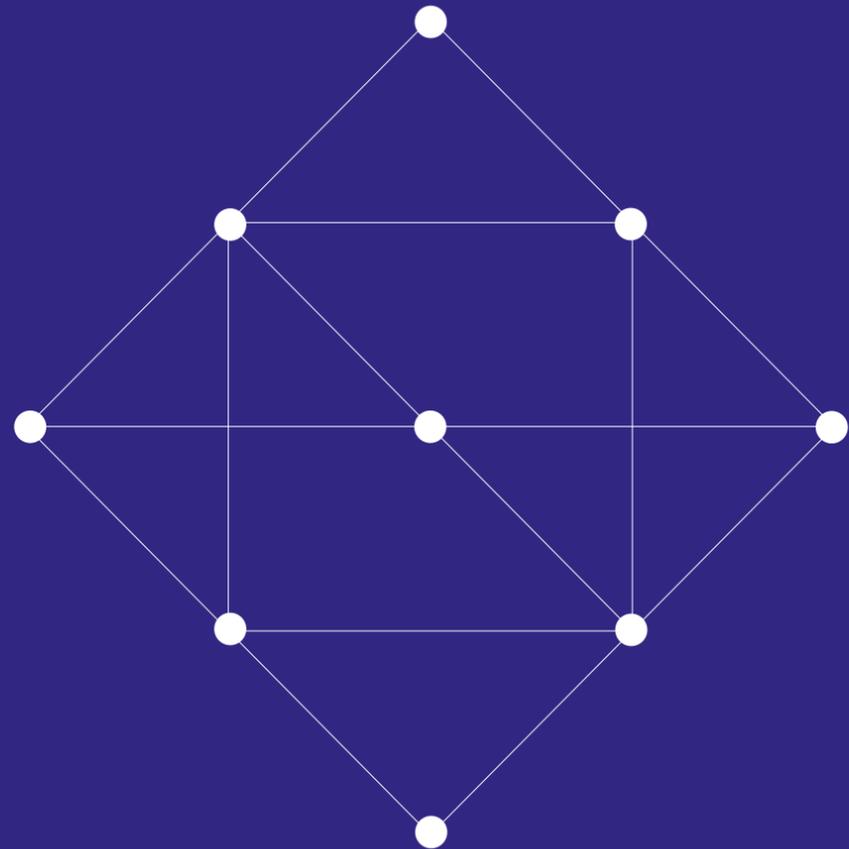




2019 SUSTAINABLE  
INVESTMENT REPORT  
FOCUS ON CLIMATE RISK

# RESILIENT TOGETHER

**SCOR**  
The Art & Science of Risk



## RESILIENT TOGETHER

Resilience embodies and defines the reinsurance industry. Our mission is to minimize the impact of shocks whenever they occur – to make this world more livable.

Far too many people today remain underinsured or uninsured. Every time catastrophe strikes, this lack of coverage sets back the ability of societies to recover and move forward. SCOR is working to bridge this protection gap, widening the limits as far as possible by offering new products and improved services.

At the same time, the horizon of emerging risks is expanding and the potential impacts of things such as cyber attacks, pandemics and climate change are not yet fully understood. Building resilience in this rapidly evolving universe presents particular challenges – and opportunities – for reinsurance.

The insurance universe is marked by cycles and trends in which shocks are exceptional. For reinsurance, large risks and catastrophes are the raw material of our business. While the insurer's risk probability distribution is based on abundant and granular data about high-frequency and low-severity events, we focus on the tail end of the probability distribution spectrum – on low-frequency, high-severity events. At this end, the variance per risk is much higher and data is limited. This is why we use probabilistic rather than statistical tools. We don't foresee what is going to happen – we infer it. More and more, this means entering a world of scenarios.

For 50 years, our resilience has contributed to the protection and welfare of millions of people around the world. Our resilience means your resilience.

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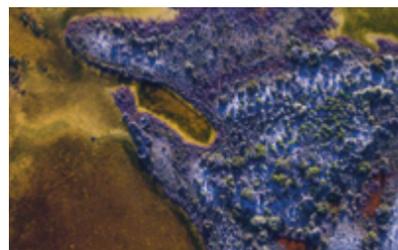
To learn more about SCOR's strategy, goals, commitments and markets, please visit our website: [www.scor.com](http://www.scor.com)

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This report is produced in line with the recommendations of the Task Force on Climate-related Disclosures and complements disclosures addressing Article 173 of the French Energy Transition Law, available in the URD.

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## SUSTAINABILITY AT THE CORE OF INVESTMENT

Editorial by François de Varenne —  
*Chief Executive Officer of SCOR Global Investments*

**T**he world is facing incredible sustainability challenges and climate change may have a disruptive impact on our lives and economies. Contributing to the welfare and resilience of Society is one of SCOR's missions and as an institutional investor, the Group is determined to play its part.

2019 has been a key milestone for SCOR. With its new strategic plan «Quantum Leap», SCOR has accelerated its sustainability journey, strengthening its commitment to investing in a more sustainable world. In 2019, SCOR published its Sustainable Investing Policy. Supporting and complementing the Group's Climate Policy, this policy is a public commitment to further onboard Environmental, Social and Governance issues in our investment strategy. Adhering to the UN-supported PRI enables us to leverage industry capabilities to engage, strengthen responsible investment culture and foster greater transparency and efficient actions.

As a reinsurer, we believe that our internal expertise on climate risk can be leveraged to better manage our assets and create superior long-term value. It's time to take additional action and commit to further considering the impacts of our invested assets on our ecosystems. Focusing on climate change, major steps were taken in 2019 by further divesting from coal, by expanding this policy to arctic oil and tar sands, and by committing to carbon neutral investment by 2050. These are strong signals that SCOR intends to deliver and align with the Paris agreement. Because risk management is in our DNA, we also continuously improve the way we tackle the impacts of climate change on our invested asset portfolios, particularly in terms of stress testing their resilience. Having produced a heatmap last year to assess our exposure to transition risks, we

deepened our analysis in 2019 with the help of some innovative public initiatives in this regard.

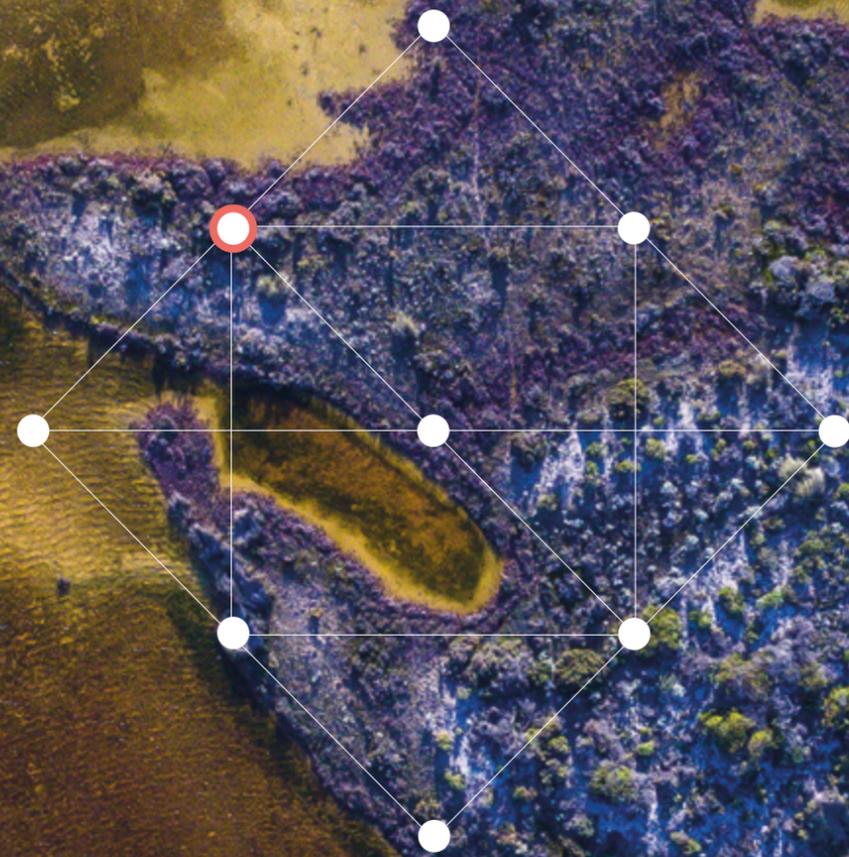
Focusing a significant amount of our invested assets on financing the transition to a low carbon economy is also part of our strategy for building a resilient portfolio and fostering adaptation to a changing world.

Sharing know-how to enhance our understanding and benefit from mutual expertise is another aspect of our sustainable investing strategy. We continue to actively participate in the public debate on shaping the future of sustainable finance. SCOR is honored to be a member of the Technical Expert Group on Sustainable Finance at the European Commission, and a member of the Climate and Sustainable Finance Commission at the French Autorité des Marchés Financiers. This further demonstrates our commitment to playing our part in the creation of a more sustainable world.

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**“SCOR has accelerated its sustainability journey, strengthening its commitment to investing in a more sustainable world.”**

# GOVERNANCE



**S**COR is a signatory of the United Nations Principles for Responsible Investments (PRI - see glossary), as well as the United Nations Principles for Sustainable Insurance (PSI - see glossary), which call for long-term responsible investment (IR - see glossary) to protect the environment and make society more respectful of individuals. Various initiatives supported by the Group strive to reduce climate risk. SCOR is committed to making companies more resilient by promoting the adoption of the Principles and the cooperation necessary to implement them, and by encouraging good governance, integrity and accountability.

As a global and independent reinsurer, SCOR aims to embrace best governance practices. These will play a crucial role in helping it to achieve its strategic objectives and manage appropriately the risks arising in its various business lines. Climate risk in particular is studied and acted on at various levels of the Group. Led by its top governance bodies, SCOR has formulated an ambitious and holistic climate policy and a sustainable investing policy encompassing its activities and its operations.

Environmental, Social and Governance (ESG) issues, including risks and opportunities related to climate change mitigation and adaptation, are subject to governance structured around (i) oversight, (ii) management, (iii) implementation and coordination bodies.

From left to right : Zhen Wang, Claude Tendil, Fabrice Brégier, Vincent Foucart (employee-elected Director), Marguerite Bérard, Fiona Derhan (employee-elected Director), Thomas Saunier (representing Holding Malakoff Humanis), Denis Kessler, Fields Wicker-Miurin, Vanessa Marquette, Jean-Marc Raby, Bruno Pfister, Kory Sorenson, Augustin de Romanet.

## 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 to it 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 two aforementioned policies 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 insofar 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.

## ROLE OF MANAGEMENT

### EXECUTIVE COMMITTEES



**Denis Kessler**<sup>(1)</sup>  
Chairman and Chief Executive Officer

**Jean-Paul Conoscente**<sup>(2)</sup>  
CEO of SCOR Global P&C

**Paolo De Martin**<sup>(3)</sup>  
CEO of SCOR Global Life

**François de Varenne**<sup>(4)</sup>  
CEO of SCOR Global Investments

**Laurent Rousseau**<sup>(5)</sup>  
Deputy CEO of SCOR Global P&C

**Brona Magee**<sup>(6)</sup>  
Deputy CEO of SCOR Global Life

**Mark Kociancic**<sup>(7)</sup>  
Group Chief Financial Officer

**Frieder Knüpling**<sup>(8)</sup>  
Group Chief Risk Officer

**Romain Launay**<sup>(9)</sup>  
Group Chief Operating Officer

- The **Group Investment Committee**, chaired by the Chairman & Chief Executive Officer of SCOR, meets every three months to define portfolio positioning within the limits set by the strategic plan. Normative and thematic exclusions, as well as major asset reallocations related to risk management – including climate risks - are approved during these meetings. At these committee meetings, the SCOR Global Investments business unit reports on the portfolio's exposure in relation to the risk limits laid down in the strategic plan and operational plans, including to risks arising from ESG criteria.

- The **Group Corporate Social and Societal Responsibility and Environmental Sustainability Committee (CSSRESC)** at Executive Committee level meets on a quarterly basis ahead of the Board of Directors' CSSRESC meetings. It is in charge of approving the decisions concerning SCOR's ESG approach and initiatives. More specifically, it approves the ESG strategy for the Group's investments and makes sure the action plan is executed properly.

- The **Group Risk Committee** meets every quarter ahead of the Board Risk Committee meeting. Apart from the preparation of the Board Risk Committee meeting, the Group Risk Committee's general missions consist in (i) steering the Group's risk profile, (ii) maintaining, developing and monitoring the effectiveness of the Enterprise Risk Management framework, (iii) spreading a risk culture and improving risk knowledge, (iv) monitoring and ensuring compliance in relation to risk and capital management. As SCOR is a reinsurer with P&C business activities, these meetings regularly discuss climate risks and extreme events, and their direct impact on SCOR's risk profile. These discussions notably help to inform SCOR's modeling and pricing areas of research and development.

### SUSTAINABILITY COORDINATION | INTERNAL CORPORATE SOCIAL RESPONSIBILITY COMMITTEE

- The **internal CSR Committee** coordinates the Group's actions in terms of social and societal responsibility and sustainable development. It is made up of one representative from each Group business unit and from Human Resources, Investor Relations, Risk Management, Capital Management and Group Communications. Like the other committees referred to previously, it also meets on a regular basis. This internal committee is coordinated by the Group Head of CSR under the authority of the General Secretariat. Its operational role is to foster an overarching approach to CSR, in order to merge the initiatives taken by the Group, business lines and asset management. It is also in charge of ensuring the consistency of sustainability initiatives and approaches across the various business units, and of the various action plans prepared by each division.

## STRATEGIC MANAGEMENT AT OPERATING LEVEL

—The SCOR Global Investments business unit, in charge of Group investments, is composed of two departments within the Asset Owner (Investments Business Performance or IBP and Group Investment Risks & Sustainability or GIRS) and the asset management company SCOR Investment Partners (SCOR IP).

- GIRS** is in charge of monitoring all the risks on the investment portfolio. It defines investment constraints based on the Group's risk appetite and draws up the sustainable investing strategy before validation at executive and Board levels. GIRS also monitors the relations between SCOR and its asset managers and supports legal entities in the selection process.

- SCOR IP** is the Group's main investment manager. A wholly owned subsidiary of SCOR SE, SCOR IP manages the assets of the Group's companies, except for entities operating in the Americas and in certain Asian countries. SCOR IP may also, under certain conditions, act as investment advisor to entities that have delegated asset management to external investment managers. SCOR IP is a signatory of the UNPRI and applies, as part of its investment decisions, ESG principles defined by SCOR for its investment mandate.

### MANDATE INVESTMENT COMMITTEE

—The Mandate Investment Committee meets regularly with both IBP and GIRS as well as representatives of SCOR IP, in order to analyze SCOR IP's portfolio positions at a more operational and granular level. This committee discusses strategic choices in light of the Group's ESG criteria. The exclusion lists are updated at the initiative of SCOR or based on proposals submitted by SCOR IP. These lists feature specific issuers (e.g. the exclusion list of the Norwegian pension fund) and business sectors (e.g. exclusion of the tobacco and coal industries).

### GROUP INVESTMENT RISK & SUSTAINABILITY (GIRS)

—GIRS monitors the compliance of investment decisions with regulatory constraints or limits set by the Group (e.g. concentration, appetite, tolerance, target allocation, etc.). It is also in charge of drawing up the sustainable investing strategy and the ESG action plan submitted to the Executive Committee. GIRS overviews the compliance of portfolio positioning with SCOR's Sustainable Investing Policy and shares inclusion and exclusion lists with SCOR's investment managers for the execution of its sustainable investing strategy.

GIRS also controls the portfolio indicators in light of objectives set by the various governance bodies in charge of the Group's investment strategy. The GIRS team includes ESG scoring, exclusion lists and operational monitoring of the ESG action plan in its weekly portfolio reporting. GIRS par-

ticipates in Mandate Investment Committee meetings where ESG guidance is discussed for direct implementation. At SCOR, sustainability is fully integrated into investment risk management.

## ROLE OF ASSET MANAGERS

—Finally, SCOR relies on the ESG 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 its 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 in the process. 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 GIRS. During these 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 GIRS supervisory tasks.

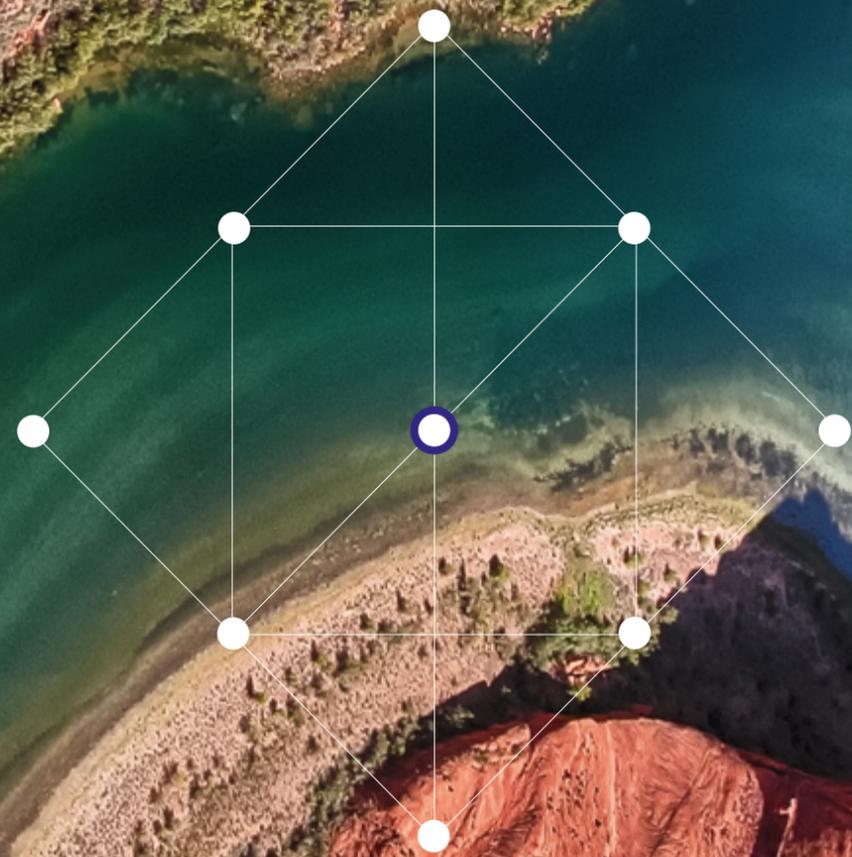
## ESG INFORMATION

—The Group relies mainly on information provided by extra-financial rating agencies and ESG consulting firms. As industry consolidation continues, GIRS 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.



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# STRATEGY



## SCOR'S INVESTMENT PHILOSOPHY

— As a reinsurance company, SCOR adopts a risk-based approach to its business and its strategy. In a Solvency II context, the Group has developed its own internal model to steer its solvency ratio and optimize the capital allocated to each line of business. Risk appetite, tolerance and limits are validated by the Group Executive Committee and approved by the SCOR SE Board of Directors. Consequently, capital allocation is the main driver for defining risk tolerance and limits across the Group's activities. The investment strategy adheres to risk-tolerance limits defined by the Group's Executive Committee and approved by the SCOR SE Board of Directors.

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 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 longterm, and
  - iiii. 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.

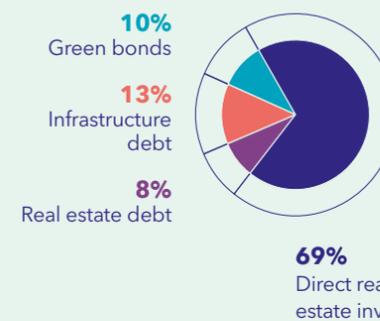


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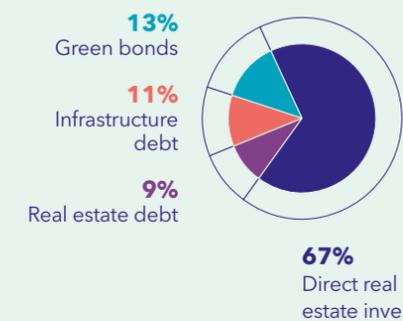
The objective of asset management is to optimize the recurrent financial contribution to Group results, while protecting asset values. The bulk of the invested assets portfolio backs SCOR's liabilities, i.e. technical reserves for Life and P&C reinsurance. In view of business constraints, investments 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 – see glossary) 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.

**Distribution of SCOR's green investments**  
(in 2018 by asset class)



**Distribution of SCOR's green investments**  
(in 2019 by asset class)



### ESG APPROACH

— As part of its 2019 – 2021 strategic plan “Quantum Leap”, SCOR has committed to accelerating its sustainability journey. Its ambition is detailed in its Sustainable Investing Policy, released alongside “Quantum Leap”. By being a responsible investor, SCOR intends to better manage risks and generate superior long-term returns. Over many years, SCOR has developed a transversal corporate culture of risk management under the ERM (Enterprise Risk Management— see glossary) concept. Environmental, social and governance risks fall naturally and holistically into this approach. They do not require a separate, specific framework.

SCOR’s sustainable investing approach is structured around five main areas, which form a consistent and robust strategy. In order to fully assume its fiduciary responsibilities, the Group addresses both the resilience of its investments vis à vis ESG risks and the positive and negative 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.

### BUILDING A RESILIENT PORTFOLIO | RISK MANAGEMENT

— Thanks to its core business as a reinsurer, SCOR has developed a strong risk culture across the entire Group. Risk management, including E, S and G criteria, is embedded ex-ante 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.



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### CLIMATE RISK

As a reinsurer, SCOR is at the forefront of climate risk. The Group has leveraged its internal expertise in risk transfer solutions to better understand the physical climate risks borne by its invested assets portfolio. The Group pursues a dynamic and progressive approach, systematically adopting best practices and advances in knowledge and methodology. In addition to purely environmental aspects, ESG scores and controversial issues are also used as early signals of the potential deterioration of positions in the portfolio.

- **Physical risks:** SCOR defines physical climate risks as i) losses that may occur due to changes in the frequency and / or intensity of extreme events (acute risk) or ii) longer-term consequences of an upward trend in physical risk (chronic risk). SCOR leverages on internal capabilities and climate awareness at Group level to assess the resilience of its investment portfolio to physical risks. SCOR also considers physical climate risk opportunities when investing in insurance-linked securities, with the aim of increasing resilience following natural catastrophes.

- **Transition risks:** SCOR defines climate transition risks as the risks that may arise from new technologies, market innovations and increased regulation linked primarily to environmental concerns. Those factors can have a negative impact on the value of assets if issuers fail to adapt. Transition can also offer new opportunities thanks to innovations and disruptive technologies. As part of its purpose to finance the transition to a more sustainable world, SCOR considers these opportunities in its sustainable investing strategy. SCOR also considers increasingly stringent financial regulation around sustainability and reputational risk that may arise from its public commitments and the positioning of its portfolio.

Building a resilient portfolio is part of SCOR’s expertise: setting risk appetites and preferences, allocating capital accordingly and setting asset allocation to optimize financial contribution are at the core of SCOR Global Investments’ activity. SCOR’s strategy aims to detect early signals of future deterioration, through robust credit analysis and market risk monitoring. ESG factors efficiently complement the existing framework.

SCOR stays at the forefront of innovation, combining market methodologies and internal expertise to try and assess the climate change risks borne by its invested assets portfolio. Analyses are performed over different time horizons and cover physical and transition risks. Scenario analyses provide a new way to assess climate change risks. However, they are still at an early stage and currently do not provide sufficiently robust information to influence the strategy. Using them on a regular basis and assessing their strength and limitations is part of SCOR Global Investments’ strategy to improve the portfolio positioning going forward.

	Short term (below 2 years)	Medium term (2 to 5 years)	Long term (above 5 years)	SCOR answer
<b>PHYSICAL RISK</b>				
In investments, physical risk relates to exposures to climate-related extreme events (acute) or to global trends due to climate change (chronic)				
<b>Acute</b>	<b>Directly:</b> related to investments in Insurance-Linked Securities			Strong monitoring of positions Allocation to ILS assets in the strategic plan within the Group risk appetite
	<b>Directly:</b> related to investments in physical assets (buildings and real estate debt, infrastructure debt)			Assessment of climate risk performed internally using property cat models
	<b>Indirectly:</b> related to corporate exposures Companies in which SCOR invests may suffer from climate-related extreme events depending on their geographical locations			<b>Portfolio monitoring:</b> preliminary risk assessment using 2°ii tools
<b>Chronic</b>			The business models of companies in which SCOR invests may suffer from major climate-related trends (increase in sea level, drought, etc.)	<b>Portfolio monitoring:</b> preliminary risk assessment using 2°ii tools
<b>TRANSITION RISK</b>				
In investments, transition risk mainly relates to carbon-intensive sectors which may be hit by new regulations. 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 if there is no default. For SCOR the risk is in corporate bonds, given the low appetite of the Group for investments in equities.				
	<ul style="list-style-type: none"> <li>• Coal</li> <li>• Coal power</li> </ul>	<ul style="list-style-type: none"> <li>• Oil</li> <li>• Steel</li> <li>• Cement</li> <li>• Gas</li> <li>• Gas power</li> </ul>	<ul style="list-style-type: none"> <li>• Automotive</li> </ul>	Limiting exposures to the most carbon intensive sectors (coal mining, tar sands and arctic oil) to address double materiality. Progressively moving from exclusion to best-in-class strategy <b>Portfolio monitoring:</b> assessment using 2°ii tools
<b>OPPORTUNITIES</b>				
	<ul style="list-style-type: none"> <li>• Green bonds</li> <li>• Solar</li> <li>• Wind</li> <li>• Energy efficiency (real estate)</li> </ul>	Potential new technologies providing diversification to the invested assets portfolio (including Carbon Capture Storage)		<b>6.9%</b> of the portfolio invested in “green” investments as of end of 2019

SCOR believes that protecting the value of its assets with a robust risk management framework and an adapted strategy is not enough to tackle climate change. Being a responsible investor is not just about being resilient, it's also about managing the adverse impact of our activities. In its new strategic plan, SCOR has committed to net zero carbon on its invested assets by 2050.

SCOR now assesses the impact of its portfolio positioning on the environment using two different approaches. One is the carbon footprint of the portfolio, the other is the “global warming” of its portfolio.

- Carbon footprint:** Although SCOR recognizes that this is a backward-looking indicator with many limitations in terms of scope and methodologies, the metric is the best estimate of the current status. It is obviously not enough to drive the portfolio in the future, but it provides evidence of how the portfolio has behaved in the past. In a world looking for a path to the decarbonization of portfolios, being able to track the past is part of the exercise. The main limitation today is the lack of stable data, and the complexity of setting a robust methodology for the path to decarbonization. To try and solve these issues, SCOR has joined the Net-Zero Asset Owner Alliance, seeking a common understanding of the decarbonization path based on common and robust methodologies.

- Global warming:** SCOR has been assessing the “global warming” of the portfolio over the last two years. This metric is even less robust than carbon footprint, but participating in its development and widely disseminating its usage will inevitably lead to more reliable information. This could become a good driver of the path to decarbonization and is a good forward-looking indicator. Hopefully the market will become mature and strong methodologies will allow for aggregation, comparability and sound analysis.

### ENHANCING SUSTAINABLE INVESTMENT DECISIONS | SCREENING

— As a responsible investor, SCOR applies ESG filters to its investment universe. These can be negative filters to mitigate potential risks (negative financial or non-financial impact) or positive filters to support its sustainable strategy.

#### NEGATIVE SCREENING | EXCLUSIONS

Some activities may not be in line with SCOR's values and corporate governance objectives. They may raise sensitivity concerns or lead to reputational risks. As a result, some activities or individual issuers may be excluded from the investment universe. The exclusion applies to all types of assets falling under the definition of invested assets. The list of exclusions is communicated to all investment managers with immediate effect. New investments are banned, and remaining positions are actively managed to accelerate run-off.

- Standard exclusions:** SCOR applies standard exclusions to companies involved in the production of cluster munitions, and to countries that do not adhere to anti-money-laundering



Singapore office / Singapore - certified Green Platinum

and anti-terrorism financing rules, as defined by the Financial Action Task Force (FATF).

- Sector / Activity exclusions:** Given its positioning in the reinsurance industry, SCOR is aware of the urgent nature of the measures required to combat global warming, and the Group has made strong commitments in its climate policy. Consequently, ambitious measures drive the sustainable investing policy. Following the European Commission's call in November 2018, SCOR is committed to a carbon-neutral invested assets portfolio by 2050. However, SCOR intends to apply a balanced approach between enhancing access to development and reducing CO<sub>2</sub> emissions:

- **Coal mining:** SCOR does not invest in companies deriving more than 30% of their turnover from thermal coal
- **Coal-fired power generation:** SCOR does not invest in utility companies for which coal represents more than 30% of their power production
- **Top 120 coal plant developers:** SCOR also excludes the top 120 coal plant developers from its investment universe
- **Oil sands:** SCOR does not invest in companies for which oil sands represent more than 30% of their total reserves
- **Arctic oil reserves:** SCOR does not invest in companies for which arctic oil represents more than 30% of their total reserves.

SCOR's Life business provides biometric risk and health solutions. With its holistic approach to sustainability, SCOR considers the negative impact of activities on societies and has signed the No Tobacco Pledge. SCOR has divested from all its tobacco positions.

#### Share of certified real estate in the SCOR portfolio at the end of 2019 (in EUR millions)



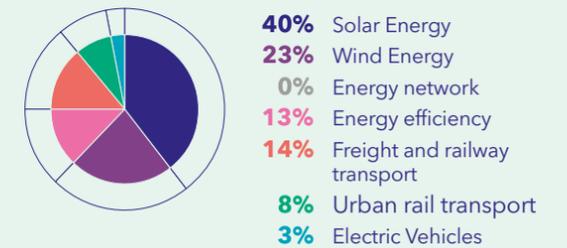
#### Share of certified real estate in the SCOR Portfolio at the end of 2019 (in m<sup>2</sup>)



#### Distribution of Real estate debt per number of certifications



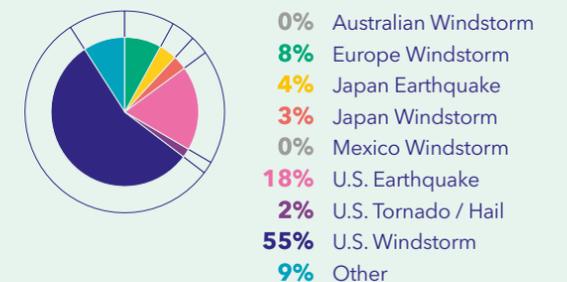
#### Distribution of infrastructure debt investments with an environmental impact (in %)



#### Exposure to ILS (in EUR millions)



#### Distribution of natural catastrophe investments by estimated loss (in %)



### POSITIVE SCREENING | BEST IN CLASS

Through its invested assets, SCOR intends to finance a sustainable world fostering good practices and robust governance. Given its strong concerns about environmental factors, SCOR also encourages its investment managers to overweight issuers with good ESG ratings and to implement decisive strategies to align with the Paris Agreement. SCOR closely oversees the implementation of all its preferences and monitors its positions on a regular basis.

### FOSTERING MORE SUSTAINABLE BEHAVIOR | ENGAGEMENT

#### VOTING POLICY

As a responsible investor, SCOR exercises the voting rights of its direct investments in shares with no delegation of voting accountability. However, where possible, the Group intends to reduce its operational risks through operational delegation to investment managers. To facilitate its voting decisions and help it to make sound decisions, SCOR uses proxy voting. The main focus areas when voting are as follows:

- Independence of Board members,
- Diversity of Board members,
- Compensation,
- Lobbying transparency,
- Sustainability behavior of the company.

#### DIALOGUE WITH ISSUERS

When relevant with regard to the size of its investments, and when possible considering the type of asset class, SCOR commits to engaging with issuers to raise awareness and promote good practices. In the absence of positive responses from issuers, SCOR may decide to sell the positions or not to reinvest at maturity. Such decisions are made on a case-by-case basis.

### FINANCING A MORE SUSTAINABLE WORLD | THEMATIC/IMPACT INVESTMENTS

#### TRANSITION TO A LOW-CARBON ECONOMY

As a Tier 1 reinsurer, SCOR is strongly concerned by climate risks and dedicates a large portion of its assets to financing the transition to a low-carbon economy. However, SCOR applies a balanced approach and intends to finance a resilient transition.

An internal taxonomy based on type of assets and individual screening is used to stamp investments as “green”. Asset classes in the “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. Additional, individual due diligence is performed on a line-by-line basis to assess the internal “green stamp”. SCOR will adjust its definitions once the European taxonomy is finalized, depending on the availability of the data required to assess green eligibility at activity level.

As of the end of 2019, the “green” portion of the investment portfolio amounts to EUR 1.3 billion including operational real estate, representing circa 7% of the overall assets. This is far above the objective set by Christiana Figueres, former Executive Secretary of the United Nations Framework Convention on Climate Change, to allocate at least 1% of portfolios to green investments. Through selective investments, SCOR applies a consistent approach that combines risk analysis, thematic investments and exclusions.

As a responsible investor, SCOR also intends to protect human capital. The Group participates actively in the expansion of the knowledge society, while protecting against “cognitive” risk. SCOR defines cognitive risk as the risk of biased judgement or misunderstanding, often resulting from low-quality information or insufficient access to knowledge. In this respect, SCOR invests in medium-sized companies working in the production and publication of certified knowledge.

#### SUSTAINABLE DEVELOPMENT GOALS

SCOR progressively onboards UN SDGs in its thematic investments. However, the Group applies a very strict taxonomy when reporting those investments as addressing the SDGs. Particular focus is placed on assessing the contribution of these selected investments to the 169 targets underpinning the 17 goals.

• **Sustainable bonds.** In the objectives set out in its previous strategic plan, “Vision in Action”, SCOR reaffirmed its impact investing strategy through its investment in sustainable bonds. This strategy continues with the new strategic plan “Quantum Leap”. At the end of 2019, investments in sustainable bonds totaled EUR 234 million, compared to EUR 80 million at the start of the previous plan. Most of the sustainable bonds selected for investment are green bonds, financing projects geared to a low-carbon economy in areas such as renewable energy, green buildings, clean transportation and energy efficiency, while the rest of the bucket is composed of social bonds supporting projects linked to affordable housing and education, or bonds that are green and social at the same time.

The 17 Sustainable Development Goals and their 169 targets introduced by the United Nations form the cornerstone of the Agenda 2030. This covers the full breadth of sustainable development issues and is also notable for recognizing how the various themes are interwoven, and the need to secure buy-in from the whole of society, including both institutions and civil society. At the end of 2019, SCOR analyzed its sustainable bond portfolio’s positioning vis-à-vis the UN Sustainable Development Goals. The primary goals to which these investments contribute are efforts to ensure access to affordable, reliable, sustainable and modern energy, to build resilient infrastructure, to promote inclusive and sustainable industrialization and foster innovation, and to make cities and human settlements inclusive, safe, resilient and sustainable.



• **SDG 7: Ensure access to affordable, reliable, sustainable and modern energy for all.**

- **7.2 By 2030**, increase substantially the share of renewable energy in the global energy mix
- **A significant part of the sustainable bond portfolio** (roughly 80 EUR million) finances renewable energy projects such as wind farms and solar farms.



• **SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.**

- **9.4 By 2030**, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities
- **By financing renewable projects and energy efficiency projects**, the sustainable bond portfolio contributes to more sustainable infrastructure and promotes innovative clean solutions in the industry.



• **SDG 11: Make cities and human settlements inclusive, safe, resilient and sustainable.**

- **11.3 By 2030**, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.
- **11.6 By 2030**, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.
- **By investing in green bonds and financing green buildings**, SCOR commits to promoting sustainable real estate, especially offices with environmental certifications like BREEAM, LEED and HQE, and to ensuring that buildings are increasingly energy efficient, including through optimized water consumption and waste management.

### SUPPORTING CLIMATE AWARENESS | INITIATIVES AND PUBLIC DEBATE

—The Group commits to dialogue with regulators and institutions, providing support through its internal expertise and

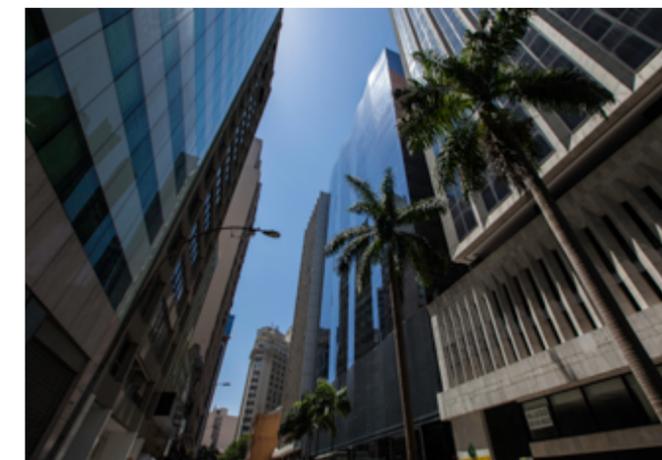
promoting responsible investment. SCOR has been active over the last two years as a member of the Technical Expert Group on Sustainable Finance at the European Commission, and has chaired the Project Task Force on Climate Related Reporting at the European Corporate Reporting Lab @ EFRAG. More recently, SCOR joined 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 of ESG topics and a better implementation of ESG in investment decisions. As such, SCOR is steering a working group on ESG and climate at the French Federation of Insurers and participates in a working group on climate scenario analysis at the Geneva Association.

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.

### PRACTICAL IMPLEMENTATION OF CLIMATE RISK MANAGEMENT: EFFECTS ON PORTFOLIO MANAGEMENT

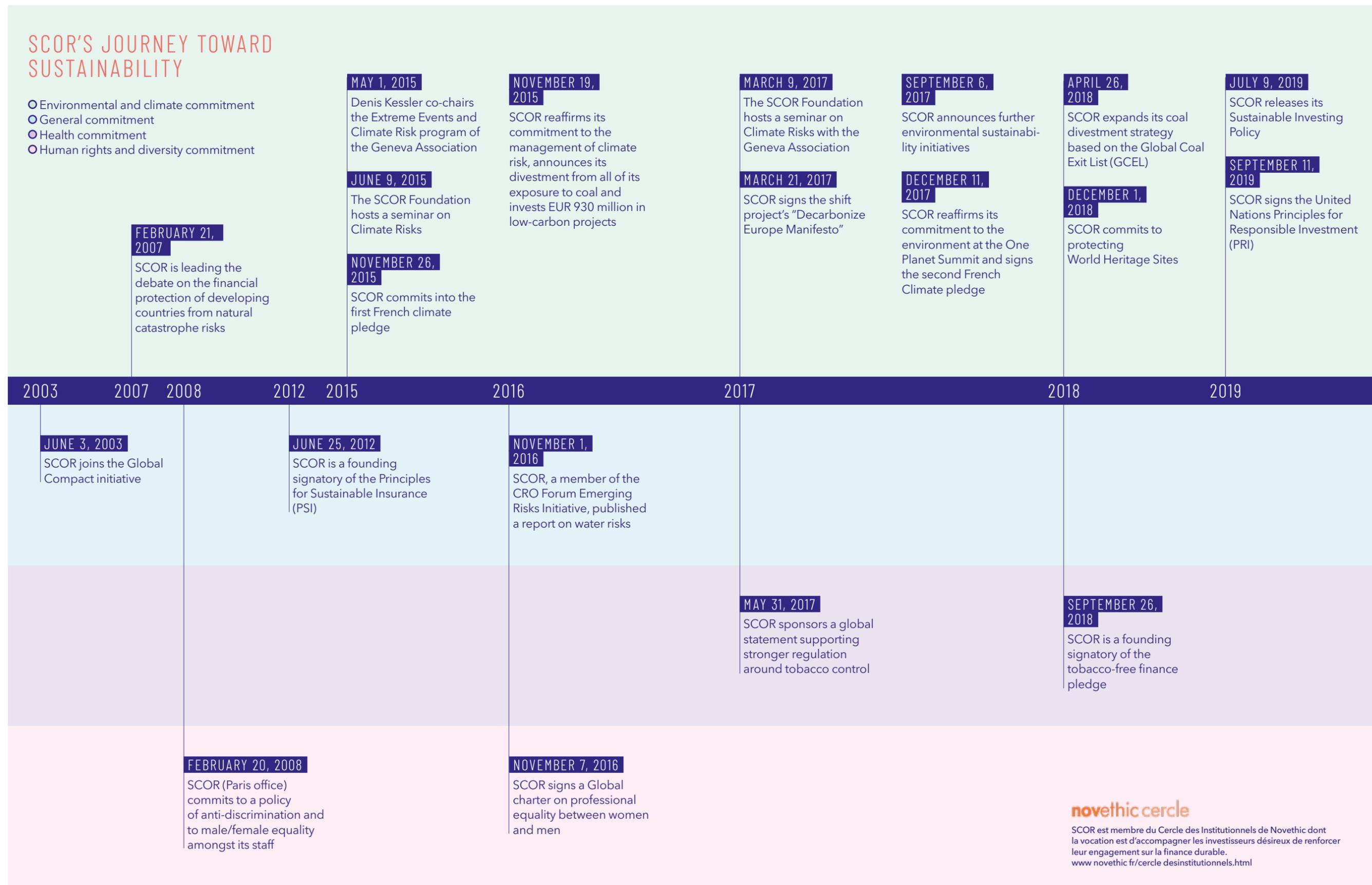
—The Group’s investment strategy relies on strong processes. The portfolio positioning aims for high flexibility, to ensure responsiveness to market developments. The duration of assets is mainly driven by ALM considerations and stands below four years as of the end of 2019. With regard to other risks, SCOR pays attention to sector allocation. This enables it to monitor its exposure to transition risk. The Group takes a pragmatic approach and does not aim for zero risk. Rather, it seeks a controlled level of risk that is compatible with its activity and enables it to reach its solvency and profitability targets. This enables it to adapt to new developments and progressively incorporate innovations. Adaptability and innovation are key concepts when onboarding climate change risk.



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## SCOR'S JOURNEY TOWARD SUSTAINABILITY

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



**novethic cercle**

SCOR est membre du Cercle des Institutionnels de Novethic dont la vocation est d'accompagner les investisseurs désireux de renforcer leur engagement sur la finance durable.  
[www.novethic.fr/cercle-desinstitutionnels.html](http://www.novethic.fr/cercle-desinstitutionnels.html)

CHAPTER 3

# RISK AND RISK MANAGEMENT



## PROTECTING AGAINST CLIMATE RISKS

— Climate change and the transition to a low-carbon economy are two separate concepts leading to a distinction between two types of related risk: physical risk and transition risk. These risks are detailed in the previous section.

### PHYSICAL RISK

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 internal model calculates damage rates, which provide estimates of the potential losses that these investments may suffer in the event of a natural catastrophe. 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 internal model 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 achieve their Paris Agreement commitments. 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 internal model.

The results calculated by the internal model for the selected investments are shown in the table below

In EUR	Direct real estate	Real estate debt	Infrastructure debt	Total
<b>Average annual loss</b>	195,759	28,688	45,135	<b>269,581</b>
<b>Average annual loss for a 100-year event</b>	3,304,224	301,104	419,002	<b>3,868,224</b>

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 remains very modest compared with the size of the investments (EUR 1.9 billion). Loss / investment ratios are down very slightly compared to the end of 2018.

### TRANSITION RISK

The protection of assets against global warming comprises two distinct dimensions: issuer risk and asset time to maturity. SCOR’s goal is to protect the value of its assets and therefore to minimize potential defaults or spread stress significant enough to have a material adverse impact on the value of the portfolio. The shorter the maturity of the securities, the smaller the impact of pressure on spreads. Consequently, for short-dated assets, only default risk is considered. In addition, a company’s transition risk must be assessed together with its commitment to reduce its carbon intensity. Adjusting time horizons to the duration of liabilities is also a key element in the implementation of a resilient climate strategy.

Assessing transition risk is a highly complex exercise for an institutional investor. To do so, it needs to be able to consult Nationally Determined Contributions (NDCs – see glossary) for the portion of the portfolio invested in government bonds. Institutional investors must also analyze forward-looking data explaining the impact of climate change on companies’ business models (also largely dependent on NDCs) in the corporate bond or equities segment of the portfolio. Transition risk also depends on the maturity of holdings, as certain segments are already highly carbon-intensive (coal, for example),

while at this stage others are only expected to be affected by the negative effects of climate change over a time horizon that is hard to determine. Transition risk strongly depends on public policies and should move in the opposite direction to physical risk if governments act quickly enough.

The greater governments’ determination to observe the Paris Agreement, the more transition risk will increase, because the efforts required from companies will be more substantial. In parallel, physical risk will decrease because the effects of global warming should be better contained, if action is taken early enough.

## CASE STUDY

# USING PUBLIC AND FREE TOOLS TO ASSESS CLIMATE CHANGE

In 2018, SCOR conducted a preliminary portfolio analysis along the same lines as the Moody's Investors Service industry mapping published in September 2018. This analysis establishes the risk level for the various carbon-intensive business sectors, based on a projected timeline for the occurrence of transition risk. This has enabled it to build a heat map showing exposures in the portfolio by sector and maturity.

In 2019, SCOR improved its understanding of climate change impacts on its invested assets portfolio by using the 2° Investing Initiative (2°ii) study "Storm Ahead". The results of the study were presented to the C2SES Committee at Executive and Board level, improving awareness and generating in-depth discussions. Given the preliminary status, it was agreed that this was only experimental and could not be directly factored into the investment strategy.

## 1. BACKGROUND AND CURRENT STATUS

### 1.1 GROWING CLIMATE CHANGE AWARENESS

— In recent years, climate change has moved from an emerging risk to a global and irreversible trend, as global warming becomes reality. Climate science regularly updates its predictions and alerts on the devastating expected effects of climate change, which the financial markets can no longer ignore in their investment decisions and their portfolio monitoring.

Mark Carney put it on the agenda of the FSB as early as 2015, a couple of months before the CoP 21 and the Paris Agreement. His strong commitment led to the creation of the Task Force for Climate-related Financial Disclosures, which released a report in 2017 advocating for more transparency around climate risks. The High-Level Expert Group (HLEG) on Sustainable Finance also provided guidance to the European Commission in early 2018 on how to promote Sustainable Finance to reallocate trillions and finance the transition to a low-carbon economy. Transparency around climate disclosures was also at the heart of the recommendations. The HLEG report was followed by the EU Action Plan on Sustainable Finance (March 2018) and a legislative package (May 2018) leading to various new regulations in 2019 designed to encourage the private sector to better consider and

report on environmental topics.

All initiatives stress the need for a better understanding of climate change by companies, starting with awareness at the highest levels of governance to actively drive strategy and risk management towards more resilient behavior. Reporting and disclosures intend to demonstrate constant enhancement of companies' responses to climate-related topics.

### 1.2 INCREASING PRESSURE FROM REGULATORS AND POLICYMAKERS

— In light of growing climate awareness, and in order to demonstrate their concern about financial stability, regulators and policymakers have been increasingly demanding with regard to climate change and its potential impacts on companies' business models. The French Law for Energy Transition and Green Growth in 2015 and the TCFD recommendations in 2017 kicked off the disclosure journey, and there is a consensus around the need for more transparency on the exposure to climate change risks. As climate change awareness increases, regulators and policymakers are turning to scenario analysis as good practice to assess climate risks. Several initiatives have been taken over the last few years, including:

- TCFD recommending disclosures on scenario analysis to understand the impact of climate change on business models as early as 2017
- the European Commission amending its non-binding guidelines (2019) to address non-financial reporting,

- presenting scenario analyses as a good way to better understand climate-related risks
- the European Commission Transparency Regulation (2019) asking for more information on climate risks from investors and financial advisors
- the ACPR asking the French insurance industry to run climate stress-tests in late 2018
- the PRA (Bank of England) requesting the U.K. financial industry to run climate stress-tests in 2019

Investors need transparency to ensure the resilience of their portfolios. This can be considered from two different perspectives: company specific information is required when making investment decisions and comparable information is needed to assess the resilience at portfolio level. Many initiatives have tried to address investors' need for scenario analyses at portfolio level. Currently, most of these initiatives provide ex-post results based on opaque and heterogeneous methodologies.

It should be noted that EIOPA is already performing sensitivity tests on assets based on the D1 quantitative reporting template (QRT) provided by insurance companies on a quarterly basis. As regulators are at the early stage of their analysis, inside understanding of the risks borne by invested assets portfolios could be helpful, contributing to constructive dialogue and preparations for further requests. In parallel, led by the French Ministry for the Economy and Finance, the French financial community made further climate commitments in early July 2019. The ACPR and the AMF are establishing dedicated expert working groups to monitor progress versus engagements.

### 1.3 CLARIFYING "SCENARIO ANALYSIS"

— TCFD recommends describing «the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario». A debate on what a scenario means is gaining traction as there is possible confusion between scenarios attached to probabilities of occurrence used for financial planning, and stress-tests or sensitivity analysis used for risk management purposes. The time horizon of climate change developments and the International Energy Agency (IEA) / Intergovernmental Panel on Climate Change (IPCC) scenarios (2050 if not 2100) also feature a lot of uncertainties. In this context, we consider these preliminary quantifications of climate risk impacts to be stress-test results. Assumptions need to be clearly stated, along with any limitations in terms of their potential use.

"Scenarios" used by companies when running stress tests are usually provided either by the IEA or the IPCC. Both sources provide several "scenarios" presenting different paths, leading to different increases in temperature by 2100 compared to pre-industrial levels. The translation from climate change assumptions and policymakers' answers to economic variables and regulatory constraints is a key challenge when trying to monetize potential impacts. There is no one single 2°C scenario and many combinations of policymakers' answers lead to completely different paths occurring in the future. All proposed scenarios rely on the industrialization of carbon-cap-

ture storage techniques, which are currently only at the experimental stage.

### 1.4 ASSESSING CLIMATE-RELATED RISKS

— The assessment of climate-related risks when managing assets can be viewed from various perspectives. Climate risks are usually split into two different categories:

- **Physical risks** can be defined as i) losses that may occur due to changes in the frequency and / or intensity of extreme events (acute risk) or ii) longer-term consequences of an upward trend in physical risk (chronic risk),
- **Transition risks** are defined as the risks that may arise from new technologies, market innovations and increased regulation linked primarily to environmental concerns. Those factors can have a negative impact on the value of assets if issuers fail to adapt. Transition can also offer new opportunities thanks to innovations and disruptive technologies. Transition risks may also cover regulatory risks, which are risks arising from increasingly stringent financial regulation around sustainability and reputational risks linked to sustainable behavior.

Assessing these risks is a key challenge for investors. Transition risks depend strongly on National Determined Contributions (National commitments made by each country in the Paris Agreement) but as the combined commitments of all the countries involved are not enough to reach the 2°C objective, additional measures are needed. How these could be allocated to each country, however, is not clear. Transition risks also depend on the current business model of a company and on the exposure of each line of business to potential changes in regulation, in a time horizon that has yet to be set. Another factor is the strategy of the company in terms of adapting to climate change and potentially changing its business mix. Physical risks are linked to the geographical location of a company's business and infrastructure / offices. It is generally agreed that, whatever decisions are taken now to mitigate climate change and limit global warming, their effects on physical risks may not be visible for another ten years. In that case, what does a scenario mean when talking about physical risk? What should the right time horizon be? Can it be aligned with the time horizon for the assessment of transition risks? What information should companies disclose for the quantification of the physical risk they bear? What is the appropriate level of granularity to run simulations? Another point worth mentioning is that physical and transition risks move in opposite directions: the more policymakers do to respond to climate risks, the higher the transition risks will be. For physical risks, the opposite is true, except if the political response comes too late and only has a slight impact on global warming but a significant one on highly carbon-intensive business.

Companies are struggling to run relevant scenarios and to disclose reliable information. Consequently, investors are struggling to include outputs of scenario analyses in both their investment decisions and their portfolio monitoring, as information is often lacking, not always relevant when available and seldom comparable at portfolio level.

## 2. THE 2° INVESTING INITIATIVE STRESS TEST

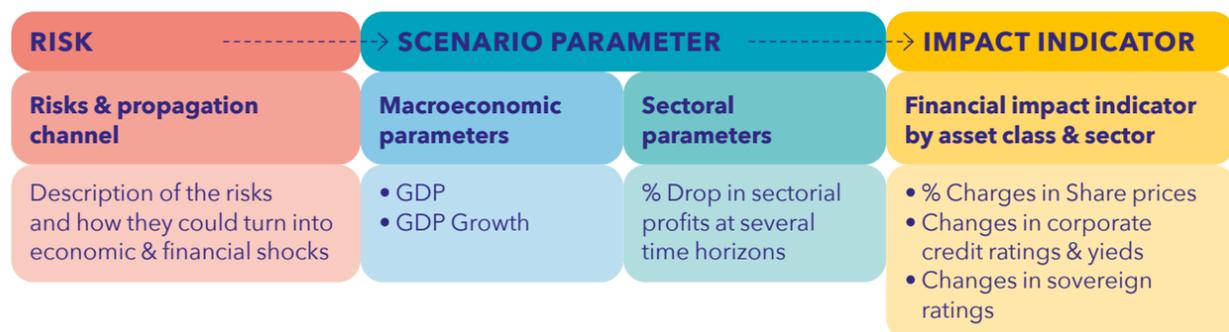
### 2.1 A GOOD STARTING POINT FOR "SCENARIO ANALYSIS"

In a paper entitled "Storm Ahead", the think tank 2° investing initiative (2°ii) proposes a climate stress-testing framework that can be used for financial asset portfolios, more

precisely Fixed Income and Equity. This framework suggests scenarios that cover both transition risks and physical risks (chronic and acute).

Broadly speaking, and as displayed in Figure 1 below, 2°ii has designed some methodologies to derive global warming impacts on scenario parameters such as GDP and sectoral profits, and subsequently on financial parameters such as share prices, corporate yields and corporate and sovereign ratings. Therefore, the impacts for corporate companies are derived at sector level and not company by company.

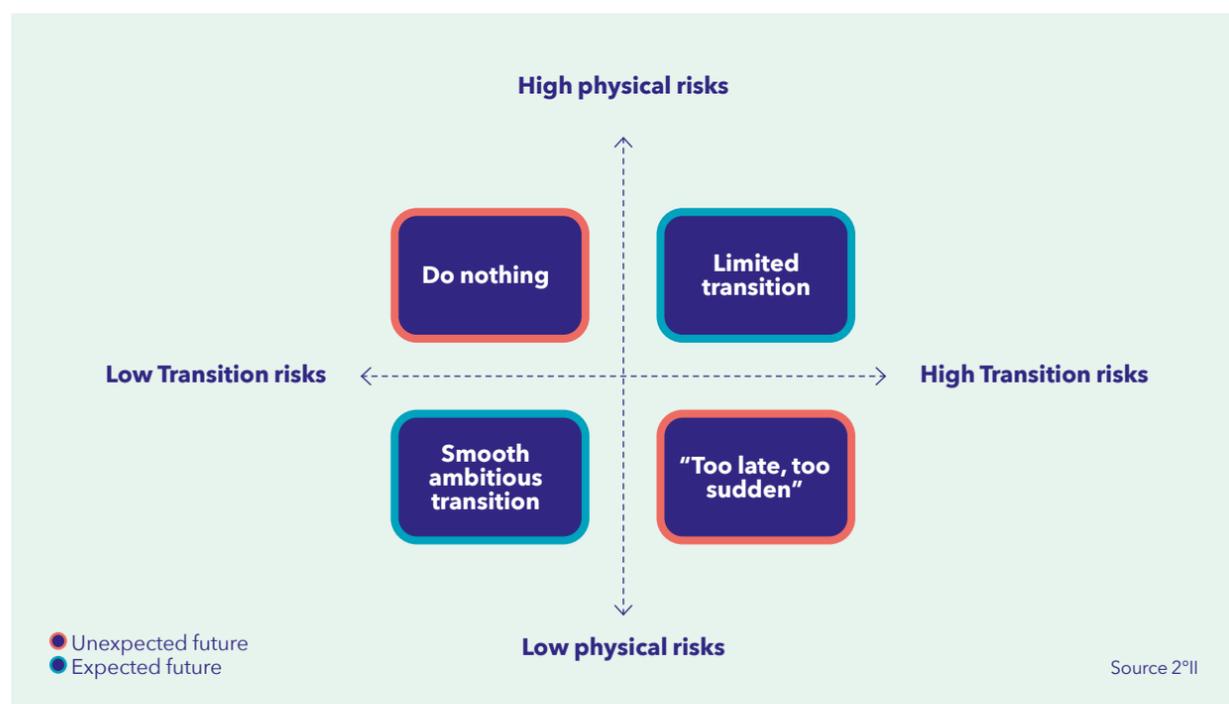
FIGURE 1



2°ii has tried to define possible climate futures, as shown in Figure 2 below.

Source 2°II

FIGURE 2



Source 2°II

The "Too late, too sudden" scenario is considered a worst-case scenario and has been selected to derive the various parameters to be used for quantification.

## 2.2 SCOPE AND ASSUMPTIONS

### 2.2.1 TIME HORIZON

- Regarding transition risks, 2° ii suggests a "sentiment shock" occurring in 2025, in the context of a "Too late, too sudden" scenario where the transition to a low-carbon economy occurs late and abruptly.
- Concerning physical risks, 2°ii suggests two kinds of scenarios. The first type of scenario is a "shock" scenario, which assesses the impact of extreme weather events and can be applied for any time horizon. The second type of scenario, called "full damage", focuses on the incremental effects of climate change and is a more long-term scenario where the horizon is 2060 or 2100.

### 2.2.2 CLIMATE DEVELOPMENTS

- Regarding transition risks, 2°ii highlights the difficulty of translating the impacts of late decisions by policymakers into macro-economic parameters. They leverage on the OECD's estimates of GDP growth and the IEA's growth projections to provide their own conclusions. SCOR has not challenged the outputs and has just used them for the purposes of analysis.
- Physical risk assumptions are derived from the RCP 8.5 (Representative Concentration Pathway) which is the business as usual scenario, i.e. with no political answer to climate change. Among the scenarios already analyzed, it shows the highest level of greenhouse gas (GHG) emissions, leading to the most impacting effects of climate change.

### 2.2.3 COVERAGE

The methodologies proposed by 2°ii cover equity stocks and corporate bonds including convertible bonds, and sovereign bonds. In total, these represent 73% of the invested assets market value as of December 31, 2018.

### 2.2.4 LIMITATIONS

- The transition scenario assumes that nothing happens before 2025, when financial markets face a one-off event and full repricing of assets from one day to the next.
- There is no alignment in terms of time horizons or global warming. Consequently, physical and climate risks are assessed separately and cannot be aggregated.
- It is unlikely that SCOR would stick to its current asset allocation and issuer selection whatever the scenario (e.g. no response from policymakers, a smooth or hard transition, etc.). However, we have decided to apply the shocks with a portfolio that remains unchanged at the different time horizons used in the analysis. This means that we have assumed the SCOR portfolio as of 2025 is that same as that of December 31, 2018.

## 2.3. METHODOLOGY

### 2.3.1 TRANSITION CLIMATE RISKS

#### ● CORPORATE SECTORAL EFFECTS

The table below details the sectors covered in the 2°ii analysis, as well as the indicators used to estimate the change in profits under transition scenarios. These key sectors would be among those most severely impacted by transition risks under a "Too late, too sudden" scenario.

FIGURE 3 / SECTORS COVERED IN THE ANALYSIS AND INDICATORS USED FOR PROFIT CALCULATION

Sector	Target companies	Geography	Indicators used for profit calculation
Oil	Upstream Oil	Europe, North America, South & Central America, Middle East, Africa, Asia-Pacific, Eurasia	Production, Prices
Coal	Coal mining		
Natural gas	Upstream natural gas		
Power	Power generators (Coal, Gas, Solar, Wind)	Europe, USA, Latin America	Production, Prices, Levelized Cost of Electricity, Subsidies
Steel	Crude steel producers	Brazil, USA, Mexico, France, Germany, Italy	Production, Prices, Carbon prices, Carbon intensity
Cement	Cement producers		
Automotive	Car producers	World average	Production, Net margin by powertrain type
Aviation	Airlines (international)		Demand, Fuel efficiency, Fuel prices

Source 2°II

● **IMPACT ON SHARE PRICES**

2°ii assesses the impact of the transition on sectoral revenues and then runs a Discounted Cash-Flow (DCF) model to compute the Net Present Value (NPV) of future cash-flows, starting in 2025. More precisely, 2°ii uses the Gordon Shapiro formula (1959), assuming that dividends are proportionate to cash-flows. Then the value of the stress scenario is equal to the difference in share prices between the “business as usual” and the transition scenario.

● **IMPACT ON CORPORATE BOND VALUE**

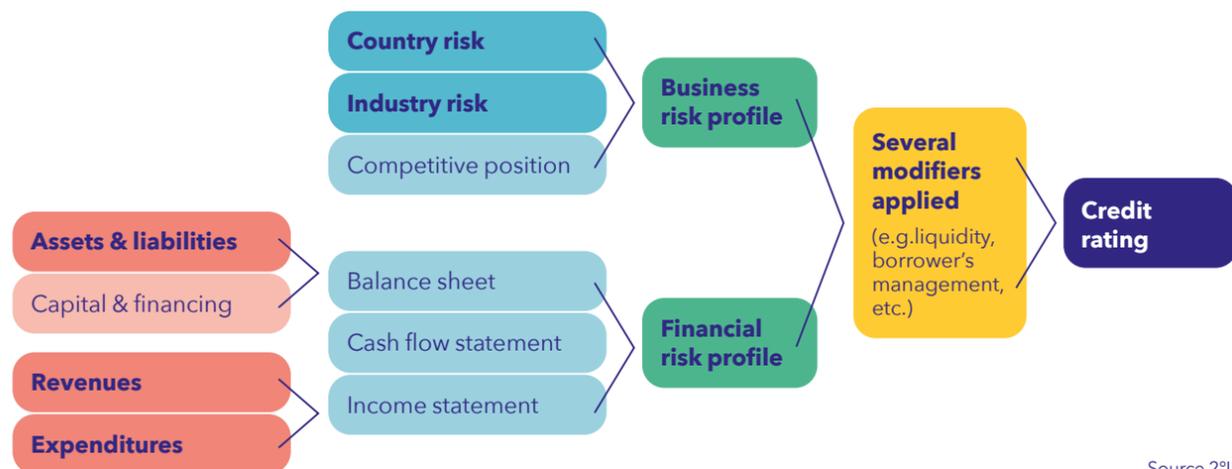
2°ii estimates the changes in bond values that could be expected in 2025 under a “too late too sudden” transition scenario, depending on the remaining time to maturity of the

bonds at that date, first by deriving changes in probabilities of default from the changes in sectoral revenues, and then by translating these changes in probabilities of default into changes in bond value.

● **IMPACT ON CORPORATE RATINGS**

Changes in companies’ revenues and expenditures due to climate change will impact their probability of default, and hence their credit rating. A few other factors in the model could be affected by physical risks, namely the country & industry risk levels, and the companies’ individual risk management strategy and overall adaptive capacity. Figure 4 below shows the various steps of the model.

FIGURE 4



Source 2°II

**2.3.2 PHYSICAL CLIMATE RISKS | FULL DAMAGE SCENARIO**

This scenario reflects the long-term risk horizon of climate change. Some features will take time to materialize, through incremental effects such as temperature increases and rising sea levels. These features will lead to an increase in the severity and frequency of extreme weather events. The full damage scenario will reflect these slowly worsening physical developments of climate change, and their impact on the financial sector.

The full damage scenario used by 2°ii is mainly based on a 2015 report by the OECD entitled “The economic consequences of climate change”, and assumes warming of 4.5° by 2100 (IPCC’s RCP8.5), which implies warming of 2.5° in 2060. Many incremental changes are included in the model, along with the consequences of hurricanes.

● **IMPACT ON SHARE PRICES**

2°ii applies a Discount Cash-Flow model (DCF), based on estimations of sectoral revenues under a climate change scenario, to compute the Net Present Value (NPV) of future cash-flows. The difference in share prices between the “no damage” and the climate change scenarios gives the value of the stress test.

● **IMPACT ON CORPORATE CREDIT RATINGS AND CORPORATE CREDIT SPREADS**

Using a sensitivity factor between GDP and probability of default found in a paper by Tang & Yang (2010), 2°ii estimates the change in credit rating resulting from incremental climate change effects by 2060 and changes in 5-year CDS credit spreads.

● **IMPACT ON SOVEREIGN BOND RATINGS**

Using a sensitivity factor between GDP per capita and credit ratings found in the literature (S&P, 2015), 2°ii estimates the rating changes under the full damage scenario.

**2.3.3 PHYSICAL CLIMATE RISKS | SHOCK SCENARIO**

This scenario is supposed to reflect the idea that the occurrence and severity of extreme weather events will increase because of climate change, and aims to assess the impact of such catastrophes on asset portfolio values and hence investors. The 2°ii “weather shock” scenario assesses the economic impact of one-in-250 year floods, hurricanes, wildfires and droughts across all continents, mainly based on S&P’s “The heat is on” report, as well as historical disaster data from the EM-DAT database.

● **IMPACT ON SHARE PRICES**

Using an approach based on the correlation between GDP and share prices found in ESRB stress tests, 2°ii estimates the impact of a one-in-250 year flood, storm, drought and wildfire on share prices. As some correlations between GDP and share prices may not exist in practice, the results should be considered as preliminary estimates.

● **IMPACT ON CORPORATE CREDIT RATINGS**

Based on a study assessing the impact of a growth rate shock on corporates’ probability of default (Simons & Rowles, 2008), and using some growth estimates, 2°ii assesses the impact of one-in-250 year floods, droughts and wildfires on credit ratings.

● **IMPACT ON SOVEREIGN BOND RATINGS**

Using a sensitivity factor between GDP per capita and credit ratings found in literature (S&P, 2015), 2°ii estimates the rating changes under the full damage scenario.

**3. TRANSITION RISKS | THE TOO LATE, TOO SUDDEN STRESS TEST**

**3.1 ASSUMPTIONS AND LIMITATIONS**

**3.1.1 ASSUMPTION**

We apply the 2°ii methodology to SCOR’s invested asset portfolio as of end of December 2018, as if we are in 2025. In

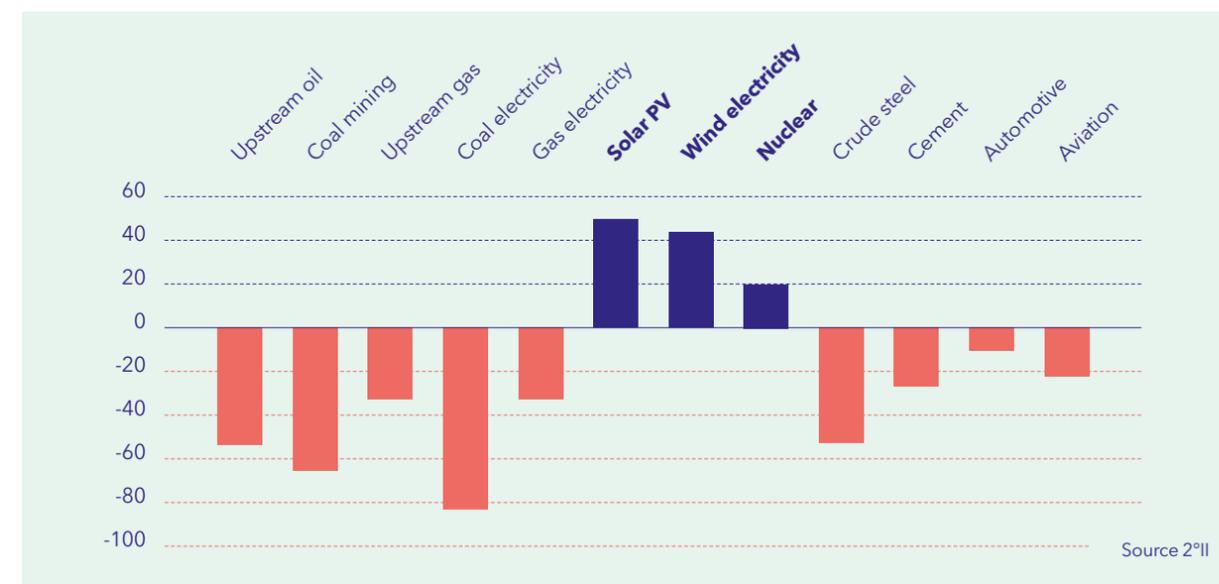
other words, we assume the portfolio is constant between 2018 and 2025.

For the energy sector, the energy mix breakdown of each company is used to apply the stress test.

● **IMPACT ON SHARE PRICES**

Figure 5 shows the expected impact on share prices compared to baseline for a “Too late, too sudden” transition scenario for key sectors, assuming a sudden repricing in 2025 (%), as provided by 2°ii.

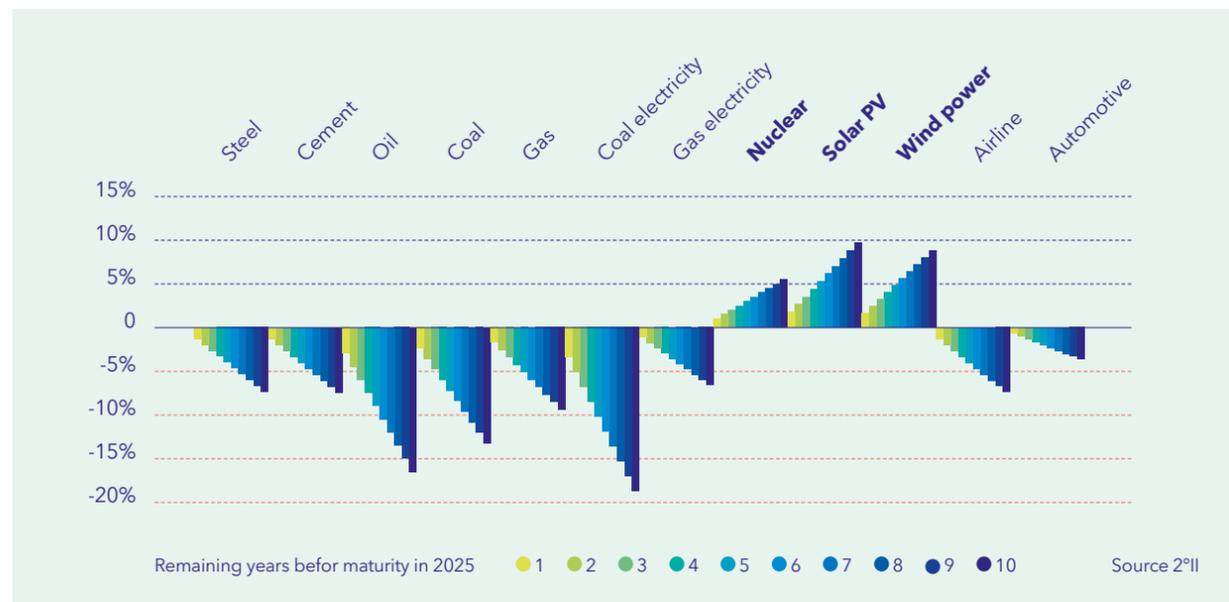
FIGURE 5



Source 2°II

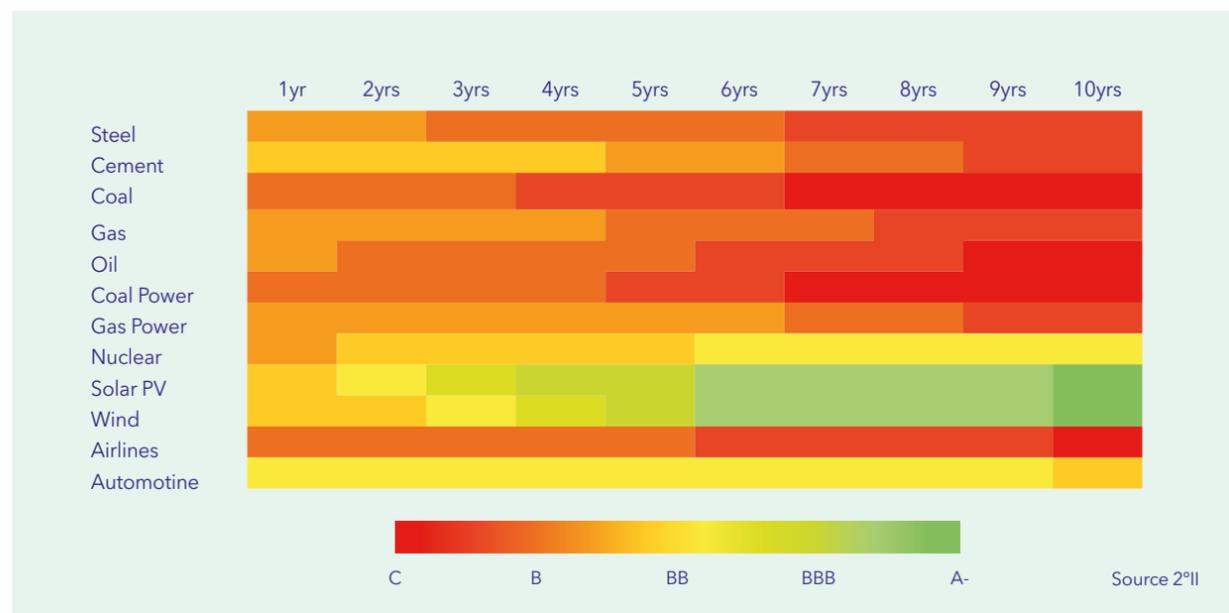
- IMPACT ON CORPORATE BOND VALUE** | under a “Too late, too sudden” transition scenario depending on their remaining time to maturity (%) as provided by 2°ii.

FIGURE 6



- IMPACT ON CORPORATE RATINGS** | key sectors, projecting the constant portfolio from 1 year to 10 years in the future, starting in 2025 as provided by 2°ii.

FIGURE 7



**3.1.2 SCOR PRELIMINARY ASSESSEMENT**

Assuming the portfolio is constant in the future is quite a strong hypothesis, but as there are many ways of aging a

portfolio, we have retained the constant assumption for the sake of simplicity. We apply the shock only for 2025, i.e. using the 1-year column average rating.

Transition risk	Total invested assets Q2 2019	Too late, too sudden year 1 (in EUR m)	Impact (in %)
Market value	EUR 19 bn		<1%
Average rating of the corporate bond bucket	A	A-	1 notch

**3.1.3 CONCLUSION**

Transition risks look manageable under the “Too late, too sudden” scenario and the potential impact on market value is far below the limit set by the Group for credit risk.

Principles for Responsible Investment (PRI) are working on an Inevitable Political Response scenario based on a bottom up approach and covering 2000 companies. It will be used to enhance this study as soon as it becomes available for equities and bonds.

**AREAS OF IMPROVEMENT**

The 2°ii scenario considers impacts at sector level. This does not allow for benefiting from a best in class strategy. The

## 4. CHALLENGING 2°II RESULTS ON TRANSITION RISK | THE DNB SCENARIOS

— **SCOR has also applied the scenario proposed by the Central Bank of the Netherlands.** This transition scenario is based on an increase of USD 100 in carbon pricing, with negative impacts on carbon-intensive sectors.

In 2019, the Central Bank of the Netherlands (DNB) released its scenario “An energy transition risk stress test for the financial system for the Netherlands”. SCOR Global Investments has applied it to SCOR’s invested assets to complement the preliminary results based on Storm Ahead.

Compared with Storm Ahead, this stress test only looks at transition risk and not at physical risk. It includes rate consequences of political responses to climate change, which Storm Ahead does not take into account. The DNB stress tests identify four scenarios that feature a combination of technological breakthroughs and policy stances (see section 2.2 for more details).

### 4.1. SETTING THE SCENE

The stress test is conducted by analyzing four severe but plausible energy transition scenarios that materialize within five years. Physical risks are not included. Figure 1 below shows the various steps of the approach.

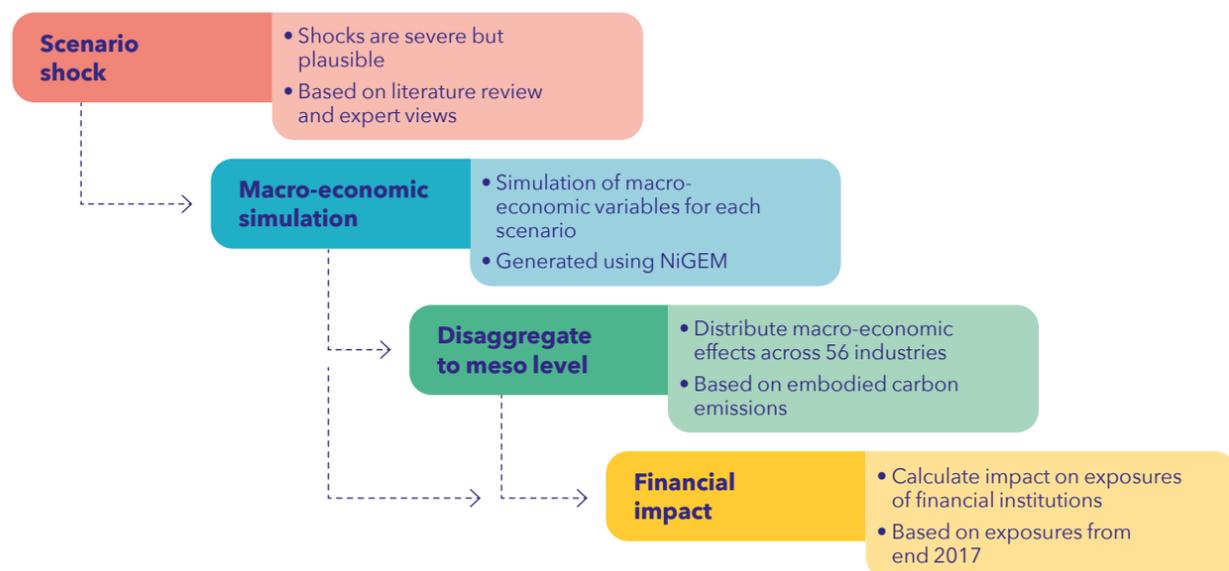
These stress tests propose four global scenarios in which the energy transition is disruptive, meaning that the transition creates short-run economic losses.

The economic losses are brought about by policy measures, technological breakthroughs, or a drop in consumer and investor confidence. Two factors emerge from the literature as the main drivers of energy transition risk:

- **the abrupt implementation of stringent policy measures** that aim to mitigate the adverse impact of climate change
- **technological breakthroughs** that lower CO<sub>2</sub> emissions but also disrupt parts of the economic system, through a process of creative destruction.

One additional scenario is proposed: the absence of both political response and technological disruption triggers a drop in the confidence of consumers, businesses and investors. (The probability that the stress test scenarios will materialize in practice is small, as they are designed to represent tail risks).

FIGURE 1

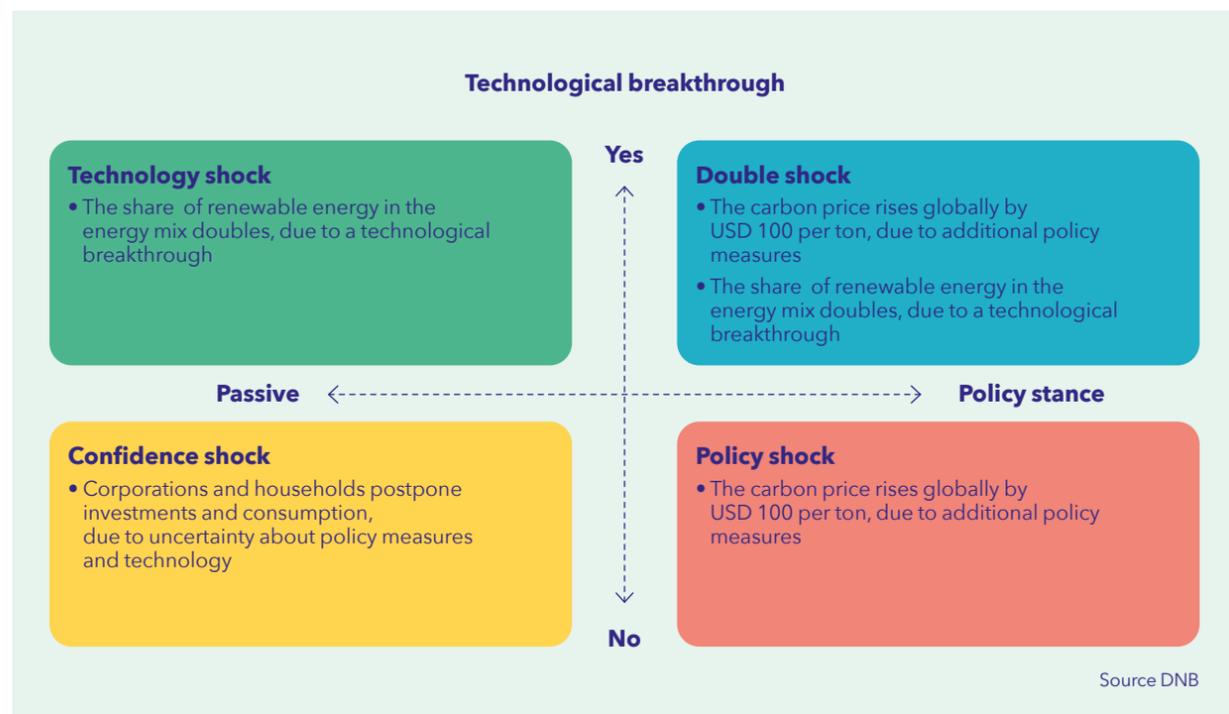


NiGEM, a multi-country macroeconomic model: Details are available at <https://nimodel.niesr.ac.uk>

Source DNB

## 4.2. FOUR SCENARIOS

FIGURE 2



Source DNB

### 4.2.1 THE POLICY SHOCK SCENARIO

In the policy shock scenario, a set of policies designed to reduce CO<sub>2</sub> emissions is abruptly implemented, leading to a large increase in the carbon price of USD 100 per ton of CO<sub>2</sub> emissions.

#### BOX 2.1 THE POLICY SHOCK SCENARIO AT A GLANCE (SOURCE DNB)

**Policy stance:** active  
**Technological breakthroughs:** no  
**What:** Sudden implementation of a set of policies that aim to reduce CO<sub>2</sub> emissions leading to an increase in the effective carbon price of USD 100 per ton.  
**Why:** Policy makers are pressured into taking abrupt, stringent measures against climate change, triggered by, for example, (i) a natural disaster, (ii) legal action holding policy makers accountable for climate change, or (iii) a strong reaction by policy makers in response to the realization that the time to act is running out.  
**How:** the carbon price is modelled as a shock on prices of coal, oil, and gas.

Higher costs lead to lower profitability, reducing investment and also causing lower consumption, which eventually leads to lower GDP.

The Central bank tightens the monetary policy stance, while higher inflation expectations lead to higher long-term interest rates.

### 4.2.2 THE TECHNOLOGY SHOCK SCENARIO

In the technology shock scenario, unanticipated technological breakthroughs allow the share of renewable energy in the energy mix to double in five years.

#### BOX 2.2 THE TECHNOLOGY SHOCK SCENARIO AT A GLANCE (SOURCE DNB)

**Policy stance:** passive  
**Technological breakthroughs:** yes  
**What:** Unanticipated technological breakthroughs allow the share of renewable energy in the energy mix to double in five years.  
**Why:** Investment in the R&D of renewable energy generation and storage is higher than ever, boosting the share of renewable energy in the energy mix and creating the potential for technological breakthroughs.  
**How:** Technological breakthroughs in the generation and storage of renewable energy are assumed to alter the economy's production function, making energy cheaper and less fossil-fuel-intensive. The new technology sparks a process of creative destruction whereby old, fossil-fuel-dependent technologies are gradually replaced by "clean" alternatives, thus resulting initially in capital stock write-offs.

### 4.2.3 THE DOUBLE SHOCK SCENARIO

In the double shock scenario, strong climate change mitigation policies are abruptly implemented, while simultaneous unanticipated technological breakthroughs allow the share of renewable energy in the energy mix to grow faster than expected (Policy shock + Technology shock)

#### BOX 2.3 THE DOUBLE SHOCK SCENARIO AT A GLANCE (SOURCE DNB)

**Policy stance:** Active  
**Technological breakthroughs:** yes  
**What:** Strong climate change mitigation policies are abruptly implemented while simultaneous unanticipated technological breakthroughs allow the share of renewable energy in the energy mix to grow faster than expected.  
**Why:** Climate change mitigation policies and progress in renewable energy technology turn out to be mutually reinforcing. In particular, policy measures that increase the cost of traditional energy technologies stimulate innovation, and/or innovations in energy technology inspire the implementation of policy measures.  
**How:** The carbon price increases by USD 100 per ton of CO<sub>2</sub> emissions and simultaneously technological breakthroughs in the generation and storage of renewable energy decrease the costs of energy production. The new technology sparks a process of creative destruction whereby old, fossil-fuel-dependent technologies are gradually replaced by "clean" alternatives, thus resulting initially in capital write-offs.

### 4.2.4 THE CONFIDENCE SHOCK SCENARIO

In the confidence shock scenario, uncertainty regarding government policies to combat climate change causes a sudden drop in the confidence of consumers, producers and investors.

#### BOX 2.4 THE CONFIDENCE SHOCK SCENARIO AT A GLANCE (SOURCE DNB)

**Policy stance:** passive  
**Technological breakthroughs:** no  
**What:** Uncertainty regarding government policies to combat climate change triggers a drop in the confidence of consumers, producers and investors.  
**Why:** The discrepancy between international ambitions to combat climate change and the actual progress to date is growing, increasing the risk of (i) abrupt and drastic policy interventions, (ii) slow technological development and (iii) physical climate risks.  
**How:** Consumers delay their purchases, businesses invest more cautiously and investors demand higher risk premiums.

### 4.3. TRANSITION VULNERABILITY FACTORS

#### 4.3.1 TRANSITION VULNERABILITY FACTORS

The transition to a low-carbon economy is likely to affect industries with high CO<sub>2</sub> emissions more than industries with low emissions. To capture this heterogeneity between industries,

a transition vulnerability factor is determined for each industry in the economy. The transition vulnerability factors vary by scenario to reflect the different risk factors at play, and allow us to translate the macroeconomic conditions in each scenario to industry-specific losses.

#### 4.3.2 THE EMBODIED CO<sub>2</sub> EMISSIONS



#### 4.3.3 CONSTRUCTING THE TRANSITION VULNERABILITY FACTORS

The method for constructing the transition vulnerability factors is derived from the Capital Asset Pricing Model (CAPM):

$$R = a + \beta * X$$

Where,  $a$  is the stock specific excess return,  $X$  is the excess market return,  $\beta$  is the transition vulnerability factor that is similar to the beta in CAPM that determines a stock specific return given a certain  $X$ , in this stress test it captures a relationship between a stock and its energy transition risk. The transition vulnerability factors are based on the embodied emissions of the final goods and services in each industry.

Vulnerability factors vary across scenarios:

- **Policy shock:** Industries that require more emissions will be more vulnerable to the carbon price increase. The transition vulnerability factors are calculated based on all embodied CO<sub>2</sub> emissions.
- **Technology shock:** Costs are higher for industries which have a more carbon-intensive production process (creative destruction). However, the technology shock scenario yields additional costs for industries that mine and process fossil fuels, because fossil fuels are assumed

- **Double shock:** shocks from Policy & Technology occur simultaneously. We therefore use the same transition vulnerability factors in both.
- **Confidence shock:** We assume that this general economic slowdown affects all industries equally. The transition vulnerability factor for every industry is equal to 1 in this scenario.

### 4.4. IMPACTS AND RESULTS BY INDUSTRY

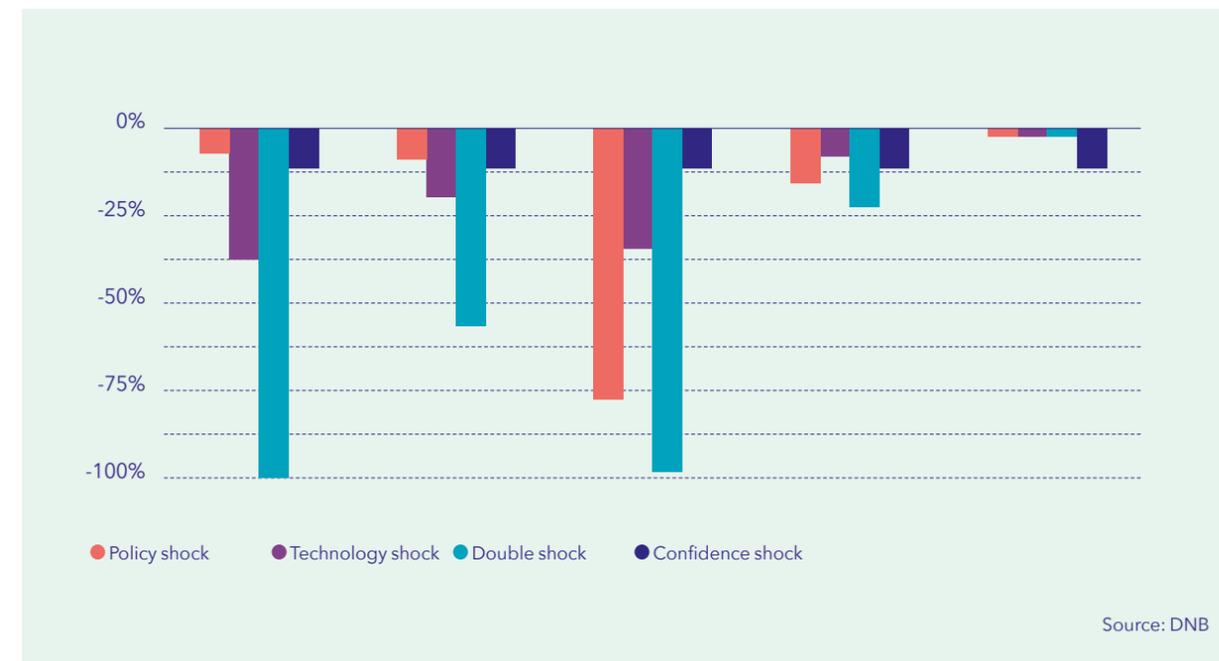
#### 4.4.1 IMPACT ON SHARE PRICES

##### ● SCENARIO ASSUMPTIONS

The transition vulnerability factors allow us to calculate equity returns by industry. The excess market return in each scenario is based on the NiGEM simulations. This factor can be disaggregated at industry level by multiplying it by each industry's transition vulnerability factor. Industries with low embodied CO<sub>2</sub> emissions, such as Telecommunications, are hit hardest in the confidence shock scenario because of the general economic slowdown. Limitations:

- **the scenarios only take scope 3 upstream into account.** Consequently, utilities are most impacted by policy shock. Air transportation has high scope 3 downstream emissions but limited upstream emissions, hence the low impact of any scenario

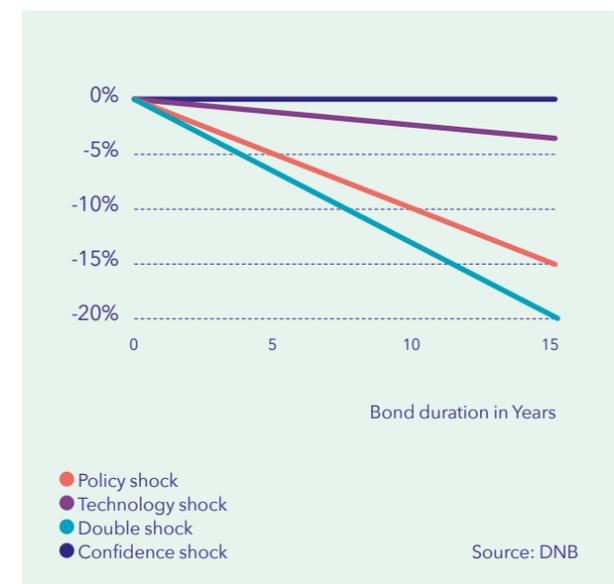
- **the scenarios are based on NACE codes,** which do not permit an analysis of all sectors. Equities in these sectors represent less than 1% of SCOR's invested assets. The impact of the shock is non-material.



#### 4.4.2 IMPACT ON BOND PRICES

Bond prices are affected by both risk-free interest rates and credit spreads.

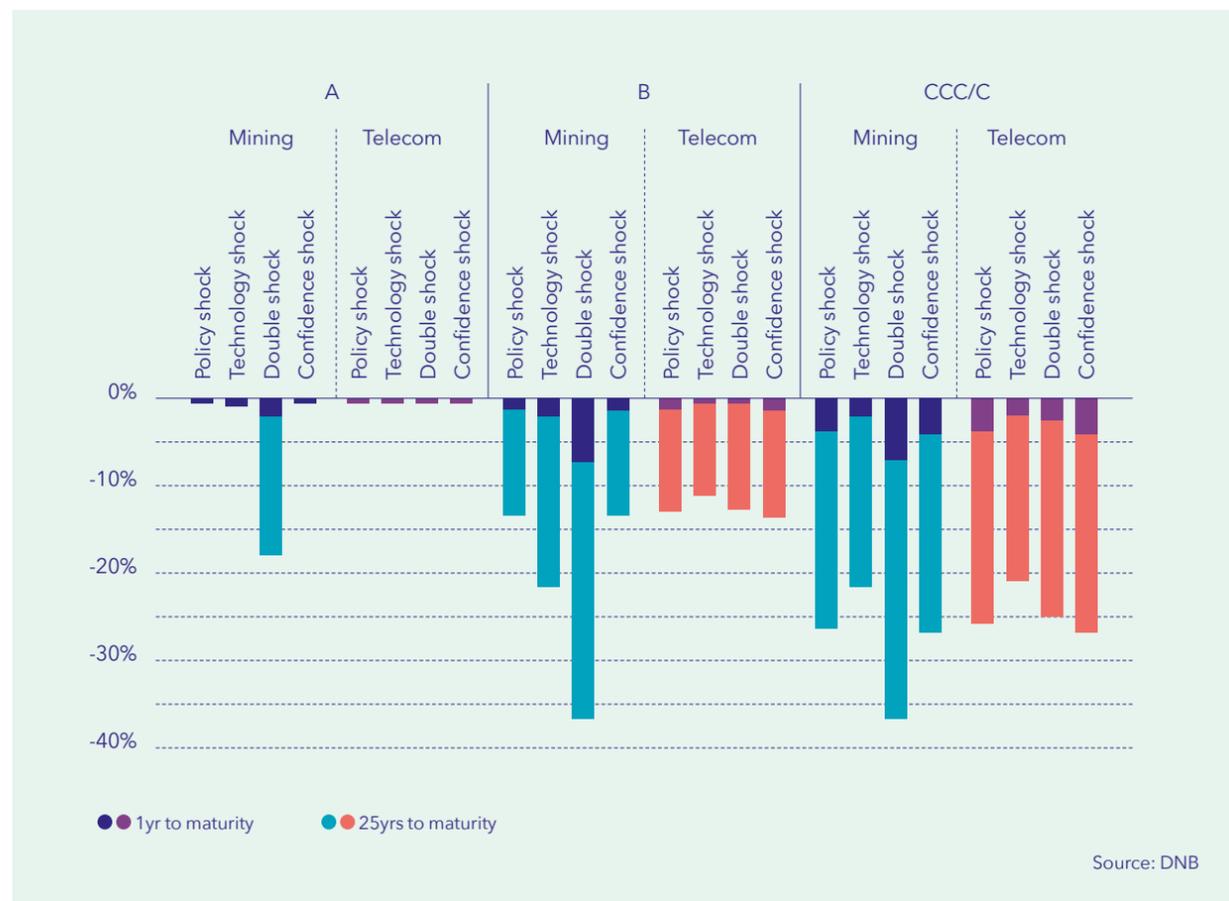
##### ● ASSUMPTIONS ON INTEREST RATES



In the stress test, this impact is the largest in the policy shock and double shock scenarios, with the price of a 5-year bond falling by 5 percent and 7 percent respectively. In the policy shock and double shock scenarios, Central banks tighten the monetary policy stance, while higher inflation expectations due to higher energy prices lead to higher long-term interest rates.

##### ● THE IMPACT OF RATES ON SCOR'S PORTFOLIO

We have used the projected changes in 10 year-government bond yields as a proxy for the change in the risk-free rates for all maturities. We assume a linear shift in the risk-free yield curve corresponding to the shift in the yields of 10-year government bonds. This impact is the largest in the policy shock and double shock scenarios. However, given SCOR's ALM policy, the shock is likely to be offset at least materially, if not completely, by a similar impact on liabilities.



**ASSUMPTIONS ON CREDIT SPREADS**

To make the calculation, we have adapted the corporate credit risk module from DNB’s top down stress test model for the Dutch banking sector (Daniëls et al. (2017)). This module calculates the probability of default for a bond based on changes in GDP (which we know from NiGEM) and equity returns (which we have calculated for each industry), taking into account the rating and remaining maturity of the bond.

**CREDIT SPREAD IMPACT ON SCOR’S PORTFOLIO**

The credit impact applies to less than 5% of SCOR’s corporate bonds invested in those sectors. The impact of the shock is far below the Group’s credit risk limit.

**4.5. CONCLUSIONS**

- The two main takeaways of this second analysis are:
    - **in terms of credit shocks**, the order of magnitude of the impact is comparable between the policy shock and Storm Ahead (2°ii “Too late, too sudden” scenario)
    - **interest rate shocks** are far more material but may be offset by applying the same shocks to liabilities, depending on the ALM mismatch
- In both analyses (DNB and Storm Ahead) the scope of industries is limited and does not allow for a full assessment of the credit risk.

**5. COMPARING THE TWO SETS OF SCENARIOS**

As stated several times in this report, scenario analysis is at its early stage. Such analysis is currently conducted to better understand potential behaviors of the portfolio under various scenarios and different time horizons. As assumptions are top down, the exercise does not allow for direct implementation in the investment strategy. The individual resilience of countries and companies drives the resilience of the entire

portfolio. SCOR aims to help finance a sustainable world and to support the transition to a low-carbon economy. This can only be achieved by selective investments in best-in-class companies. SCOR aims to be sector-neutral when implementing its sustainable investing strategy.

Scenario selection is key, and as transition and physical risks are impacted differently and move in opposite directions, scenarios for each risk are needed - a physical scenario (usually high level of warming), and a transition scenario (contained level of warming leading to strong pressure on companies operating in carbo-intensive sectors).

Scenario provider	2°ii		De Nederlandsche Bank
<b>Climate scenario</b>	Below 2° scenario (B2DS)	IPCC 8.5	
<b>Main assumptions</b>	Global warming is contained below 2°C		+USD 100 per ton of CO <sub>2</sub>
<b>Time horizon</b>	2025	2060 for chronic One-off for acute	
<b>Risk assessment</b>	Credit migration Quantification of credit deterioration based on sector breakdown	Levels of exposure	Quantification of credit deterioration based on sector breakdown
<b>Positive aspects</b>	Enables a better understanding of sectoral exposure to transition risks and opportunities	Worldwide map on sovereign and corporate bonds	Provides both credit spreads and rate impacts
<b>Limitations</b>	Translation of the shock into full macro-economic variables Top down approach which does not allow for best-in-class strategy	High level view of potential credit migration	Only addresses transition risk Migration of credit ratings not analyzed
<b>Next steps</b>	To be complemented by a bottom up approach to feed the strategic reflection on how to ensure better resilience		

**BEYOND RESILIENCE | PORTFOLIO ALIGNMENT WITH THE 2°C SCENARIO**

— SCOR has analyzed the alignment of its investment portfolio with the 2°C Scenario defined by the International Energy Agency. The 2° scenario was approved by the Paris Agreement signed during COP 21 in December 2015. This agreement aims to limit global warming to 2°C by the year 2100, compared with levels found in the pre-industrial era. Even though the IPCC’s latest report presents the major challenges involved in staying on track, this scenario remains, for now, the baseline scenario underpinning most of reporting standards.

The results are used to get a better view of the investment portfolio’s impact on the environment. “Global warming” is a forward-looking metric which is more relevant than carbon footprint. Considerable efforts have been made by consulting firms to enhance the robustness of calculation and develop more robust and reliable methodologies. However, existing methodologies are still very disparate, and the results are too volatile to set targets. The results are still subject to model changes, with major impacts on the outputs.

**IMPROVING RESILIENCE | INTEGRATING ESG CRITERIA**

— 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-oekom 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.

Based on data provided by ISS-oekom, SCOR rates 75% of its asset portfolio based on non-financial criteria. A line-by-line analysis is regularly performed ex-post. Issuers with the lowest ratings may be on a watchlist, and investments managers may be asked to provide 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.

**ESG RATINGS**

The ISS-oekom rating methodology is based on the analysis of environmental and social (“E” and “S”) factors, including governance criteria. 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. As expected, government bonds and corporate bonds are the most widely covered. As they represent the bulk of SCOR’s assets, the current assessment is acceptable. However, the Group seeks to increase its coverage by challenging data providers on a regular basis.

**GOVERNMENT BONDS**

For government securities, ISS-oekom assigns equal weighting to the two groups of E and S factors. The portfolio of government bonds (EUR 5.6 billion at December 31, 2019) is rated C on average and is broken down compared with 2018 as shown in the government bonds and assimilated chart above.

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 risk appetite.

**CORPORATE BONDS**

The methodology developed by ISS-oekom to rate private companies is also based on the two groups of E and S factors, but their weighting depends on the business sector involved. Analyses are based not only on financial and non-financial data provided by the companies but also on interviews with employees and external stakeholders. Corporate bonds rated by ISS-oekom amount EUR 8.4 billion at December 31, 2019, with an average ESG rating of C. A breakdown of the 2018 and 2019 ratings is shown in the Corporate bonds chart. Investments in D-rated bonds total less than EUR 12 million, down slightly from 2018, due to the combined effect of the reduction in portfolio positions and the improvement in certain ratings.

As explained previously in the transition risk section, ESG scores can also be used to fine-tune a sectorial analysis, providing an overview of how an issuer is performing within the context of its activities and its challenges, mainly for the environmental pillar.

**Government Bonds and assimilated**  
(in EUR millions)



**Corporate Bonds**  
(in EUR millions)



**ENGAGING TO MITIGATE PORTFOLIO RISKS**

— Drawing on the Glass-Lewis proxy voting recommendations, SCOR exercised all the voting rights on the shares directly held in its portfolio in accordance with its commitments. All the recommendations presented by the proxy were followed and were in line with SCOR’s sustainable investing policy.



CHAPTER 4

# METRICS AND TARGETS

## CARBON FOOTPRINT

— SCOR has selected ISS to measure the carbon footprint of its portfolio. Carbon footprint is only a point-in-time, backward-looking indicator. It provides little information on the approach or commitment of issuers with regard to climate risk, or on how SCOR can efficiently manage its assets with regard to risks related to greenhouse gas emissions. However, the data enables SCOR to track the performance of companies vis à vis their commitments and to better understand if and how they deliver their commitments to align with the Paris Agreement. The methodologies currently available are far from consistent. This is especially true for bond portfolios, with different ways of measuring the three scopes and even inconsistency in the coverage ratio in the disclosures.

As a reminder, greenhouse gas emissions are broken down within 3 categories:

- **scope 1:** direct production of greenhouse gas emissions through the consumption of fossil fuels
- **scope 2:** indirect production of greenhouse gas emissions through the consumption of energy that in turn consumes fossil fuels
- **scope 3:** other forms of greenhouse gas production related to the entity's activity.

ISS provides the three scopes for government bonds but only scope 1 and scope 2 for other asset classes. The results are not fully consistent.

Carbon intensity is defined as the ratio of total CO<sub>2</sub> emissions to GDP for states and to turnover for companies. This data reflects the impact of a state or a company on the environment. For a portfolio, we also refer to carbon intensity per million euros invested when measuring the impact of a portfolio on the environment. The carbon intensity per million euros invested amounts to 308 tons at the end of 2019, up 8% compared to the end of 2018. The calculation covers 86% of the Group's portfolio at the end of 2019.

Carbon footprint results calculated for positions at the end of 2019 based on issuer data from 2018 and comparatives for 2018 are summarized in the table below.

Another measure is the ratio of total greenhouse gas emissions to the amount of investments made by SCOR (tons of CO<sub>2</sub> equivalent per EUR million invested). The analysis can then be broadened to include real estate debt and infrastruc-

ture debt, thereby covering EUR 17.6 billion of portfolio assets. This measure provides information on the Group's investment strategy as it is mainly driven by investment managers' selection of securities. The results are volatile from one year to the next, due to both the quality and coverage of the information provided by the companies and to adjustments to the calculation models. SCOR considers that it is still too early to set a quantified "decarbonization" target for its asset portfolio. The Group has decided to join the Net Zero Asset Owner Alliance, to mutualize resources and promote a common understanding of decarbonization paths and methodologies. SCOR remains at the forefront of climate innovation with this initiative, and intends to deliver its commitment to carbon neutrality on investments by 2050.

## GLOBAL WARMING

— Carbone 4 has been selected to measure the portfolio's alignment with the 2°C scenario advocated in the Paris Agreement. The analysis covers government bonds, corporate bonds and equities, representing roughly 77% of SCOR's total portfolio.

The data was stable between 3.7 °C and 3.8 °C between 2016 and 2018 and has decreased to 3.2° in 2019, mainly due to a model change by Carbone 4, demonstrating the current limited robustness of the metric when it comes to taking investment decisions. The main contributors are government bonds in emerging countries where SCOR allocates capital to its core reinsurance business, at the expense of market risks, as extensively explained in the risk management section of this report. It should be noted, however, that part of the Group's activity in Asia consists in protecting local populations against extreme weather events on the P&C side, and in making medical coverage more accessible on the Life side. Given the Group's growth ambitions in Asia, and the local regulatory constraints, the path to lowering carbon footprint will depend on the public initiatives adopted in these countries.

SCOR is actively pursuing its analysis of the factors driving the portfolio temperature, to identify the best ways to set a realistic path within an appropriate time frame. Being part of the Net Zero Asset Owner Alliance will also enable it to define a robust decarbonation path to align its investment portfolios with the Paris Agreement.

	Scopes 1,2,3	Scopes 1 and 2			
	Government bonds	Corporate bonds	Equities and convertible bonds	Covered bonds	Corporate loans
Tons of co2 equivalent to GDP (government bonds) or turnover ratio	495	116	146	3	99
Change compared to 2016	+2%	-30%	+1%	-61%	-48%
Change compared to 2017	+5%	-31%	+15%	-11%	-3%
Change compared to 2018	-4%	-29%	-32%	-24%	-52%

## GLOSSARY

**ALM**

**(Asset and Liability Management)**  
The practice of managing risks that arise due to mismatches between assets and liabilities, based on risk appetite and profitability targets.

**BREEAM CERTIFICATION**

**(Building Research Establishment Environmental Assessment Method)**  
British certification, a method for measuring the environmental performance of buildings. BREEAM was first developed by the BRE (Building Research Establishment), whose mission is to improve construction through research.

**CATASTROPHE BONDS**

Investors purchase catastrophe bonds to cover certain risks (or groups of risks) and to receive income, as with other types of bonds. If one or more of the risks covered should occur, the investor may lose part or all of the income and invested capital.

**CSR**

**(Corporate Social Responsibility)**  
Recognition of the need for each company to include social and environmental criteria in its strategy, and to improve its practices with regard to these criteria. CSR covers both corporate responsibility and reporting obligations.

**ERM**

**(Enterprise Risk Management)**  
Approach which includes risk as an integral part of a company's strategy. ERM combines all methodologies in order to identify, manage and account for risks which may have an impact on the definition of the company's strategy and the achievement of its objectives.

**ESG**

**(Environmental, Social and Governance)**

Criteria for measuring environmental risks, the management of human capital, and corporate organization. The development of these criteria aims to promote best practices for the respect of the planet and of people.

**HQE CERTIFICATION**

**(High Environmental Quality)**

French certification awarded to buildings which meet 14 criteria for construction, water management, energy use, comfort, and the capacity to provide a healthful environment through high-quality water and air.

**ILS**

**(Insurance-Linked Securities)**

Insurance products covering natural catastrophe risks.

**LAGGARDS, UNDERPERFORMERS, PERFORMERS AND LEADERS**

Non-financial ratings agencies divide issuers into several categories, according to their level of maturity and commitment to ESG criteria. The category may reflect all ESG criteria, or it may refer to a company's position with regard to a single criterion for climate change. Laggards and underperformers are below standard and do not meet objectives, while performers and leaders apply the highest standards.

**LEED CERTIFICATION**

**(Leadership in Energy and Environmental Design)**

American certification awarded to buildings that meet high environmental quality standards. LEED is the American equivalent of HQE and BREEAM certifications.

**NDCs**

**(Nationally Determined Contributions)**

Launched by the United Nations, the Nationally Determined Contributions publicly define how each country plans under the Paris Agreement to contribute to the international effort to ensure a sustainable future for everyone, by limiting global warming since the pre-industrial era to well below 2°C, preferably at 1.5°C.

**PSI**

**(Principles For Sustainable Insurance)**

These principles for sustainable insurance were drawn up by UNEP FI, the United Nations Environment Programme Finance Initiative. They provide a framework for the insurance industry to integrate environmental, social and governance (ESG) criteria into its decision-making.

**RI**

**(Responsible Investment)**

Responsible investment or socially responsible investment (SRI) consists in incorporating Environmental, Social and Governance (ESG) criteria into asset management.

**SBT**

**(Science-Based Targets)**

Launched in 2015, the SBT initiative aims to encourage 500 companies to define targets for lowering greenhouse gas emissions in line with the 2°C target.

**SDGs**

**(Sustainable Development Goals)**

The SDGs comprise the 17 goals that the United Nations have set for 2030, including eradicating poverty, protecting the planet and ensuring prosperity for all. These objectives supersede the Millennium Development Goals set for the 2000-2016 period.

**TEEC**

**(Energy And Ecological Transition For The Climate)**

Created in September 2015 by the French Ministry of the Environment, Ecology and Marine Affairs, this certification is awarded to funds which finance the green economy through investments having a positive environmental impact.

**UNPRI**

**(United Nations Principles For Responsible Investment)**

Initiative launched in 2006 by investors in partnership with the United Nations Environment Programme Finance Initiative and the United Nations Global Compact. The UNPRI promotes six principles for responsible investments

## SCOR AROUND THE WORLD

**EMEA\*:**

Belgium,  
France,  
Germany,  
Kenya,  
Ireland,  
Italy,  
Netherlands,  
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

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commitments  
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