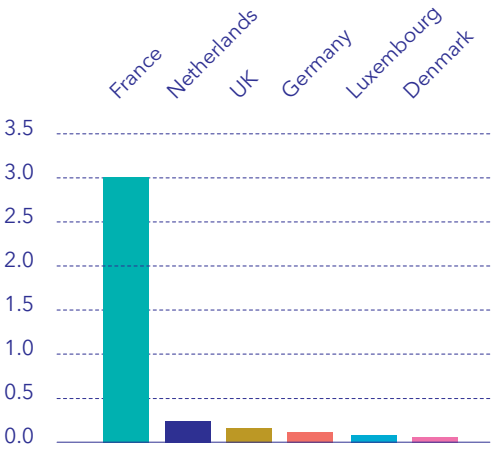
3.1%	Street address
17.5%	City
0.5%	State/Province
77.7%	Postcode
1.2%	High-res location block

Given the portfolio profile, SCOR has calculated the risk exposure of storms in Europe, the most significant climatic event. To date, the metric remains highly approximate: one limitation is that the climate models underpinning SCOR's modeling are based on historical data rather than a forward-looking view of climate change impacts on extreme events. The path of climate change will depend on the actions taken by governments and their willingness to deliver on their National Determined Contributions. Another limitation is the insurance coverage of physical assets, which works as a mitigant of potential losses and is not taken into account by SCOR's model. The results are shown in the graphs below. As in previous years, the physical asset portfolio benefits from its geographical location, mainly in Paris for direct real estate investment and in Europe for real estate and infrastructure debt investments. Its resilience to the risk of extreme climate events is reinforced by a very selective investment process. Thus, the loss occurring once every 100 years (EUR 3 million) remains very modest compared with the size of the investments (EUR 2 billion).

Euro wind: breakdown by asset class
(in EUR millions)



Euro wind: breakdown by country
(in EUR millions)



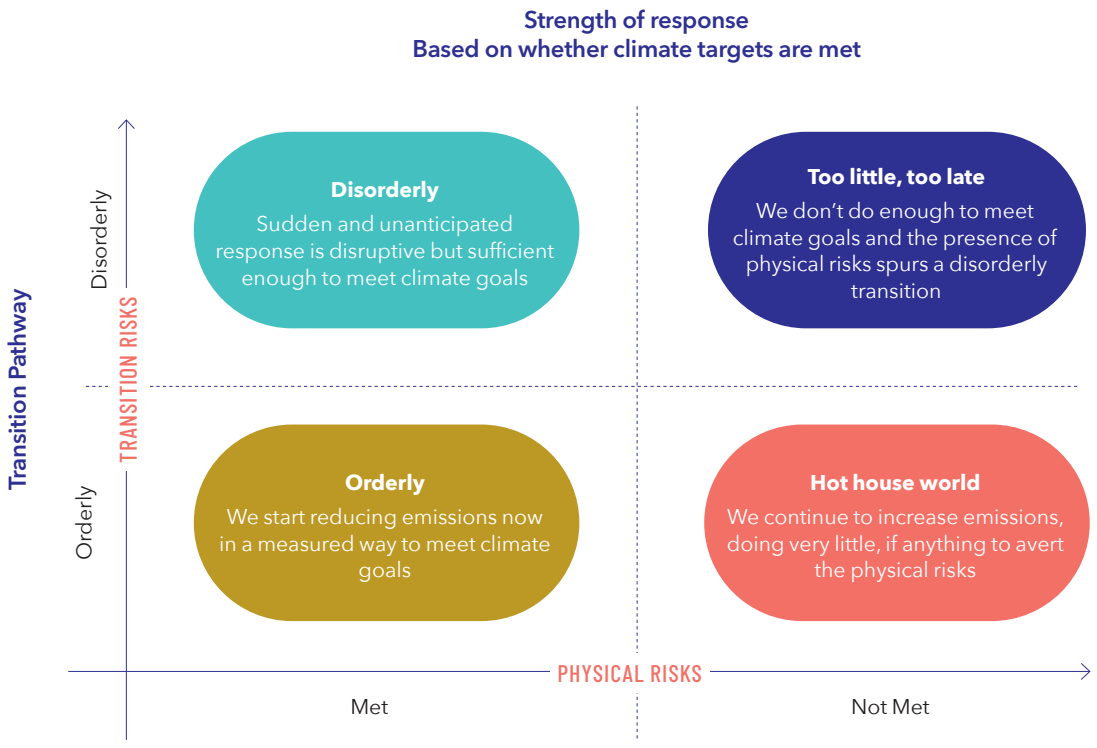
3.4. CLIMATE STRESS TESTING

— Building a resilient portfolio is part of SCOR's sustainable investment journey. Over the last few years, the Group has played an active role in numerous working groups and initiatives aiming to better understand the potential impact of climate risks on investment portfolios. Stress tests, usually considered "what if" scenarios, are helpful to better understand the factors driving change in valuations and to derive potential mitigation measures to increase resilience. When considering climate change risks on invested assets, SCOR considers different scenarios and time horizons depending on the risk: transition risks may occur over a relatively short time horizon, whereas physical damage may increase over time with increases in temperature. In principle, the faster the transition, the higher the transition risk, but this should efficiently decrease the risk of reaching the tipping point in global warming and limit the damage of physical risks over a longer-term horizon. Conversely, too slow a transition will limit potential "stranded assets", but temperature is likely to rise far above 2°C, with possible tremendous impacts on the frequency and magnitude of extreme climate events. The worst scenario would be a late and disorderly transition that comes too late to contain global warming and too suddenly to allow for a progressive adaptation of business models.

The graph below from the Network for Greening the Financial System summarizes the various combinations.

Figure 2.

Source NGFS



SCOR's journey

— In 2018, SCOR produced its first heatmap of climate transition risk on its invested assets, using a Moody's study highlighting the most vulnerable sectors. This initial assessment was complemented in 2019 by a first attempt to quantify the potential decreased value of invested assets, using both the 2° investing initiative study Storm Ahead, which is very close to the Inevitable Political Response proposed in late 2019 by the PRI, and the DNB stress test scenarios. The results provided a lot of valuable material for internal discussions on methodologies and limitations at the Executive Committee and Board levels.

Exercises performed in 2019 were complemented in 2020 by the ACPR climate stress tests. Given the uncertainties around i) the climate scenarios, ii) their consequences in terms of macroeconomic variables, and iii) their inherent limitations, we don't believe that a re-run of the 2°ii or DNB scenarios on a portfolio updated as of the end of 2020 brings a lot of value. Instead, using end of 2019 as a "benchmark" portfolio and applying ACPR climate stress tests can provide more insight to understand the drivers of the risks and assess the pros and cons of different stress tests to support risk management. 2019 is also the baseline for the Net-Zero Asset Owner Alliance targets and keeping this as a starting point seems reasonable for risk analysis.

Scenario provider	2°ii		De Netherlands Bank	ACPR
	Transition risk	**Physical risk**	**Transition risk**	**Transition risk**
Climate scenario	Below 2° scenario (EIA B2DS) (Too late too sudden)	IPCC 8.5 for full damages scenario (chronic and acute) and S&P's "The heat is on" report for weather shock (acute) scenario	Policy shock / Technology shock / Double shock / Confidence shock	A scenario of a swift and abrupt transition An orderly transition scenario or reference scenario (SNBC for France) A late reaction transition scenario
Main assumptions	Global warming is contained below 2°C		Government policy: +USD 100 per ton of CO_2 Technology development: the share of renewable energy in the energy mix doubles Consumer and investor confidence	Carbon price Productivity shock
Time horizon	2025	2060 / 2100 for full damage scenarios One-off for acute	2025	2025 / 2035 / 2040 / 2050
Risk assessment	Credit migration Quantification of credit deterioration (spreads) and equity values based on sector breakdown	Credit migration Quantification of credit deterioration (spreads) and equity values based on sector breakdown	Quantification of credit deterioration (spreads) and equity values based on sector breakdown Interest rate impacts	Quantification of credit deterioration (spreads) and equity values based on sector breakdown Interest rates impacts Inflation impact on inflation-linked bonds
Positive aspects	Enables a better understanding of sectoral exposure to transition risks and opportunities	Worldwide map on equities as well as sovereign and corporate bonds	Provides credit spreads and rate impacts, as well as equity value impacts	Provides credit spreads and rate impacts, as well as equity value and inflation impact Several time horizons are handled
Limitations	Translation of the shock into full macro-economic variables No interest rates shock Top-down approach which does not allow for best-in-class strategy	High level view of potential credit migration No interest rates shock	Only addresses transition risk Migration of credit ratings not analyzed	Only addresses transition risk for assets Migration of credit ratings not analyzed

The results are not directly comparable between the three simulations. The most advanced macroeconomic impacts relate to transition risk.

Time horizons

— The ACPR has requested simulations up to 2050, which does not tie in with the duration of SCOR's fixed income assets, usually around four years. By 2050, the portfolio will have rotated several times, and betting on sectoral allocation 20 or 30 years from now looks too theoretical to be meaningful or to have any influence on credit risk allocation. 2025 is a common horizon proposed in the three simulations and the one on which SCOR has concentrated its efforts. SCOR's guidance was to run simulations based on the portfolio as of the end of 2019, "as if" the asset allocation remained fully unchanged in 2025.

Climate scenarios

— Climate scenarios underpinning macroeconomic variables are not directly comparable between the 2° investing initiative, the Central Bank of the Netherlands (DNB) and the ACPR stress tests. All refer to keeping global warming below 2°, but the pathways and reference scenarios are not aligned. 2°ii designs its scenario based on the International Energy Agency specifications, while DNB and ACPR rely more on a carbon price to derive macroeconomic variables.

Macroeconomic variables

— Rates are not always taken into account in the scenarios. We have to bear in mind that, for (re)insurers, the bulk of fixed income assets are backing liabilities. Consequently, most of the variations on assets are likely to be offset when running the same simulations on the liability side. Hence, even if the order of magnitude of rate changes is significantly higher than for credit spreads, SCOR focuses on credit impact when analyzing results.

Other limitations

— One of the most critical limitations is the level of granularity of macroeconomic variables, which does not allow for best-in-class mitigation strategies even though the ACPR has allowed for "mitigation actions". Data is another critical issue, as the European regulation on transparency is still being implemented and investees are still struggling to disclose meaningful and relevant information. The quantification of projections should rely on forward-looking metrics, but at the present time we are not even at the stage where we have sufficient static information – there is still a lot to do in this respect.

SCOR uses public tools and stress tests. The current level of granularity provides sub-sector information on transition climate change impacts. The success of the transition to a low carbon economy requires more efforts than just exiting the highest emitting sub-sectors to invest in green activities. As the transition plays an important role in building a climate resilient economy, implementing a best-in-class strategy must be part of the solution, which is incorrectly accounted for in these simulations.

Physical risks

— SCOR did not perform any new simulations on physical risks linked to stress testing in 2020.

Results and conclusion

— The table below shows the compared quantification under the three simulations: 2°ii, DNB and ACPR. The conclusion remains unchanged compared to 2019. While the quantification may be challenged, given the limitations already highlighted in this section, the exercise is still very helpful to stimulate discussions and enhance SCOR's understanding of the risks to its invested assets.

	TIME HORIZON 2025			
	Transition - Credit + Equities	**Transition - Rates**	**Physical (full damage) - 2060 Credit**	**Physical Acute (no time horizon)**
2°ii	loss <1%	N/A	loss <1%	< 5% and offset by liabilities
DNB	loss <1%	< 5% and offset by liabilities		
ACPR	marginal gain	< 5% and offset by liabilities		

3.5. DEFORESTATION: PRELIMINARY MAPPING

— SCOR has taken additional steps in terms of assessing the transition risk of its most liquid assets. Beyond carbon intensity, SCOR believes that deforestation has significant adverse impacts. Tackling climate change over the long-term requires actions to protect natural carbon mitigants, among which forests play a critical role. Forests connect the dots between purely climate-related mitigation, adaptation measures and biodiversity, as a more holistic way of considering the resilience of communities.

SCOR has started to analyze its exposure to sectors that may be strongly impacting forests, especially food, personal care/cosmetics, and oil and gas. As methodologies are at their very preliminary stages and data is not yet available, portfolio screening is seen as the most relevant way of stimulating internal discussion. As it did for transition risk two years ago, SCOR has built a heatmap of its most exposed positions, to stimulate internal discussion and raise awareness on the topic.

Combining a top-down approach with a bottom up one enables us to better understand the challenges of tackling deforestation. The issue is very broad, and investors lack data to screen their portfolios and identify the most material risks at an industrial scale. Screening each investee within the most exposed sectors – with the support of several data providers- may not show a robust methodology but it enables us to focus on what may be most critical.

Screening methodology

— The goal was to assess the deforestation risk of companies in the SCOR portfolio as of June 2020. In order to achieve this, we applied a double approach:

- **Bottom-up:** identify SCOR sectors from companies rated by SCOR's data sources
- **Top-down:** identify SCOR sectors most likely to use these four risky commodities; palm oil, soy, cattle, wood

SCOR uses two main data sources that rate companies on an annual basis:

- **Forest 500** (UK publicly funded NGO project): identifies 350 corporates and 150 financiers with the most significant impact in risky supply chains, and assesses, per commodity and based on publicly available information, their commitment, their reporting/implementation and their social impact, and also scores their general commitments.
- **Carbon Disclosure Project** (CDP): sends questionnaires to companies at risk (i.e. potential non-public information) and scores, for each commodity they wish to disclose (palm oil, soy, cattle products and timber), from D- to A depending on the awareness and effective management of deforestation risks. Companies can decline to answer.

The deforestation risk assessment is performed in the following way: for all companies badly rated either by CDP or by Forest 500, Group Investment Risk & Sustainability runs a deeper analysis to confirm or reject the rating. Companies above satisfying thresholds are considered as mostly addressing their deforestation risks.

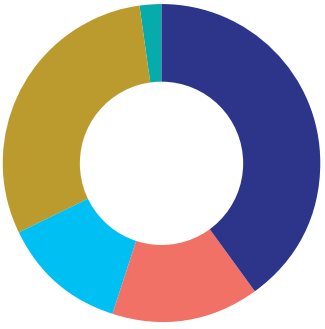
The companies in the SCOR portfolio potentially affected by deforestation risk are then classified in the following categories:

- **"Deforestation risks are not addressed"**, for cases where the company has explicitly said it is not monitoring deforestation risks
- **"No evidence that deforestation risks are addressed"**
- **"Deforestation risks are only very partially addressed"**
- **"Deforestation risks are mostly addressed"**
- **"Not applicable"**, when no deforestation risk involvement is confirmed

Mapping used for raising awareness

— As of June 2020, a screening of positions amounting to roughly EUR 2.6 billion was performed, leading to the following breakdown:

Exposure breakdown in sectors at risk



2%	Deforestation risks are not addressed
30%	No evidence that deforestation risks are addressed
13%	Deforestation risks are only very partially addressed
40%	Deforestation risks are mostly addressed
15%	Not applicable

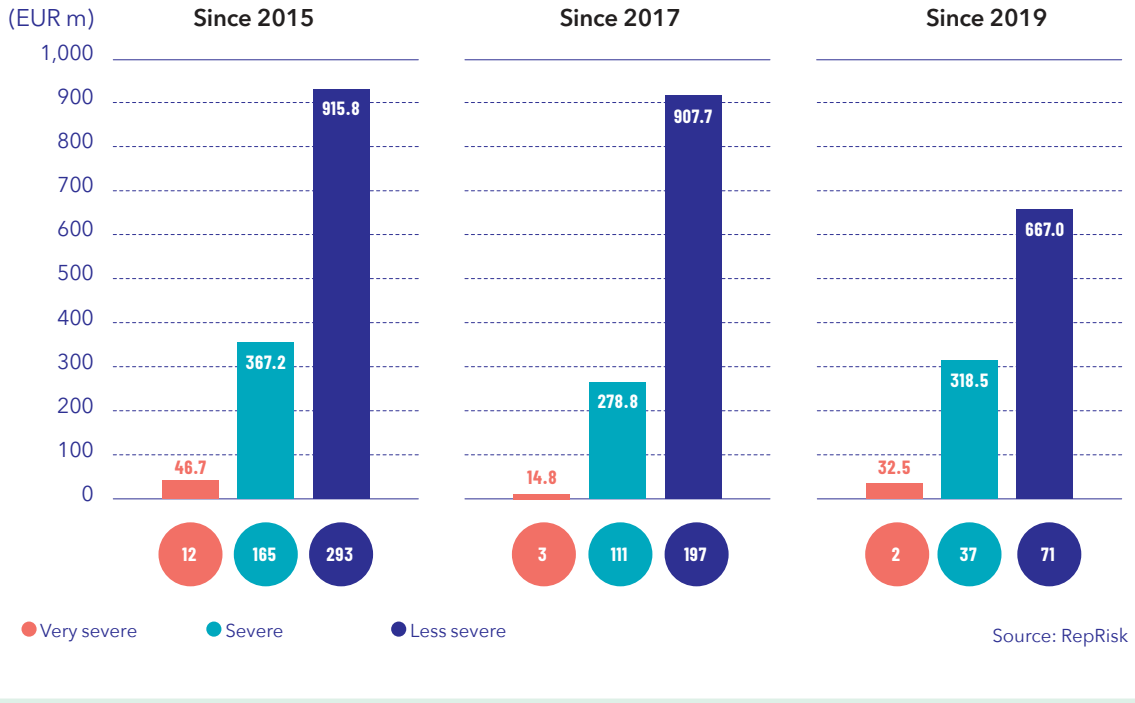
Companies in the "Deforestation risks are mostly addressed" category represent only 40% of the amount under review, and 45% of that same amount is composed of companies not addressing deforestation risk in a satisfying way. This shows that awareness about deforestation risk needs to be raised among companies.

Analysis of deforestation risk controversies

— In order to complete the above analysis, the SCOR portfolio is screened for deforestation risk controversies using the RepRisk platform. This tool provides a timely and effective reality check on what is happening on the ground, i.e. how a company conducts its business where it operates around the world. It is designed to detect potential controversies quicker than traditional providers.

This screening considers three periods: since 2017, since 2015, and since 2019.

The total exposure to each company is split between "very severe", "severe" or "less severe", based on the number of occurrences in each severity level (market value weighted by severity).



According to the following breakdown (the numbers at the bottom of the graph contain the number of controversies), the top three most controversial sectors (very severe category) are: food, personal care/cosmetics, and oil and gas. Ongoing monitoring will be performed to enhance SCOR's deforestation risk assessment.

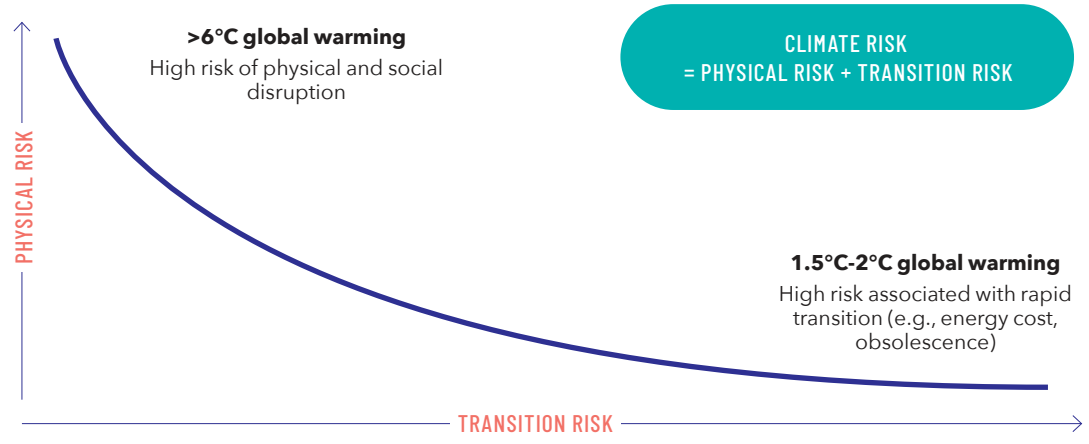
Conclusion

— This is a preliminary attempt to identify the portion of the portfolio that may be at risk when considering deforestation. As an initial step, SCOR has joined initiatives such as Finance for Biodiversity and CDP Forest Champions, to increase understanding and awareness and foster corporate dialogue with the most exposed companies. Finance for Biodiversity intends to mirror the work of the Net-Zero Asset Owner Alliance and ask members to set targets on biodiversity footprint in the future, once robust methodologies have been developed by the initiative members.

3.6. REAL ESTATE RISK ASSESSMENT: CRREM

— CRREM (Carbon Risk Real Estate Monitor) is an EU project to assess the climate transition risk for a given commercial real estate property, and more specifically the potential stranding risk faced by a building.

Figure 3. Source CRREM



We used CRREM to assess the transition risk of the direct real estate owned and operated by SCOR, i.e. own-use buildings (AUM of EUR 650 million as of June 2020). It was not possible to use CRREM for investment real estate as there is still not enough consumption data. For buildings located in France, the "Décret tertiaire" will help the collection of information and should enable us to run the same simulation next year.

The underlying scenario

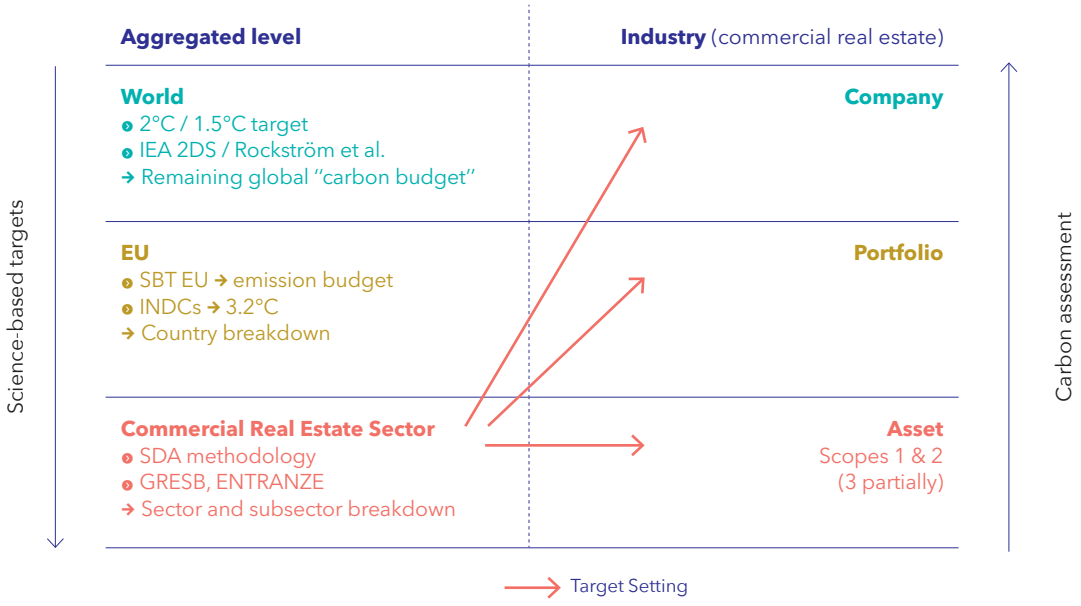
— To compute the carbon reduction pathways for a given property, the CRREM methodology involves three consecutive steps:

- **To derive the decarbonization** efforts necessary for the EU economy, based on the global carbon budget that can be emitted without exceeding the 1.5 or 2°C warming level, CRREM uses data from the International Energy Agency (IEA) and climate models like Rockström et al.
- **To derive the country specific commercial real estate** targets from the total EU budget, CREEM uses the Sectoral Decarbonization Approach (SDA), a methodology that is also utilized by the Science Based Targets initiative.
- **To derive building-type-specific** carbon reduction targets from country-specific targets, CRREM considers commercial building features like size or current carbon emission intensity in each country and subsector.

Figure 4.

Source CRREM

Top-down approach for downscaling global carbon budgets and bottom-up approach from asset to commercial real estate sector carbon counting



The tool

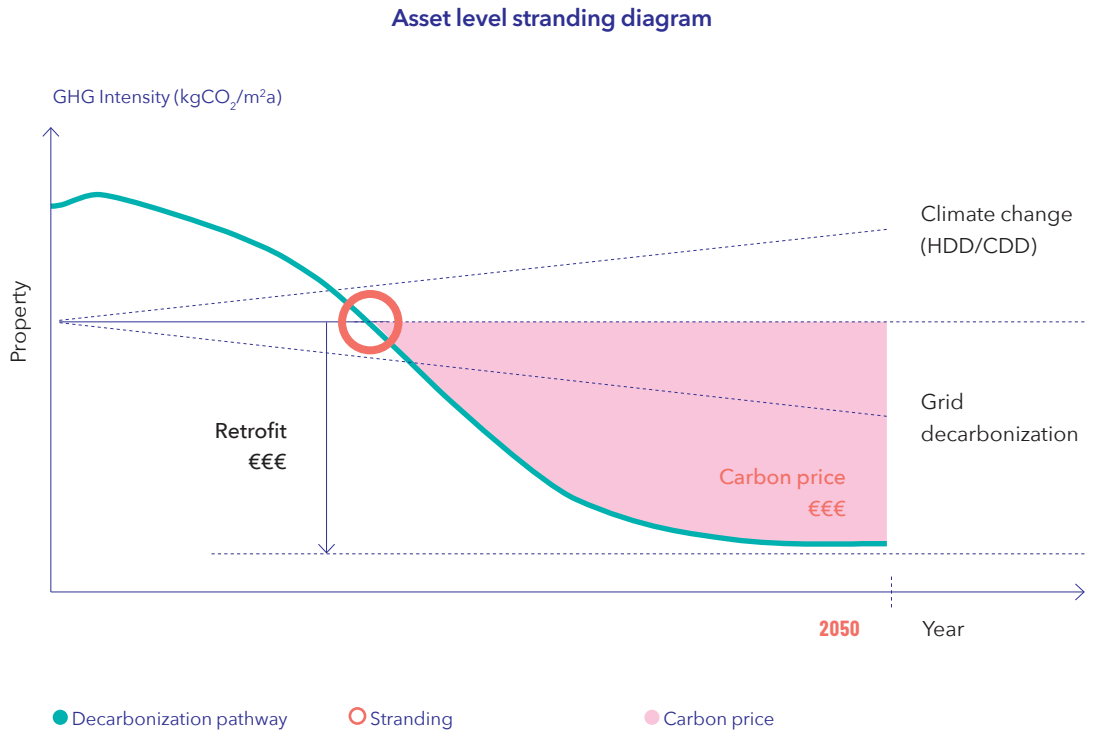
— CRREM simulates the carbon intensity (defined as kg-CO_2e/m^2/year) trajectory of a given building based on the current energy consumption and a forecast over the next few years of the electricity generation mix (and so of the carbon emission factor) of a given country. The energy consumption in the future is set at the current level, with a few adjustments to take into account the climate warming trend and to neutralize the effect of weather variability.

CRREM compares the "carbon performance" of buildings (black solid line) with a country "decarbonization pathway" ("the target", green line).

When a property's carbon intensity is higher than the target at the "year of stranding", the property becomes a "stranded asset". Stranded assets will encounter value write-out since they have excess emissions, for which they will need to pay extra carbon costs. For these assets, retrofit is needed to reduce their carbon intensity.

Figure 5.

Source: CRREM

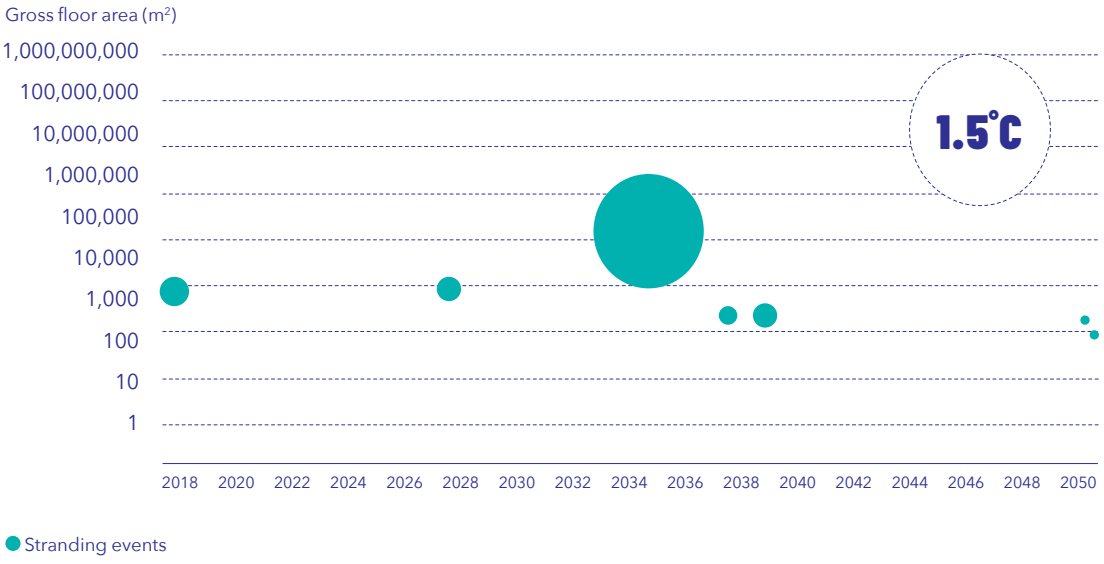


The results

—The tool is used assuming no retrofit action to improve the energy efficiency of the buildings, although it does allow for this option.

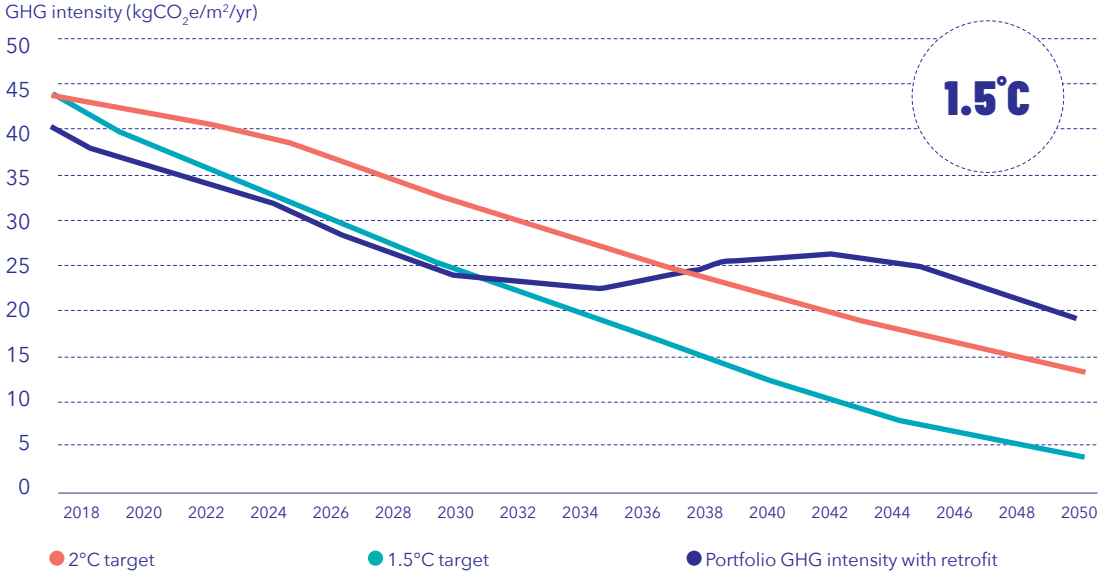
- When applied to the SCOR own-use European portfolio, the CRREM model shows that, without any retrofit action, a 17% emission reduction between 2019 and 2025 is achievable.
- Moreover, without retrofit, SCOR's portfolio is compliant with the most ambitious target (1.5°C trajectory) from 2019 to 2031 and would get stranded in 2038 (no longer aligned with even the 2°C trajectory).

Stranding events



One single building representing the bulk of the SCOR own-use real estate portfolio would get stranded around 2035 in a 1.5°C scenario

Average portfolio GHG intensity versus Paris targets



The SCOR own-use real estate portfolio respects the most ambitious target from 2019 to 2031, but would get stranded in 2038

Conclusion

— CREEM enables us to assess climate transition risk on direct real estate, which is an asset class that is not covered by the vast majority of the climate risk-related methodologies. In particular, it provides an assessment of the Implied Temperature Rise of a real estate portfolio.

The International Energy Agency climate scenarios and the way decarbonization pathways are derived from National Determined Contributions are the most impactful assumptions in the model. They may not be aligned with assumptions underpinning other portfolio simulations, but the CRREM results provide valuable information on the resilience of SCOR's direct real estate building for own use. They demonstrate the positive effect of the Group's real estate business model and its longstanding efforts to improve energy efficiency by upgrading buildings.

3.7. TAXONOMY

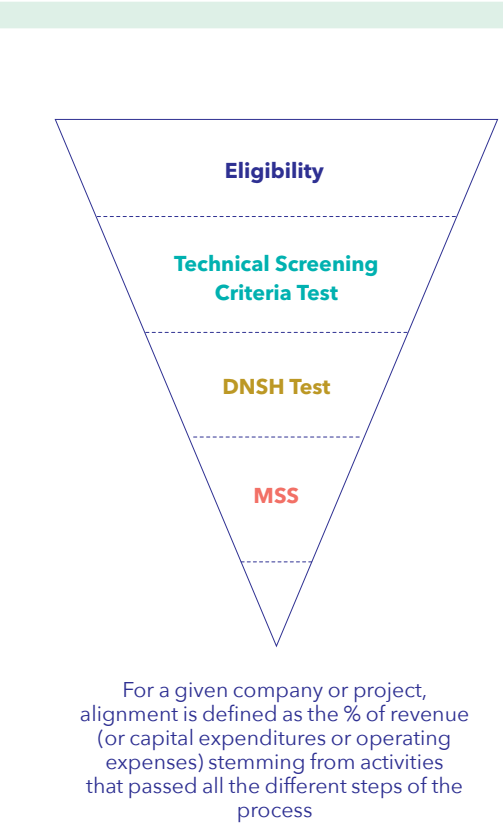
— Even if the taxonomy is still a work in progress at the European Commission, with the Sustainable Finance Platform taking over from the initial work of the Technical Expert Group on Sustainable Finance, several pieces of European regulation make direct reference to alignment with the taxonomy. The taxonomy is foundational for assessing activities that make a substantial contribution to six environmental objectives defined by the EU legislative package in 2018:

- Climate change mitigation
- Climate change adaptation
- Pollution prevention and control
- Circular economy
- Sustainable use and protection of water and marine resources
- Protection of healthy ecosystems.

Methodology

— As sustainability takes a holistic view and recognizes that everything is interconnected, significant contributions towards achieving one objective should be compatible with the five others. This is the concept behind "Do No Significant Harm" or DNSH, which supplements the assessment of significant contributions. As social objectives are not yet defined under the European Union regulation, minimum social safeguards (MSS), referring to OECD social Guidelines for Multinational Enterprises and UN Guiding Principles on Business and Human Rights, complete the framework.

Compliance with the EU taxonomy is assessed at activity level and sectors eligible to contribute to the objectives are explicitly listed.



SCOR analysis

Climate change mitigation

— Mitigation covers 70 economic activities and two types of contribution:

- Substantial contribution due to own performance includes activities that are already low carbon and activities contributing to a transition to a net-zero emissions economy by 2050
- Activity enabling mitigation: activities that, through the provision of their products/services, enable a substantial contribution in other activities.

Climate change adaptation

— Adaptation to climate change aims to manage impacts by reducing adverse effects and maximizing positive ones. Adaptation is split into two different blocks:

- Activity-level adaptation aims to strengthen an asset or economic activity to withstand identified physical climate risks over its lifetime
- Systemic adaptation consists in actively reducing vulnerability and building the resilience of wider system(s) (community, ecosystem, city, etc.).

Adaptation covers 68 economic activities and two types of contribution:

- Adapted activities – an economic activity is adapted to all material physical risks identified for the economic activity to the extent possible and on a best-effort basis
- Activities enabling adaptation of an economic activity: the activity reduces material physical climate risk in other economic activities and/or addresses systemic barriers to adaptation; and is itself adapted to physical climate risks.

Mapping SCOR's invested assets portfolio

— The upcoming regulation, and especially the revision of the Non-Financial Reporting Directive (NFRD), expects financial institutions to disclose the portion of their invested assets aligned with the EU taxonomy. The eligibility of all asset classes at activity level should be assessed. Some information is project-related (for infrastructure projects for instance, it may be that the project addresses one single objective and is fully aligned or not aligned at all). Some information relates to only part of a company's business and can be measured as a percentage of the company's revenue or of its operating expenses (OpEx) or capital expenditures (CapEx). Before aggregating at portfolio level, data collection for an individual project or issuer must be successfully completed. This work is at a preliminary stage, especially considering that some of the screening criteria for qualification are still under discussion and the regulation obliging companies to disclose has not yet come into force.

SCOR has started to work on the eligibility of some of its portfolio, in order to become more familiar with the process, better understand the challenges and assess current limitations.

Corporate bonds: activity level

— EU taxonomy compliance should be assessed at activity level. For corporate bonds, this means that the issuer must provide investors with information on metrics they can use to assess the part of the issuer's activity aligned with the taxonomy. This information can be disclosed under various formats (% revenue, % OpEx, % CapEx). At the present time, data is disclosed on a voluntary basis with no standardization. The Taxonomy Regulation as well as the revision of the NFRD both intend to close this gap in the near future.

Despite the low level of data available, SCOR attempted to apply the process to a limited part of its corporate bond portfolio. Some sectors are more advanced because of their higher impact on climate change. Utilities was selected to perform a pilot exercise and better understand the process and its limitations. For the exercise, SCOR partnered with ISS, which is one of the most advanced data providers for this type of analysis.

Singapore office / Singapore – certified Green Platinum

Methodology

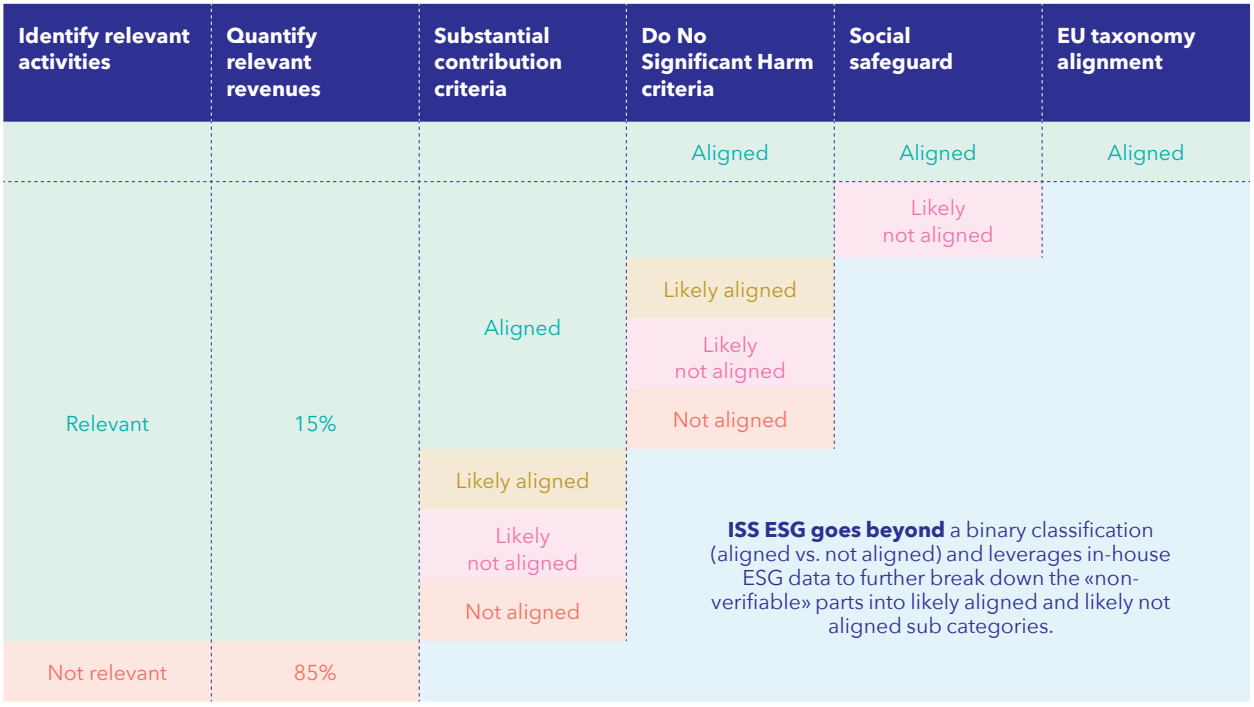
— The granularity was aligned with the taxonomy requirements: an issuer-based approach combined with an activity-type close-up.

Activity types encompass green, enabling and transition. A five-step process was applied to comply with all the taxonomy requirements:

- Activity identification
- Revenue calculation split between taxonomy-relevant activities, uncollected revenues and non-relevant revenues
- Assessment of revenue alignment with screening criteria for substantial contribution
- Assessment of alignment with DNSH
- Checking of compliance with minimal social safeguards

Figure 6.

Illustration of the five-step assessment in practice:



Using ISS data when applying these steps for the utilities sector, the results show a 12% alignment of corporate bonds with the EU taxonomy.

Takeaways

— This should be considered as an experimental attempt to understand the usability of the taxonomy when assessing the alignment of a limited portion of the portfolio with the taxonomy. The methodology looks quite robust on paper, but the thresholds set for each screening criteria will play a critical role in the results. The current state of play of the data in terms of availability, robustness and collection significantly restricts the exercise and does not allow for relevant use of the metrics. Going forward, and as the regulation fosters more transparency, robustness and comparability of data, the exercise should provide a better view on the resilience of the portfolio and support the achievement of the targets set under the Net-Zero Asset Owner Alliance. Hopefully, SCOR will be able to accurately address the regulation when disclosing this information in the coming years.

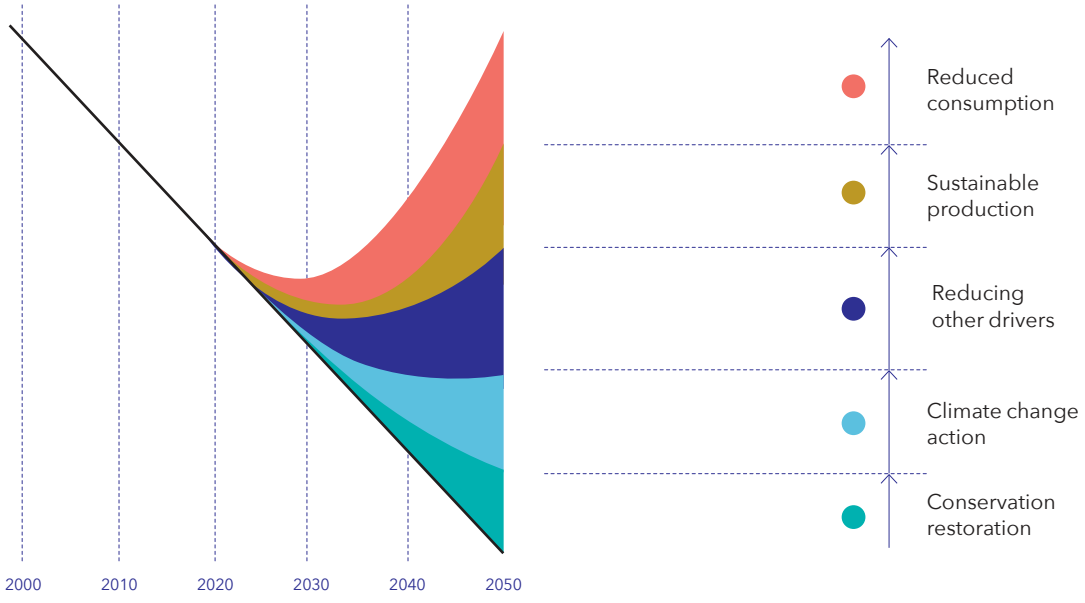
3.8. ASSESSING BIODIVERSITY FOOTPRINT: PRELIMINARY WORK

— Awareness is rising in terms of the pressure that biodiversity loss may put on ecosystems. Preserving biodiversity should be considered more broadly, including its interconnectedness with climate change. The graph below presents actionable responses to limit and reverse these pressures on ecosystems. Fighting against climate change is one action among others.

Figure 7.

Source: Global Biodiversity Outlook 5

A portfolio of actions to reduce loss and restore biodiversity



Trends in biodiversity (various metrics, left axis) have been declining and are projected to continue to do so under business as usual scenarios (trend lines). Various areas of action could reduce the rate of biodiversity decline, and the full portfolio of actions, in combination, could halt and reverse the decline (bend the curve), potentially leading to net biodiversity gains after 2030. These are, from bottom to top: (1) Enhanced conservation and restoration of ecosystems; (2) climate change mitigation; (3) action on pollution, invasive alien species and over exploitation; (4) more sustainable production of goods, especially food; and (5) reduced consumption and waste. However, none of the areas of action alone, nor in partial combinations, can bend the curve of biodiversity loss. Moreover, the effectiveness of each area of action is enhanced by the other areas (see part II of the full report for discussion).

As with the fight against climate change, responsible investors have a role to play in the protection of biodiversity. More and more stakeholders support the development of a biodiversity footprint in order to measure the impact of companies on biodiversity. This measure is expected to play the same key role for biodiversity as carbon footprint does for climate change. Assessing biodiversity footprint is the starting point for building a strategy designed to better preserve ecosystems.

Various initiatives have been launched to protect biodiversity and SCOR signed the Finance for Biodiversity Pledge in December 2020. The objective is to develop a common understanding of the issue and define common views on how to tackle it. This includes analyzing current methodologies and assessing their benefits and limits. Members of the initiative support transparency and knowledge-sharing as a way to foster good practices. When the foundations have been set in terms of methodologies, scope and metrics, the members intend to set reduction targets for their biodiversity footprint.

SCOR has partnered with Iceberg Data Lab in its preliminary attempt to understand methodologies and how they can help to understand the challenges involved and find remediation actions when possible.

Methodology

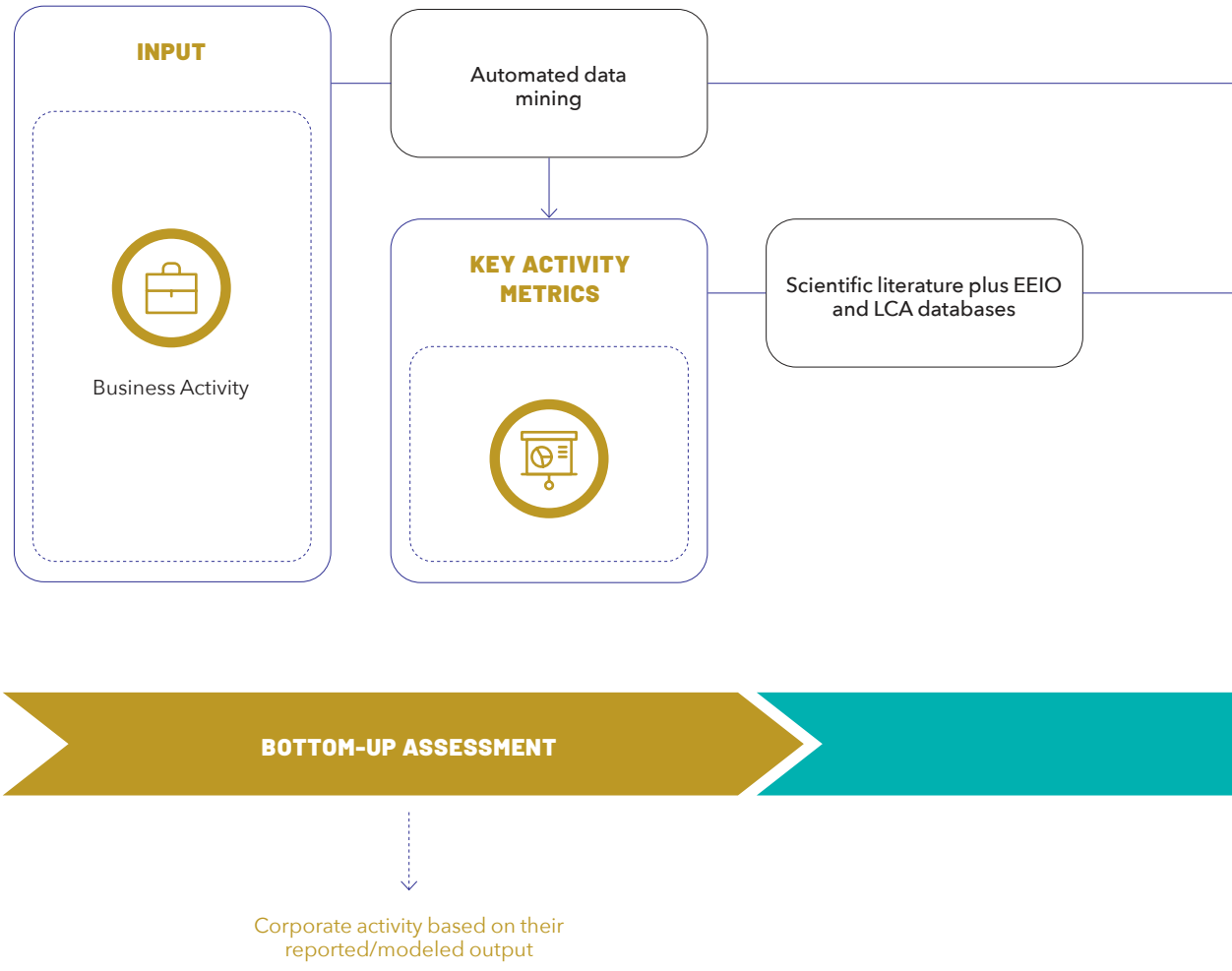
— For each economic sector, the main drivers of biodiversity loss are carefully selected, based on scientific literature. Examples of the most significant pressures on biodiversity are land use, climate change, nitrogen deposition and the release of toxic compounds. The intensity of environmental pressures on biodiversity can differ from sector to sector. Using pressure-impact relationships, these pressures are individually converted into the key metric km² MSA (mean species abundance), with MSA loss representing the impact on biodiversity. Iceberg Data Lab considers the direct biodiversity impact (Scope 1), the biodiversity impact of energy suppliers (Scope 2) and the upstream or downstream value chain (Scope 3) to allow a level playing field.

Iceberg Data Lab's Corporate Biodiversity Footprint (CBF) follows three successive steps: (1) company metrics are collected. They are used to (2) estimate company-specific environmental pressures. Those pressures are eventually (3) translated into a biodiversity impact. The sum of pressure-specific impacts corresponds to the CBF.

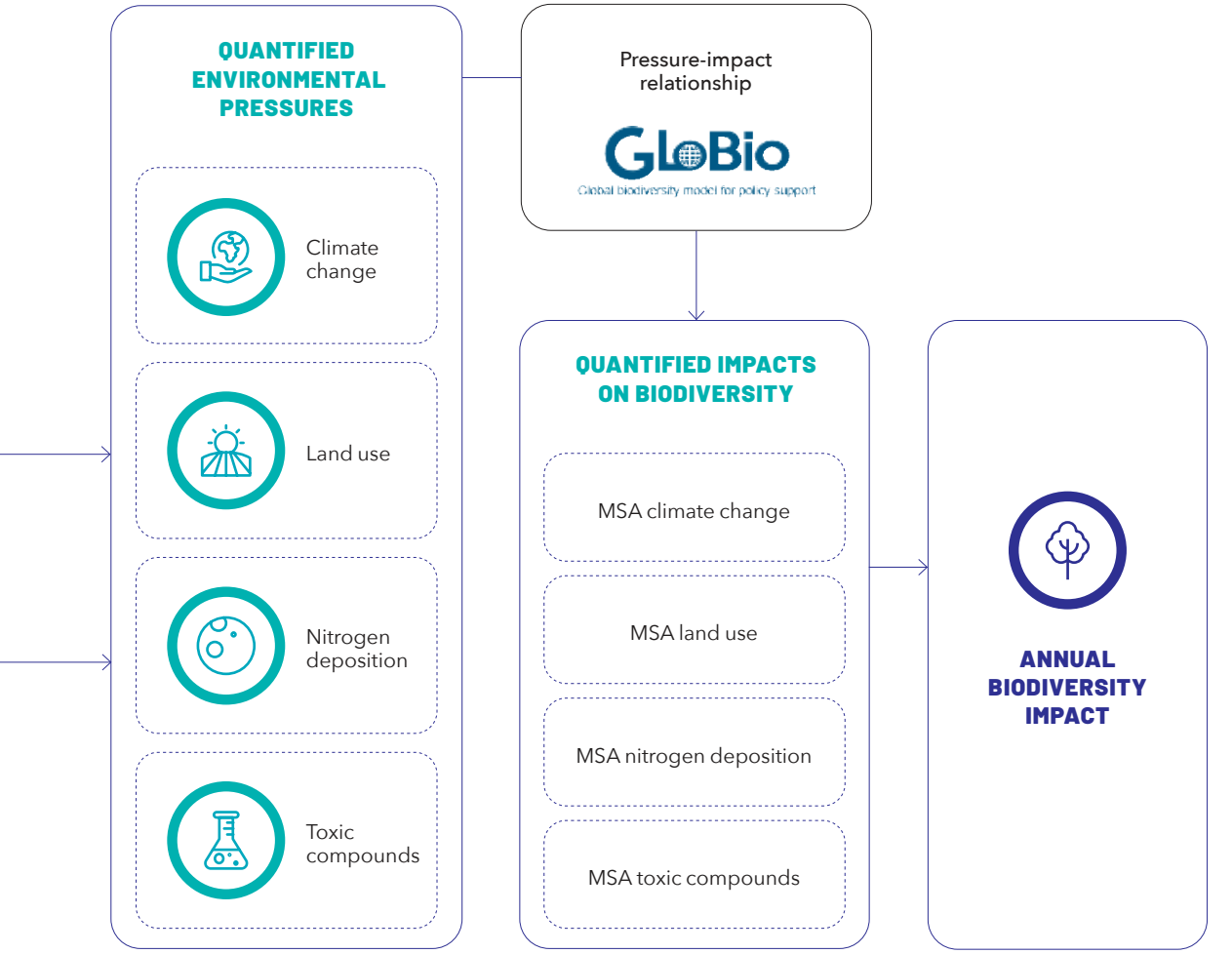
Paris headquarters / France – Certified ISO 14001

Figure 8.

CORPORATE BIODIVERSITY FOOTPRINT: METHODOLOGY



Source: Iceberg Data Lab



LIFE CYCLE ANALYSIS → **NORMALIZATION**

Using Life Cycle Assessment data allows us to quantify the environmental pressures along the entire supply chain

Impact is calculated on financial ratios allowing cross-sectoral comparisons

The first step of the Corporate Biodiversity Footprint (CBF) assessment is to gather data. Iceberg Data Lab uses a double approach:

- **Top down:** a top-down model is used to model the company input and output flows, the environmental pressures relating to the company activity and, finally, the company biodiversity impact. All companies are assessed on the entire scope of their activity
- **Bottom-up:** the modeled physical and/or environmental flows are replaced by bottom-up data from company disclosures, which decreases the uncertainty level of the analysis.

The collection of corporate data is based on company disclosures such as the annual report and the sustainability report, plus data from financial providers. Additionally, companies' consumption and production can be modeled based on macro data and databases from governmental and non-governmental organizations or recognized scientific publications.

During the second step, environmental pressures are assessed. If no environmental pressures are reported, the input data is used to model them, based on scientific literature or life cycle assessment data.

- **Option 1:** The pressures on the environment are directly reported by the company being analyzed; the assessment of environmental pressure is direct
- **Option 2:** The pressures on the environment are not directly reported. In this case, Iceberg Data Lab uses scientific literature plus Environmentally Extended Input-Output and Life-Cycle Assessment databases to deduce the quantitative pressures on the environment caused by the company being assessed, using the data collected during step 1.

During the final step, the environmental pressures are translated into biodiversity impact using the respective pressure-impact relationships for each pressure. All pressures are then combined into km² MSA to calculate the annual impact. This final step is achieved using the GLOBIO Model.

General presentation of the GLOBIO model

GLOBIO is a model covering the entire surface area of the planet. It is divided into 0.5° by 0.5° grid cells (50 km by 50 km at the Equator), i.e. 720 x 360 = 259,200 grid cells. The model enables users to assess the intactness of biodiversity in each of these grid cells:

- by estimating the intensity of aggregated pressures within each grid cell, and
- by calculating the impact of these pressures on biodiversity.

Six kinds of pressures are considered in the model:

- Land use
- Natural land fragmentation
- Nitrogen deposition
- Infrastructures
- Encroachment of natural land
- Climate change

Iceberg Data Lab currently focuses on four input pressures as described previously:

- Land-use
- Nitrogen deposition
- Climate change
- Toxic compounds

The GLOBIO model enables users to translate these four pressures into a biodiversity loss in MSA and then into km² MSA.

Application to SCOR's portfolio

— One of the most critical parts of this methodology is the challenge of collecting data. The Iceberg Data Lab metric covers around 12% of SCOR's corporate bond portfolio. Using the absolute biodiversity footprint by Enterprise Value, this exposure has a footprint of roughly -1,300 km² MSA per year. This can be interpreted as the conversion per year of 1,300 km² of undisturbed natural ecosystems into completely artificialized zones. The results depend strongly on sector allocation, as activities are the main driver of biodiversity footprint. Agriculture has by far the largest biodiversity footprint due to its very significant land-use pressure.

Iceberg Data Lab will work on improving the accuracy of input data in 2021, adding pressures and expanding the number of issuers covered.

Takeaways

— SCOR values the exploratory work provided by this first biodiversity analysis. It enables us to better understand the challenges involved in terms of methodologies and data, and the difficulty of steering biodiversity indicators when taking investment decisions. It provides valuable input to support the work of the Finance for Biodiversity initiative and accelerates the overall approach to protecting biodiversity.

Figure 9.

Source: CDC Biodiversité

The GLOBIO model's biodiversity indicator: MSA and km² MSA

Mean species abundance (MSA) is used to describe biodiversity changes compared to the original state of ecosystems. It is defined as the average abundance of originally occurring species relative to their abundance in the undisturbed ecosystem.

The km² MSA indicator shows the MSA over a specific surface area.

For example,

1 km² of an intensively cultivated field (10% MSA) equates to 1*10% = 0.1 km² MSA. Also, the MSA change from 100% to 75% on a 1 km² field means a loss of (100%-75%)*1 = 0.25 km² MSA. Of course, this means that an MSA change from 100% to 0% on a 0.25 km² field will also equate to 0.25 km² MSA loss.

Considering two fields of equal surface area and an MSA of 100%, the two different changes to MSA below would result in the same amount of km² MSA lost:

CHAPTER 04

METRICS AND TARGETS

Weeli Wolli Creek (Australia) – Located in the central Hamersley Range, Weeli Wolli Creek and its surrounding wetlands support a unique community of plants and animals, some of which are endemic to the region.

4.1. METRICS

Risks and opportunities

ESG ratings – ISS-ESG methodology

—The ISS-ESG rating methodology is based on the analysis of environmental and social ("E" and "S") factors, including governance criteria.

- Government bonds: For government securities, ISS-ESG assigns equal weighting to the two groups of E and S factors. At SCOR, government bonds are used mainly for ALM purposes, backing the Group's underwriting commitments. Investing in other asset classes entails other risks and capital constraints that are not deemed relevant given SCOR's risk appetite.
- Corporate bonds: The methodology developed by ISS-ESG to rate private companies is also based on the two groups of E and S factors, but their weighting depends on the business sector they relate to. Analyses are based on financial and non-financial data provided by the companies, complemented by interviews with employees and external stakeholders.

ESG rating	Average ESG rating	Coverage ratio	% of total assets
Total portfolio	C	84%	100%
Government bonds		100%	26%
Covered bonds		100%	7%
Corporate bonds		95%	43%
Equity		94%	2%

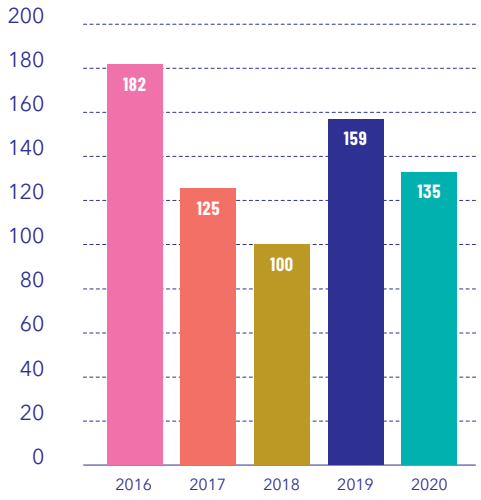
SCOR's portfolio is rated C on average, unchanged compared with the previous year. The coverage ratio is very different from one asset class to another but stands overall at 84% of the total invested assets. As expected, government bonds and corporate bonds are the most widely covered. As they represent the bulk of SCOR's assets, the current assessment of the overall portfolio is deemed acceptable.

Opportunities

- Green bucket: SCOR defines green assets according to its internal taxonomy. The current limitations when applying EU taxonomy criteria advocate for keeping the same methodology until data availability and robustness have materially improved. Asset classes in SCOR's "green bucket" include direct real estate investments, infrastructure and real estate debts, and green bonds. To be eligible, real estate must be certified and infrastructure debt must finance the transition to a low-carbon economy. In addition, individual due diligence is performed on a line-by-line basis to assess the internal "green stamp".

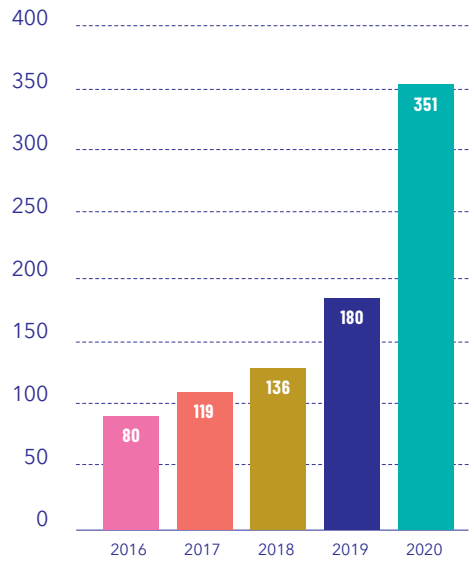
As of the end of 2020, the green bucket of SCOR's investment portfolio stands at EUR 1.6 billion including operating real estate. This represents 7.3% of SCOR's overall assets versus 7% at the end of 2019. The increase is driven by significant investments in green bonds, which more than doubled the holdings over the past year.

Exposure to insurance-linked securities
in EUR million



- ILS: SCOR invests in insurance-linked securities through funds managed by its subsidiary SCOR Investments Partners. Unlike the risks borne by its physical assets, SCOR is compensated for taking acute physical climate risks when investing in this type of product. The bucket provides strong performance and diversification to its portfolio.

Exposure to green bonds
in EUR million



Impact

Carbon footprint

— SCOR continues to rely on ISS-ESG data to measure the carbon footprint of its portfolio. Since 2016, the Group has used the weighted average carbon intensity (WACI) for its corporate bond, equity and government bond portfolios.

In line with the work of the Net-Zero Asset Owner Alliance, and in order to solve the issue of allocation between debt and equity, SCOR has decided to move from WACI based on revenue or GDP to WACI based on Enterprise Value.

The formula used for this calculation is the following:

Financed emissions for a given issuer

$$\frac{Market\ Value}{Enterprise\ Value} \times Issuer\ emissions$$

$$Enterprise\ Value = Market\ capitalization + Outstanding\ debt$$

Carbon intensity by EV per EUR m invested for a given portfolio

$$\frac{\sum i(Financed\ emissions\ for\ a\ given\ issuer)i}{Portfolio\ market\ value} \times 1{,}000{,}000$$

The carbon intensity of a portfolio measured with Enterprise Value metrics is sensitive to portfolio allocation and to issuers' data:

- The higher the assets invested in carbon intensive companies, the higher the intensity
- The higher the emission, the higher the intensity
- The lower the market capitalization, the higher the intensity
- The lower the outstanding debt, the higher the intensity

There is also a one-year lag when computing the figures at portfolio level as issuers' data is already one year old at the time of calculation. This lag is all the more visible given that market capitalization is captured daily. As an example, in the calculation as of the end of 2020, carbon emissions of an issuer relate to 2019, whereas market capitalization is shown as of the end of 2020. For oil and gas companies, the impact of this is significant: Covid-19 impacts are not yet visible in the GHG emissions, despite equity prices declining materially. This volatility reduces when extending the period of comparison.

Carbon intensity on Enterprise Value (EV)	**2019**	**2020**	**Coverage ratio in 2020**	**Year-on-year evolution**
	All scope 1, scope 2 and scope 3			
Government bonds	951	820	99.9%	-14%
Covered bonds	2	2	99.2%	+5%
Corporate bonds	268	347	97.9%	+29%
Equity (incl. convertibles)	401	496	97.8%	+24%

The increase in equity and corporate bond carbon intensity year-on-year is mainly driven by limitations relating to misalignment between carbon intensity and Enterprise Value, exacerbated by the Covid-19 crisis.

Implied Temperature Rise

—The Implied Temperature Rise is a forward-looking metric used to try to measure the alignment of a portfolio or an asset class with the Paris Agreement, i.e. to limit global warming to well below 2°C by 2100 compared to preindustrial levels. As already explained, the data lacks robustness and is still being adjusted, with models and methodologies improving regularly. Rather than the absolute level, SCOR prefers to consider the trend.

As in the past, SCOR has selected Carbon 4 for this assessment. The measurement is stable year on year at 2.8°C but shows a decrease compared to last year's figures due to model changes implemented by Carbon 4. Once again, this demonstrates the relative weakness of this forward-looking measure.

Implied Temperature Rise	**2018**	**2019**	**2020**
Previous methodology	3.1°C	3.2°C	
2020 methodology / metrics	2.9°C	2.8°C	2.8°C

4.2. TARGETS

— As a member of the Net-Zero Asset Owner Alliance, SCOR commits to setting targets for the decarbonization of its portfolio. The baseline is end of year 2019 and the target is set over a five-year time horizon, running until the end of 2024. SCOR believes that carbon footprint is more meaningful when taking scope 3 into account and that carbon-intensive sectors are the ones for which scope 3 matters most. For these reasons, and despite some weaknesses in the current data, SCOR has decided to set varbon intensity targets including scope 3 for its corporate bond and equities sub-portfolio, based on the Enterprise Value of issuers.

SCOR commits to reducing its carbon intensity by 27% by the end of 2024 for the corporate bond and equities sub-portfolio. This will be achieved by combining a best-in-class selection with active engagement with investees, in order to impact the real economy. The decarbonization path cannot be achieved by rebalancing the highest emitting sectors to the least emitting ones, with no consideration in terms of supporting companies with credible paths to decarbonization. Progress should be measured globally over the period, bearing in mind the lag of data and the time it takes for companies to show visible results in their own decarbonization path.

For the sake of transparency, SCOR will report on decarbonization progress on a yearly basis. However, figures should be read cautiously and only a longer-term trend will provide reasonable information on decarbonization achievements.

Carbon intensity on Enterprise Value (EV)	**2019**	**2020**	**Coverage ratio in 2020**	**Evolution versus 2020** (31/12/2019)	**Target 2025**
	All scope 1, scope 2 and scope 3				
Corporate bonds + Equity	273	353	97.9%	+30%	-27%

Despite the rise shown by the results in 2020, mainly driven by the misalignment of carbon emissions and Enterprise Value, SCOR is confident in its ability to achieve its five-year target for corporate bonds and equities. Its portfolio positioning and its selection of best-in-class companies in the highest emitting sectors will support its approach to decarbonizing with a positive impact on the real economy.

References

Convention on Biological Diversity (CBD). Fifth edition of the Global Biodiversity Outlook, 2020.
Folke, C., R. Biggs, A. V. Norström, B. Reyers, and J. Rockström, 2016. Social-ecological resilience and biosphere-based sustainability science. Ecology and Society 21(3):41. http://dx.doi.org/10.5751/ES-08748-210341
Carbon Risk Real Estate Monitor (CRREM). Stranding Risk & Carbon. Science-based decarbonizing of the EU commercial real estate sector, 2019.
CDC Biodiversité. Global Biodiversity Score: measuring a company's biodiversity footprint. N°11 – November 2017.

Credits

Design and production: **Pelham Media**

SCOR AROUND THE WORLD

EMEA*:
Belgium
France
Germany
Ireland
Italy
Russia
South Africa
Spain
Sweden
Switzerland
United Kingdom

AMERICAS:
Argentina
Barbados
Brazil
Canada
Chile
Colombia
Mexico
United States

ASIA-PACIFIC:
Australia
Mainland China
Hong Kong
India
Japan
Malaysia
New Zealand
Singapore
South Korea
Taiwan

*Europe, Middle East, Africa

SCOR
The Art & Science of Risk

To learn more about SCOR's strategy, goals, commitments and markets, visit our website.

www.scor.com

Follow us on social media