## 2023

## Climate and Biodiversity Report



## Table of contents

Editorial ...................................................... 03
Executive summary ...................................... 04
Context......................................................... 06
A. AXA Group's general approach to the
consideration of environmental, social and
governance criteria ............................... 08
B. Internal resources deployed
by AXA Group ............................................. 10
C. Approach to the consideration of
environmental, social and governance
criteria at the level of AXA Group's
governance........................................ 11
D. AXA Group's engagement strategy
with issuers and management companies,
and its implementation ............................ 13
F. AXA Group's strategy for alignment withthe objectives of the Paris Agreement.19
G. AXA Group's strategy for alignmentwith long-term biodiversity goals andrelated targets31
H. AXA Group's approach to integrating environmental, social and governance criteria into risk management ..... 34
I. List of financial products referred to underSections 8 and 9 of the Sustainable FinanceDisclosure Regulation (SFDR)40
Appendix. ..... 42
Independent Limited Assurance Report (PwC) ..... 46
Disclaimer ..... 48

## Report structure

Since 2015, AXA has published an annual Climate Report. ${ }^{1}$ AXA's 2023 Climate and Biodiversity Report (the "Report") describes AXA's responsible investment and insurance initiatives taking into account two different frameworks:

- The French mandatory disclosure requirements of Article 29 of Law No. 20191147 of November 8, 2019 ("Article 29"), ${ }^{2}$ which considers environmental, as well as social and governance (ESG) matters, and amends and supplements the Article $173^{3}$ framework referred to in previous years' reports. Since becoming a licensed reinsurer of life and property \& casualty business in 2022, AXA S.A. is subject to the disclosure requirements set out in the French regulations implementing Article 29 on a standalone basis;
- The voluntary disclosure recommendations of the Task Force on Climate-Related Financial Disclosures.

The Report follows the French Prudential Supervision and Resolution Authority's (ACPR's) Instruction $n^{\circ}$ 2022-I-24 (and all relevant annexes) with respect to the form and content of documents to be published annually by insurance organizations and supplementary occupational pension organizations subject to the provisions of Article 29 (the "Instruction").

Certain sections of the Report are also included in AXA's 2022 Universal Registration Document ("AXA’s 2022 Universal Registration Document" or the "Annual Report"). ${ }^{4}$

## Preliminary information

In the Report, unless provided otherwise, (i) the "Company," "AXA" and "AXA S.A." refer to AXA, a société anonyme (a French public limited company) organized under the laws of France, which is the publicly traded parent Company of the AXA Group, (ii) "AXA Group," the "Group" and "we" refer to

AXA S.A. together with its direct and indirect consolidated subsidiaries, and (iii) "ESG" and "sustainability," used in the context of describing criteria, risks or objectives, refer to environmental, social and governance matters.

Where reference is made to a website in the Report, the contents of such website do not form part of the Report. No information, document or material from the website of the Company (www.axa.com) or any other source shall form part of the Report, unless such information, document or material is expressly incorporated by reference into the Report.

AXA's external auditors (PwC) have issued an independent limited assurance report, on certain information in this Report, which can be found at the end of this Report.

[^0]
# Keeping the pace of the net-zero transition: all stakeholders have a role to play 

## Positive signs of transition

Over the last twelve months, there have been positive signs from governments in several key markets, with announcements of concrete measures to support the transition to less carbon-intensive energy sources, particularly wind and solar. In the U.S., the Inflation Reduction Act signed into law in August 2022 is the largest piece of federal legislation ever to address climate change. The largest part of the roughly $\$ 400$ billion package will be allocated to initiatives in the energy sector, including electricity generation and transmission. Such investments in energy infrastructure will be essential to ensure energy supply and consumption are compatible with broader decarbonization objectives.
Closer to home in the EU, measures have been announced to respond to increased competition in order to attract investment and finance new technologies. Initiatives such as the REPowerEU Plan, designed to reduce Europe's dependence on Russian fossil fuels and accelerate the green transition, and the newly reformed EU Emissions Trading System, the world's largest carbon market, will increase pressure on decarbonization efforts in the real economy.
According to the International Energy Agency, global investment in renewables overtook investment in oil \& gas in 2022. China accounts for half of all new solar and wind capacity installation and is growing faster than any other market. Despite these positive signs, investments in emerging and developing economies remain insufficient. Ongoing dialogues between governments, multilateral agencies and the private sector must find appropriate and agile ways to ensure the most vulnerable are not left behind. Investments will also need to support strong adaptation and resilience agendas. Overall, the actions we have observed over the last twelve months and the subsequent reaction from the market affirm the necessary and impactful role of governments to set the pace and direction of the energy transition. Future actions will need to continue to address the demand side of energy consumption.

## Growing global momentum for Nature

 Significant progress has also been made to support action to reduce nature loss. The Montreal-Kunming Global Biodiversity Framework adopted at the COP15 in December 2022 has created strong foundations regarding a global architecture for action on nature, complementing the Paris Agreement for climate action.In addition to government-led initiatives, there are also positive signs from the market that novel financial instruments can help increase capital flows. Innovation from investors and insurers can support initiatives that protect both livelihoods and nature conservation. Transactions can take different forms, whether it be through direct investments, blended finance instruments, and public-private partnerships.

## Market-led initiatives continue to contribute to global standards

 Much has happened since the launch of the G20's Task Force on Climate-related Financial Disclosures (TCFD) in 2015. The TCFD's recommendations have since become an essential reference globally for climate disclosures. In similar form, the Taskforce on Nature-related Financial Disclosures (TNFD) has made progress towards delivering a market-led approach to integrating nature into the lexicon. The finalization of the TNFD framework in late 2023 will hopefully support greater awareness of the challenges related to nature loss.While such market-led initiatives have set the scene, policy makers are now setting the tone. The arrival of the EU Corporate Sustainability Reporting Directive will have implications for all companies doing business in the EU. Across the Atlantic, future rules from the U.S. SEC also have the potential to further mainstream climate-related disclosures in the world's largest market economy. The finalization of ISSB standards in 2023 will also support standards for extra-financial information. As we move from voluntary to regulatory standards, it is incumbent on all market participants to participate constructively in dialogue and share practices to help create a level playing field.


Thomas Buberl AXA Chief Executive Officer

## AXA continues to report on progress

 This Climate and Biodiversity Report has been prepared in the spirit of increased transparency and to respond to evolving expectations and needs from different stakeholders. In this Report, we wish to balance expectations related to the standardization of data with relevant, decision-useful information for our investors. Ultimately, through our disclosures, we aim to facilitate dialogue with all our stakeholders on climate and biodiversityrelated risks and opportunities. We continue to report strong progress against our green investment target, reaching $€ 25.1$ billion at the end of 2022, and we are on track to achieve $€ 26$ billion in green investments by the end of 2023. We continue to explore forward-looking metrics as methodologies simultaneously evolve. While there are limitations to such methodologies, according to our analysis the Implied Temperature Rise of AXA Group's Corporate bonds and equities sits at $2.5^{\circ} \mathrm{C}$ at the end of 2022. We are also pleased to share information in this Report about AXA Group's new intermediate objectives for investment and insurance activities to 2030.This report also contains the first biodiversity footprint analysis. AXA continues to work with partners to strengthen these tools to support ongoing integration of nature-related financial disclosures in the coming years. We will continue to support the TNFD to help build understanding and consensus on tools available to corporates and investors to support future actions including target setting.

## Looking ahead

Considering the positive steps we have seen from governments in several markets over the last twelve months, we have reason to be optimistic. Over the longer term, stable operating environments and leadership from all actors will be necessary for ongoing decarbonization efforts. Voluntary climate action from corporate and financial institutions will continue to play a role, when accompanied by appropriate transparency on targets and progress. As an insurer and investor who aims to support clients exposed to climate-related risks and opportunities, we will continue to take a responsible, long-term view, work with others to define tools to be in a better position to understand the risks, and act upon them and prevent them when we can.

## Executive summary

## Reduce the carbon footprint of AXA Group General Account assets by 2025

$$
\text { - } 35 \%
$$

Achieved between 2019 and 2022 ${ }^{1}$

- 20 \%

Target for 2025 vs. 2019

AXA Group portfolio's warming potential ${ }^{\circ} \mathrm{C} \mathbf{v}$

Government bonds

FY 2022


AXA Group portfolio's
$2.5^{\circ} \mathrm{C}$ Benchmark

AXA Group portfolio's
implied temperature rise ${ }^{\circ}{ }^{\circ} \mathrm{C}$ -
V
Corporate bonds \& equities
FY 2022
$2.5^{\circ} \mathrm{C}{ }^{\circ} 2.7^{\circ} \mathrm{C}$
aXA Group Benchmark

AXA Group's fossil fuel exposure $\boldsymbol{\nabla}$

|  | Assets Under Management (General Account assets) | \% of Assets Under Management (General Accoun assets) |
| :---: | :---: | :---: |
| Coal |  |  |
| Overall | € 3.7 B n © | $0.8 \%$ - |
| oil \& gas |  | 0.8\% |
| Unconventional oil \& gas | € 0.7 Bn ® | $0.1 \%$ ® |

## Maintain AXA Group's leadership as a responsible company

## 91 / 100

CSA-DJSI ${ }^{3}$

Reach at least $€ 1.7 \mathrm{Bn}$ in premiums on green business products and services by $2023^{4} \nabla$
€ 1.7 B n
2021 2022

Reach $€ 26 B n$ in green investments by 2023 v
€ 25 . 1 B n
2022
€ 26 B n
Target for 2023

Train AXA employees ${ }^{5}$ in climate issues $\nabla$

| $87 \%$ | $\mathbf{1 0 0 \%}$ |
| :---: | :---: |
| 2022 | Target for 2023 |

AXA Group's investments in forests
€ 932 m
FY 2022
€ 1 B n Target

[^1]

## Context

## AXA's key climate $\&$ biodiversity commitments in context


-The U.S. rejoins
the Paris
Agreement
-U.S.-led Leaders
Summit on
Climate
-Glasgow Financial
Alliance for
Net Zero (GFANZ)
launch

- COP26 (Glasgow)
- UN Biodiversity

Conference (CBD
COP 15) (Part 1)
-TNFD launch - IPBES-IPCC

Report on
Biodiversity and
Climate Change
-COP 15
Kunming-
Montreal
Framework

- U.S. Inflation Reduction Act
- SEC rules on climate-related disclosures for investors - ISSB launch - IPCC AR6 report
- Summit for a New Global Financing Pact, Paris
- Net-zero macro-
targets: carbon sinks must offset residual carbon emissions
$2021 \quad 2022 \quad 2023 \quad 2024 \quad 2025 \quad 2030 \quad 2035 \quad 2040 \quad 2050$

Investment carbon footprint

Underwriting carbon footprint

Green Business \& Inclusive Protection target
-AXA S.A.'s
inaugural Green
Bond issuance
(€1 billion)

- Green Investment target increased to €26 billion by 2023
- Ecosystem

Protection,
Deforestation and
Natural World
Heritage Sites
policy

- Oil and gas
exclusions to
support the energy
transition
- €1.5 billion forestry
investment
objective
-Green Business
\& Inclusive
Protection insurance targets
- New
investment and
underwriting commitments


# A. AXA Group's general approach to the consideration of environmental, social and governance criteria 

## General approach to the consideration of ESG criteria

As one of the largest global insurers, AXA's purpose is to act for human progress by protecting what matters. AXA Group's overall sustainability strategy aims to fulfill two main goals: act as a leading force against climate change, and expand AXA's health and protection businesses as an inclusive insurer.

In 2021, the Group started a new strategic cycle, with the Driving Progress 2023 strategic plan. Recognizing the fundamental importance of ESG for the Group's business and its customers, the Management Committee of AXA S.A. dedicated a pillar of this strategic plan to the Group's (including AXA S.A.'s) ESG ambition: "Sustain our climate leadership position." All lines of business are therefore concerned by this priority and as an investor, insurer and global corporate actor, the Group is well positioned to promote its ESG ambitions.

To make AXA's purpose tangible for all its teams, the Group launched the AXA For Progress Index in April 2021. This index is designed to measure and track progress in rolling out AXA's purpose across all AXA activities. It is a set of seven commitments translated into targets and shared across the Group to further embed sustainable development in its activities: as an investor, insurer and exemplary company.

Please refer to Section 4.1 of AXA's 2022 Universal Registration Document ("A new stage in AXA Group's sustainable development strategy") for more details.


## Investment approach

AXA S.A.'s investment portfolio follows the Group's responsible investment strategy. The Group defines responsible investment (RI) as the integration of ESG considerations into investment processes, including ownership practices. Thus, the Group's objective is to align investments with its sustainability agenda of protecting people over the long term and creating stronger and more sustainable societies. This agenda is in line with its interests
as a global insurer and investor, as well as the interests of its policy holders, shareholders, and other stakeholders. To this end, the Group has developed a global RI strategy covering its General Account assets and its unit-linked offering, where relevant.

Please refer to Section 4.3 of AXA's 2022 Universal Registration Document ("Climate and biodiversity matters as an investor") for the year ended 31 December 2022 for more details.

## Communication with external stakeholders

AXA Group is a long-term global investor with a duty to act in the best interests of its policyholders, shareholders and other stakeholders. AXA Group has a comprehensive Responsible Investment Policy that is communicated and available to all stakeholders on the AXA Group website. The Responsible

Investment Policy sets out the criteria AXA Group takes into account in responsible investment and how AXA Group's thirdparty asset managers, principally AXA Investment Managers (AXA IM), are required to follow the Responsible Investment Policy when managing assets on behalf of AXA Group.

# Consideration of ESG criteria in the allocation of new management mandates 

AXA Group's asset management activities are principally carried out by AXA IM on behalf of the Group. In relation to investments into funds managed by non-Group asset managers, AXA Group endeavours to select non-Group asset managers that agree to comply with the restrictions and sensitive investments guidelines
of the Responsible Investment Policy. Additionally, AXA Group encourages delegated non-Group asset managers to integrate further ESG considerations into their investment decision-making as well as to be signatories of the UN Principles for Responsible Investment.

## ESG-related outreach and engagement

AXA Group, including AXA S.A., participates in several climate, biodiversity and ESG initiatives. These include the following initiatives, detailed in the Appendix to the Report: the Task Force on Climate-Related Financial Disclosures (TCFD), the Task Force on Nature related Financial Disclosures (TNFD), the Glasgow Financial Alliance for Net Zero (GFANZ) via the Net-Zero Asset Owner Alliance (NZAOA), and the Net Zero Asset Managers Initiative (NZAMI), the Ocean Risk and Resilience Action Alliance (ORRAA), the Sustainable Blue Economy Finance Initiative, the Climate Finance Leadership Initiative (CFLI), the Alliance of CEO Climate Leaders, and the Insurance Development Forum (IDF). ${ }^{1}$

Biodiversity-related pledges supported by AXA Group include: Act4Nature, the Business For Nature coalition, the Finance for

Biodiversity Foundation, and the Financial Sector Commitment on Eliminating Agricultural Commodity-Driven Deforestation at COP26 (the Finance Sector Deforestation Action initiative). AXA Group also supported the joint statement on the creation of a Global Blue Carbon Coalition at the One Ocean Summit, held in Brest in February 2022.

Over the years, AXA Group has lent support to some of the largest investor- and insurer-led coalitions, including: UN PRI, the UNEP FI Principle for Sustainable Insurance (PSI), the UN Global Compact, the CDP, ORSE, EpE and Institut de la finance durable.

AXA's engagement with the companies it invests in, either directly or via AXA IM, are explained in Chapter D.

[^2]
## B. Internal resources deployed by AXA Group

# Internal means dedicated to the consideration of ESG criteria in the investment strategy 

As set out in Chapter A, the Management Committee of AXA S.A. has dedicated a pillar of the current strategic plan to the Group's (including AXA S.A.'s) ESG ambition: "Sustain our Climate leadership position." All lines of business are therefore concerned by this priority, and work relating to ESG matters is integrated on a day-to-day basis into many of the Group's functions.

The Group Sustainability team supports AXA's long-term strategy by leveraging the Group's expertise and network. In addition to the Group Sustainability team, more than 30 entities of the AXA Group have local sustainability teams comprised of 1 to 6 full-time equivalents. Among its responsibilities, the Group Sustainability team coordinates the strategy relating to the integration of ESG criteria in the Group's investment and underwriting strategies with other Group-level functions and concerned entities.

In addition, the Group Sustainability team works with other Group-level functions, including Group Risk Management, Group Legal, and Group Investment, as well as other senior management, on sustainability matters relevant to AXA Group, and participates in governance bodies described in Chapter C .

This team reports to the Chief Communications, Brand and Sustainability Officer, who is a member of the Management Committee.

The Group Investment team has a team dedicated to responsible investment matters. In coordination with the Group Sustainability and Group Credit teams, the responsible investment team aims at implementing the overall ESG strategy within the investment processes, in line with the Responsible Investment Policy.

The Group's asset management activities are carried out by AXA's investment manager, AXA Investment Managers (AXA IM) on behalf of the Group, alongside other activities AXA IM undertakes for third party clients. AXA IM dedicates human and technical resources to the consideration of ESG criteria on behalf of its clients, including AXA Group.

AXA Group uses external data providers, including in the analysis of its Responsible Investment Policy and investment and insurance guidelines. Please refer to Chapter F of this report for information on data providers used for climate metrics.

## Actions implemented to strengthen internal capacity

AXA Group (including AXA S.A.) has committed to training all its employees on climate change by the end of 2023. To achieve this, the Group launched the AXA Climate Academy near the end of 2021. This is a learning program designed to give employees better awareness and understanding of the science behind climate change. It covers why climate change is a growing concern for companies and their stakeholders, the main types of climate change risks, and how climate change impacts the whole value chain for insurance and investments.

The program is available in 11 languages and includes a series of bite-sized learning videos and activities. The final module is a guide to the concrete actions that teams can take collectively and individually to combat climate change.

The bulk of the AXA Climate Academy rollout happened in 2022 and, as of December 2022, $87 \%^{1}$ of AXA employees were certified (including sales representatives).

Please refer to Section 4.2 of AXA's 2022 Universal Registration Document ("Employer Responsibility - AXA Climate Academy") for more details.


# C. Approach to the consideration of environmental, social and governance criteria at the level of AXA Group's governance 

## Governance bodies dedicated to the consideration of ESG criteria

AXA Group has put in place a dedicated governance framework for the Group (including AXA S.A.) to develop and implement its sustainability strategy. AXA's Board of Directors and its Committees play a major role in this framework by reviewing sustainability matters for the Group, including the Group's sustainability strategy and disclosures.

In 2022, given the increasing number of strategic and regulatory sustainability matters, the AXA Board of Directors undertook a comprehensive review of its governance on sustainability matters to clarify the duties of each Board Committee and ensure regular inclusion of sustainability matters on Board and Committee agendas. Consequently, the AXA Board of Directors decided to update its Terms of Reference, notably to rename the Compensation \& Governance Committee as the Compensation, Governance \& Sustainability Committee to underline its leading role on sustainability matters and specifying each Committee's duties on these subjects.

The Board of Directors is assisted by three Committees: the Audit Committee, the Finance \& Risk Committee and the Compensation, Governance \& Sustainability Committee. The Board of Directors' (i) Compensation, Governance \& Sustainability Committee reviews, at least once a year, the Group's sustainability strategy as well as material sustainabilityrelated commitments disclosed publicly and reports to the Board of Directors in this regard, (ii) the Audit Committee monitors the process for the preparation and control of the Group's extrafinancial information and reviews the Group's extra-financial performance statement and AXA S.A.'s Climate \& Biodiversity Report, and (iii) the Finance \& Risk Committee reviews the Group's risk appetite framework for extra-financial exposures, as well as its responsible investment policy.

At the executive level, the Group's Management Committee has a role in overseeing material sustainability-related initiatives across the Group. The Group Management Committee is supported by the Role in Society Steering Committee (RISSC). This Committee is charged with reviewing material sustainability-related issues faced by the Group as well as monitoring material sustainabilityrelated initiatives across the Group. The RISSC meets monthly and is co-chaired by the Group Chief Risk Officer, Group Chief Investment Officer and Group Chief Communication, Brand and Sustainability Officer. The RISSC reports back to the Group Management Committee on a regular basis concerning material
sustainability-related decisions taken or to be taken and issues considered on which Group Management Committee's guidance and/or decisions are needed.

The Audit Risk and Compliance Committee (ARCC) is charged with reviewing all material audit, risk and compliance issues, faced by the Group. The ARCC meets monthly and is chaired by the Group General Counsel. It reports back to the Group Management Committee on a regular basis concerning material sustainabilityrelated risks faced by the Group and mandatory sustainabilityrelated reporting.

As described in Chapter A ("Investment approach"), the Group has developed a global RI strategy covering its General Account assets and its unit-linked offering, where relevant. The implementation of this strategy is overseen by a specific RI governance, the Group's Responsible Investment Committee (RIC), which is chaired by the Group's Chief Investment Officer and includes representatives from AXA's asset managers, Sustainable Development, Risk Management and Communications teams. Ultimately, the RIC reports to the Group Investment Committee, chaired by the Group Chief Financial Officer, and sensitive and/or strategic climate finance-related decisions debated in the RIC are approved by the RISSC. The Group's RI strategy is supported by the RI Center of Expertise, a cross-functional working group which includes representatives from AXA Group's local investment teams and sustainability network.

Insurance-related ESG risks and opportunities also benefit from specific governance, notably the Group Underwriting Committee (GUC), which defines underwriting restrictions. Similar to investments, sensitive and/or strategic Climate-related decisions debated in the GUC are ultimately approved by the RISSC. In addition, a dedicated team within Group Risk Management analyzes emerging risks, which often relate to long-term ESG issues, and monitors their potential impact. The Group Emerging Risk Steering Board issues recommendations to adapt AXA's business offer and underwriting policies.

Please refer to Section 4.1 of AXA's 2022 Universal Registration Document ("AXA Group's Sustainability Strategy - Sustainability governance \& Stakeholder dialogue") for more details.

# Compensation policies concerning the integration of sustainability risks 

To engage employees in its purpose and maintain its leadership position in sustainability, AXA Group keeps building environmental, social, and governance (ESG) criteria into its Total Rewards compensation policy.

The Group has reinforced the importance of sustainability within its culture and values through short-term and long-term incentives, which also apply to AXA S.A.:

- The Global Leadership Network (top 250 executives) are assessed on qualitative climate and diversity objectives, which are included in their annual target letters;
- A quantitative climate objective is included in the AXA Group performance grid (a reduction in the carbon footprint of the Group's General Account assets, weighting for 15\%), impacting around 2,000 employees' variable remuneration;
- Long-term incentives (LTI) include ESG criteria covering a population of around 6,000 employees every year, (i) in performance shares plans, sustainability criteria including a reduction in the carbon emissions from the Group's operations, AXA's ranking in the S\&P Global Corporate

Sustainability Assessment (CSA) and increase of the proportion of women among the Group's senior executives, weighting for $30 \%$; and (ii) in restricted shares plans, sustainability criteria linked to AXA ranking in the S\&P Global CSA. This LTI approach positions AXA as one of the leaders on ESG integration in compensation.

AXA Group's ambition is also to increase the weight of sustainability criteria in profit sharing agreements (prevalent in certain European countries, impacting over 20,000 employees every year) to $30 \%$ by 2023. At the same time, the Group will ensure that employees are empowered to personally take tangible inclusive action. In 2022, around 60\% of France-based AXA entities had profit-sharing schemes with at least $20 \%$ of performance conditions being related to ESG.

Please refer to Section 4.1 of AXA's 2022 Universal Registration Document ("AXA Group's Sustainability Strategy - A new stage in AXA Group's sustainable development strategy") for more details.

## Integration of ESG criteria into Board governance

The Board of Directors is assisted by three Committees: the Audit Committee, the Finance \& Risk Committee and the Compensation, Governance \& Sustainability Committee. To ensure a more thorough monitoring of both risks and AXA's sustainability strategy, in 2022, the Board Committees were reorganized as follows: the Finance Committee became the Finance \& Risk Committee, and the Compensation \& Governance Committee became the Compensation, Governance \& Sustainability Committee.

To ensure well-balanced governance, the Board's Terms of Reference specifically provide, in addition to French legal requirements, that independent directors play a major role in all Board Committees, as follows:

- Each Committee is chaired by an independent director;
- All members of the Audit Committee are independent directors;
- All members of the Compensation, Governance \& Sustainability Committee are independent directors, except for the director representing the employees who sits on the Committee pursuant to AFEP-MEDEF recommendations; and
- None of AXA Group's executive officers may be members of its Committees.

Each Committee issues opinions, proposals or recommendations to the Board of Directors on matters within the scope of its responsibilities, with each Committee Chairman reporting to the Board at the following Board meeting. However, under French law, Board Committees do not have any formal decision-making power and are advisory only.

The Committees may request external consulting expertise if necessary. They may also invite external participants to attend their meetings. All Committees are composed of members with expertise in the relevant areas, and their composition is regularly reviewed by the Board of Directors.

Since April 27, 2023, the Compensation, Governance \& Sustainability Committee has been comprised of five members: Mr. Guillaume Faury (Chairman), Ms. Bettina Cramm, Ms. Rachel Duan, Ms. Marie-France Tschudin and Mr. André François-Poncet who are independent directors except for Ms. Bettina Cramm, who is the director representing employees.

The main functions of the Compensation, Governance \& Sustainability Committee are:

- To issue proposals to the Board of Directors on recommendations to the Shareholders' Meeting for the appointment and the reappointment of members of the Board of Directors, the composition of the Board Committees, and the appointment of the Chairman, the Senior Independent Director, the members of the Executive Management and the persons who effectively run the Company as defined under the Solvency II regulations;
- To issue proposals to the Board of Directors on: the compensation of the Chairman of the Board of Directors and the Chief Executive Officer and the preparation of their annual assessments, the Chief Executive Officer's Group and individual performance conditions (financial and extrafinancial) with the associated targets used to determine annual variable compensation; the amount of the directors' compensation (directors' fees) for the members of the Board of Directors to be submitted to the Shareholders' Meeting, the number of Company performance shares to be granted to the Chief Executive Officer and the other members of the Management Committee, as well as related performance conditions (financial and extra-financial);
- To formulate an opinion on the Chief Executive Officer's proposals concerning: the principles and conditions for determining the compensation of AXA Group's main executives, the overall annual allocation of Company performance/restricted shares to employees of the AXA Group;
- To review, at least annually, the Group's sustainability strategy as well as any material sustainability commitments (and updates thereto) to be disclosed publicly;
- To review certain Group human resources matters, including the annual review of the Company's policy with respect to professional equality and equal pay;
- To review certain governance matters relating to the operation and organization of the Board of Directors and the organization of its periodic self-assessment; and
- To review the AXA Compliance \& Ethics Code.


# D. AXA Group's engagement strategy with issuers and management companies, and its implementation 

Presentation of the engagement strategy

As a shareholder and/or bondholder, AXA Group engages with the management of the companies in which it invests. Such engagement is either done by AXA Group's Credit Research Team directly or by AXA IM according to AXA IM's own engagement policy when AXA IM is appointed as AXA's manager.

AXA Group's Credit Research Team conducts regular outreach with the top management of the issuers in which AXA Group has its largest investment exposure. These meetings offer an opportunity to review and discuss issuers' strategy, including on ESG, non-publicly.

As part of AXA Group's NZAOA commitments, the AXA Group Credit Research Team has also extended its engagement on Net Zero trajectories with issuers that have the largest greenhouse gases footprint in AXA Group's portfolio.

Separately, AXA IM, as AXA's manager, engages directly with investee companies, and as part of a coalition of investors, with companies in key sectors. AXA IM has a thematic approach to engagement and applies two different strategies to engagement: "engagement with objectives," and "sustainability dialogue."
"Engagement with objectives" is based on thematic research carried out by AXA IM Responsible Investment experts, who then lead the engagement with the support of the AXA IM investment team with an explicit goal to achieve change within a company.

## Presentation of the voting policy

AXA IM exercises voting rights attached to shares or depositary receipts for shares for fund or mandates managed on behalf of AXA Group. In doing so, AXA IM applies the principles set out in its Corporate Governance \& Voting Policy ("Voting Policy") taking due consideration of each company's specificities and context. Voting decisions may be taken by the AXA IM Corporate Governance team, the AXA IM Corporate Governance Committee, as well as any relevant representatives from AXA S.A. or AXA Group. An overview of this policy is set out below.

AXA IM's Voting Policy is based on three key principles:

1. No abstention: AXA IM aims to vote against or for a resolution and abstain in rare cases, guided by exceptional circumstances.
2. Support for management: AXA IM aims to support the companies in which it invests, and by extension, their boards,

"Sustainability dialogue" focuses on companies where the continued enhancement of sustainability practices aims to help support its robust, long-term profitability. This is often led by portfolio managers or credit analysts. Where weaknesses are identified "sustainability dialogue" may lead to using escalation techniques in certain cases or prompt a more formal "engagement with objectives" approach.
by voting in favor of proposals unless they are inconsistent with AXA IM's longer-term expectations.
3. Engagement: In the event of a resolution that is contrary to AXA IM's voting policy, standards of good governance or the protection of the long-term interests of shareholders, AXA IM seeks to engage with the company before voting against a resolution, on a best-efforts basis regarding a number of matters including the severity of the ESG risk the subject of the resolution and the significance of AXA IM's holdings.

AXA IM makes use of the voting information services of Institutional Shareholder Services and Proxinvest. The research from third party providers is used to support AXA IM teams' knowledge of companies and resolutions at forthcoming general meetings.


## Assessment of the engagement strategy

As between AXA Group and AXA IM, engagement and voting activities are carried out on a consolidated basis for the Group. For this reason, separate data for AXA S.A. is not available and the following data concerns all AXA Group funds managed by AXA IM.

In 2022, AXA IM conducted 218 "engagements with objectives" with 159 companies in which AXA's Group funds are invested and managed by AXA IM on behalf of the Group.

Climate change was the main focus of discussion, with $24 \%$ of engagement cases covering these matters and $23 \%$ of engagement covering governance topics (Corporate Governance and Business Ethics). However, only $5 \%$ of these meetings were solely focused on governance issues, as effective governance policies and practices may have an impact on the management of environmental or social issues within a company. Therefore, governance is often addressed when engaging with a company on any environmental or social topic.

In 2022, $32 \%$ of climate change engagement was linked to corporate governance matters. $49 \%$ of corporate governance issues were addressed in meetings about employee relations issues. These results were driven by an increase in diversity, equality and inclusion topics requiring the development of dedicated policies, top management objectives and incentives, and appropriate board oversight.

Ecosystem protection was another key engagement theme addressed by AXA IM on behalf of the Group through engagement on biodiversity loss and deforestation with companies in the food products, packaging materials and electric utilities sectors. AXA IM also carried out engagements in the technology sector where the focus was on companies exposed to responsible technology issues.

Engagement per ESG theme v
(for engagement with objectives)


AXA IM prioritizes direct dialogue with companies, while also participating in collaborative initiatives, which represent $19 \%$ of all engagement. Joining efforts with other investors can improve the efficiency of the engagement process and the materiality of results, on the condition that shareholders share clear goals and expected outcomes.

## Assessment of the voting policy

In 2022, AXA IM voted on 52,823 proposals at 4,628 meetings, of companies in which AXA's Group funds are invested and managed by AXA IM on behalf of the Group, representing $97 \%$ of the meetings at which it could vote.

The opposition rate stands at 14\% with at least one vote against cast in $60 \%$ of the meetings voted. The highest level of opposition is for board issues ( $42 \%$ of votes against), followed by executive remuneration ( $26 \%$ of votes against).

Breakdown of votes by topic v


Votes against management by topic v


Dividend payout,
General Meeting Formalities, Anti-takeover Provisions <1\%

Related Party Transactions 1\%
Business Reorganisation/M\&A 2\%
ESG Opportunities \& Risks 3\%

Capital Issues 7\%

Articles of Association 7\%

Accounts \& Auditors 11\%

Remuneration 26\%

## Decisions taken on investment strategy

Please refer to Chapter F of this report for information about decisions taken on investment strategy.

## Underwriting client and broker engagement

In addition to engagement activities undertaken as an investor, AXA Group entities also engage with insurance clients and brokers on ESG matters.

In 2021, AXA XL France began engaging with clients on their climate strategies and transition plans to achieve net-zero emissions. On a quarterly basis, a series of "Climate Catchup" interviews were held with multinationals across France. These interviews enabled AXA XL France to share its climate strategy with clients and help AXA XL France determine how it could better support clients in their transitions.

In 2022, in connection with the AXA Group Energy policy, ${ }^{1}$ a specific engagement initiative was performed with oil and gas companies directly or through their brokers to assess their transition plans. AXA engaged with companies on the following factors and key performance indicators, including past, present, and future aspirations:

- Low-carbon asset strategy (including \% of dedicated CAPEX)
- Climate governance and policy
- Net-zero commitments
- CDP score
- Emissions management based on:
- Greenhouse gas intensity
- Scope 1 and 2 absolute emissions,
- Scope 3 emissions
- Methane emissions
- Gas flaring
- Emissions reduction targets

AXA also looks at additional factors in the oil and gas industry, besides climate strategy and consecutive transition plans: pollution prevention plans and oil spill response certification.

Broker engagement: a specific broker engagement initiative was launched by AXA XL's Environmental team in France, working with insurance broker Marsh to assess and mitigate biodiversityrelated risks. AXA XL France's clients are asked to complete environmental risk prevention audits with measurable criteria. Clients with industrial sites are encouraged to carry out initial biodiversity diagnostics and incorporate the results into their risk management plans. To support clients' efforts to be responsible, AXA XL France offers lower client deductibles for environmental risk policies.

## E. The EU taxonomy and fossil fuels

## Taxonomy eligibility of investments

The following provides information with respect to the requirements of Regulation (EU) 2020/852 dated June 18, 2020, on the establishment of a framework to facilitate sustainable investment (the "EU Taxonomy Regulation" ${ }^{1}$ ) and the Commission Delegated Regulation supplementing the EU Taxonomy Regulation ${ }^{2}$ ).

Taxonomy v

|  | Value | Percentage <br> V |
| :---: | :---: | :---: |
| Total investments (including cash) (€ millions) | 542,577 | 100\% |
|  |  | \% of total investment |
| Exposures to central governments, central banks and supranational issuers | 162,546 | 30\% |
| Covered assets | 380,031 | 70\% |
|  |  | \% of covered |
| Of which: |  | assets |
| Derivatives | (689) | 0\% |
| Exposures to undertakings not subject to NFRD (articles 19a and 29a of Directive 2013/34/EU) | 104,318 | 27\% |
| Exposures to Taxonomy-eligible activities (investment properties and mortgage loans) | 64,535 | 17\% |
| Exposures to non Taxonomy-eligible activities | 211,867 | 56\% |
| Of which cash and other loans | 36,549 | 10\% |
| Of which exposures for which Taxonomy analysis could not be assessed | 175,318 | 46\% |

For the transition period ended on December 31, 2023, financial entities are only required to disclose information related to the Taxonomy-eligibility of their activities. To this end, AXA S.A. expects to be in a position to provide its share of exposure to activities that meet the technical screening criteria defined in the delegated acts related to Articles 10 to 15 of the Taxonomy Regulation in accordance with Commission Delegated Regulation
(EU) 2021/2178 (i.e., the Taxonomy-alignment of AXA S.A.'s activities), in its Climate \& Biodiversity Report for the next financial reporting year.

Please refer to Section 4.7 of AXA's 2022 Universal Registration Document ("Transversal information") for more details on Taxonomy disclosures.

# Share of exposure to undertakings active in the fossil fuel industry 

Please refer to Chapter F of this report for information on AXA Group's share of exposure to undertakings active in the fossil fuel industry.

[^3]
## F. AXA Group's strategy for alignment with the objectives of the Paris Agreement

## Indicators, targets and quantification of results to align with the Paris Agreement objectives

AXA has tested different approaches to analyze the "climate dynamics" of its investments since 2016. AXA continues to engage with external data providers (MSCI, Beyond Ratings, S\&P Trucost), and industry groups, while also using internal "NatCat" risk assessments to cover its Real Assets, to refine these methodologies (notably via the Net-Zero Asset Owner Alliance and the TCFD).

Climate metrics overview table ${ }^{3}$

| Metric Type |  | Asset Class | Provider | What is measured? |
| :---: | :---: | :---: | :---: | :---: |
| Warming Potential |  | Sovereign Debt | BEYOND $\gg$ RATINGS 5 | Contribution to global warming, expressed in ${ }^{\circ} \mathrm{C}$ |
| Implied Temperature Rise |  | Corporate Debt \& Equity | MSCI | Contribution to global warming, expressed in ${ }^{\circ} \mathrm{C}$ |
| Climate Value-at-Risk | Physical Risks Costs | Corporate Debt \& Equity | MSCl | Impact of extreme weather events (asset damages and business interruption), expressed in \% of Enterprise Value (EV) |
|  | Policy Risks Costs |  |  | Impact of $\mathrm{CO}_{2}$ emissions reduction, expressed in \% of Enterprise Value (EV) |
|  | Technological Opportunities |  |  | Revenues related to technological opportunities (green revenues \& patents), expressed in \% of Enterprise Value (EV) |
| Physical Risk |  | Real Assets | Group Risk Management | Building-level impacts of extreme weather events, expressed in $€ \mathrm{~m}$ |
| Carbon Footprint |  | Sovereign Debt | (4) the world bank | Carbon footprint of AXA's portfolios expressed in T.eq.CO $/ \$ \mathrm{~m}$ of revenues (corporates) or GDP (sovereigns) |
|  |  | Corporate Debt \& Equity | Trucost ESG Analysis S\&P Global |  |
|  |  | Real Estate | Investment Managers | EV-based carbon footprint of AXA's portfolio, expressed in T.eq.CO $\mathrm{CO}_{2}$ EV |
|  |  | Corporate Debt \& Equity | Trucost ESG Analysis $\overline{\text { S\&P Global }}$ | €m (normalized per Enterprise Value). Absolute carbon emissions pro-rated per AXA's holdings, expressed in T.eq. $\mathrm{CO}_{2}$ |
| Biodiversity Footprint |  | Corporate Debt \& Equity | Iceberg Data Lab | Corporate biodiversity footprint, expressed in km².MSA/ $€ m$ |
| Fossil Fuel Exposure |  | Corporate Debt \& Equity | urgewald $\nabla 1$ Investment | Exposure to Coal, Oil \& Gas sector and unconventionnal Oil \& Gas, expressed in $€ B n$ and in \% of the total General Account assets |

Upon joining the Net-Zero Asset Owner Alliance (NZAOA) in 2019, the AXA Group committed to transitioning its investment portfolio to net zero greenhouse gas emissions by 2050 and establishing an investment-related intermediate target every five years. Together with NZAOA peers, AXA supported the Alliance's TargetSetting Protocol which lays out the minimum requirements for intermediate targets in terms of ambition and asset classes. This was published in October 2020.

In December 2020, the Group ${ }^{1}$ announced a commitment to reduce the carbon footprint of its General Account assets by 20\% between 2019 and 2025, ${ }^{2}$ using the NZAOA's preferred approach based on enterprise value (EV), which allows for improved comparability between asset classes. This -20\% target is in line with the climate scenarios used for the first version of NZAOA's Target-Setting Protocol and are compatible with $+1.5^{\circ} \mathrm{C}$ pathways.

At the end of 2022, the carbon intensity per enterprise value of AXA S.A.'s balance sheet was $30 \mathrm{tCO}_{2} \mathrm{e} / \mathrm{EV} \mathrm{m} €$, and AXA Group's was $43 \mathrm{tCO}_{2} \mathrm{e} / \mathrm{EV} \mathrm{m} €$.

At the AXA Group level, the carbon intensity per enterprise value fell $-35 \%$ between 2019 and 2022, and -9\% in 2022 alone. This annual reduction was driven mainly by management actions, particularly on the listed corporate debt portfolio and highemitting sectors such as energy and utilities. These positive efforts were partially offset by (i) an increase in greenhouse gas emissions following the economic rebound after the Covid-19 pandemic and by (ii) the evolution of financial markets throughout 2022, particularly affecting the Group's listed equity portfolio. This is reflected in the detailed table below.

## $\mathrm{CO}_{2}$ intensity of AXA Group's investments $\mathbf{v}$

|  | December 2021 | December 2022 |
| :---: | :---: | :---: |
| Total $\mathrm{CO}_{2}$ intensity <br> (in tons of $\mathrm{CO}_{2}$ equivalent/€ million EV) | 47 | () 43 |

## $\mathrm{CO}_{2}$ intensity of AXA's investments per asset class

| IG listed corporate debt | 55 | 48 |
| :---: | :---: | :---: |
| Listed equities | 45 | 64 |
| Real estate | 7 | 6 |

$\mathbf{C O} \mathbf{O}_{2}$ intensity of AXA's investments per sector

| Basic Materials | 241 | 275 |
| :---: | :---: | :---: |
| Communications | 15 | 17 |
| Consumer cyclicals | 32 | 34 |
| Consumer non-cyclicals | 22 | 22 |
| Energy | 358 | 333 |
| Financial | 1 | 2 |
| Industrial | 100 | 132 |
| Technology | 5 | 7 |
| Utilities | 283 | 221 |
| Others | 139 | 329 |
| Real Estate | 7 | 6 |

$\mathrm{CO}_{2}$ intensity of AXA's investments per geography

| Americas | 51 | 43 |
| :---: | :---: | :---: |
| Asia | 132 | 135 |
| Europe | 37 | 33 |

[^4]Meeting this goal will not only require new lower-carbon investments but progress by the companies already in AXA Group's investment portfolio, which it plans to encourage by providing them with continued support for shifting their business model to low-carbon energy sources.

As it engages with them throughout the year, the Group (and/ or AXA IM, as AXA's manager, including AXA S.A.) encourages companies in its investment portfolios to set increasingly precise targets and use measurable indicators. The effectiveness of the Group's policy will also depend on its ability to help companies transition to new solutions and innovative financial products, such as sustainability-linked bonds.

The Group remains focused on its intermediate objective, $-20 \%$ carbon intensity of its General Account assets by 2025, by pursuing a combination of:

- Pertinent investment decisions;
- An ongoing increase in AXA holdings in companies demonstrating credible net-zero targets; and
- Engagement with companies that have lagging climate strategies.


## New intermediate targets

## Investments

The AXA Group is committed to transitioning its investment portfolio to net-zero greenhouse gas emissions by 2050, consistent with a maximum temperature rise of $1.5^{\circ} \mathrm{C}$ above preindustrial levels by 2100 and taking into account the Intergovernmental Panel on Climate Change (IPCC) transition pathways. The Group has established new intermediate targets to reduce the carbon footprint of its General Account assets by $50 \%$ by 2030 (using the baseline year 2019). The scope of assets included within the target are listed corporate equities and debt and real estate. The carbon intensity of the assets will be
measured using the carbon intensity normalized by Enterprise Value.

Additionally, within its investment decision framework, the AXA Group will reinforce its engagement with listed corporates contributing the most to its portfolio's carbon footprint.

Further information on these targets, the methodologies used to set and report on the targets as well as the assumptions, risks and variables that may impact AXA's ability to meet the targets is available on the AXA website at axa.com.

## Insurance

The AXA Group is committed to transitioning its insurance and reinsurance underwriting portfolios to net-zero greenhouse gas emissions by 2050, consistent with a maximum temperature rise of $1.5^{\circ} \mathrm{C}$ above pre-industrial levels by 2100 . The Group has established intermediate targets for the most material commercial and retail motor portfolios of AXA:

- A reduction in the carbon intensity ( $1 \mathrm{AE}^{3} /$ vehicle) of the personal motor portfolio in selected geographies by $20 \%$ by 2030, using the baseline year 2019;
- A reduction in the absolute carbon emissions $\left(\mathrm{IAE}^{3}\right)$ of $A X A$ 's largest commercial insurance clients by $30 \%$ by 2030 , using the baseline year 2021;
- A reduction in the carbon intensity $\left(\mathrm{IAE}^{3} / G W P^{4}\right)$ of all other corporate clients within AXA's largest markets by $20 \%$ by 2030, using the baseline year 2021.

These transitional targets are supported by the Group's engagement and transition targets which have been set for 2026. Further information on these targets, the methodologies used to set and report on the targets as well as the assumptions, risks and variables that may impact AXA's ability to meet the targets is available on the AXA website at axa.com.

## $\mathrm{CO}_{2}$ intensity of AXA Group's investments v



Sources: Trucost S\&P, Beyond Ratings, AXA IM.

[^5]
## Carbon footprint: revenue approach

In addition to calculating the carbon intensity per enterprise value to respond to a range of external stakeholders' expectations, the Group also calculates the carbon footprint of its investments normalized per revenue and in absolute terms. The end-2022 analysis spans AXA Group's equitiy, corporate and sovereign debt investments.

| $\mathrm{CO}_{2}$ intensity of AXA's investments v |  |  |
| :---: | :---: | :---: |
| $\mathrm{CO}_{2}$ intensity (in tons of $\mathrm{CO}_{2}$ equivalent/\$ million revenues or GDP) | $\begin{aligned} & \text { Dec. } \\ & 2021 \end{aligned}$ | $\begin{gathered} \text { Dec. } \\ 2022 \end{gathered}$ |
| AXA S.A. | 120 | (1) 120 |
| AXA Group | 163 | (1) 147 |

Between 2014 and 2022, the carbon footprint of AXA Group's investments (equities, corporate and sovereign debt), calculated on a normalized per revenue basis, has fallen sharply by $48 \%$. Looking at a narrower scope (corporate and equity investments), the carbon footprint fell $57 \%$ between 2014 and 2022. For the period from 2019 to 2022 the reduction is $-32 \%$, which is aligned with what has been observed during the same period calculated by the carbon intensity normalized by EV.

Below is the breakdown of the carbon footprint of the Group's investments per asset class, per sector and per geography:
$\mathrm{CO}_{2}$ intensity of AXA Group's investments v

|  | $\begin{gathered} \text { Dec. } \\ 2021 \\ v \end{gathered}$ | $\begin{gathered} \text { Dec. } \\ 2022 \\ \quad \end{gathered}$ |
| :---: | :---: | :---: |
| Total $\mathrm{CO}_{2}$ intensity (tons of $\mathrm{CO}_{2}$ equivalent/\$ million revenues or GDP) | 163 | (1)147 |

## $\mathrm{CO}_{2}$ intensity of AXA's investments per asset class

| Corporate bonds | 179 | 166 |
| :---: | :---: | :---: |
| Equities | 160 | 142 |
| Sovereign debt | 155 | 135 |

$\mathrm{CO}_{2}$ intensity of AXA's investments per sector

| Basic materials | 593 | 482 |
| :---: | :---: | :---: |
| Communications | 42 | 43 |
| Consumer cyclicals | 100 | 92 |
| Consumer non-cyclicals | 130 | 158 |
| Energy | 579 | 561 |
| Financial | 34 | 20 |
| Government | 153 | 139 |
| Industrial | 281 | 287 |
| Technology | 44 | 46 |
| Utilities | 884 | 913 |
| Others | 286 | 37 |

$\mathrm{CO}_{2}$ intensity of AXA's investments per geography

| Americas | 212 | 180 |
| :---: | :---: | :---: |
| Asia | 258 | 279 |
| Europe | 135 | 114 |
| Other | 65 | 77 |

## Carbon footprint of AXA Group's General Account portfolios

AXA Group also publishes the absolute carbon emissions of its General Account portfolios (corporate debt, equities and real estate): which at the end of 2022 was 5.0 million t.eq. $\mathrm{CO}_{2}$, significantly lower than at end-2021 ( 7.0 million t.eq. $\mathrm{CO}_{2}$ ).
$\mathrm{CO}_{2}$ footprint of AXA Group's investments v

|  | $\begin{gathered} \text { Dec. } \\ 2021 \\ v \end{gathered}$ | $\begin{gathered} \text { Dec. } \\ 2022 \\ v \end{gathered}$ |
| :---: | :---: | :---: |
| Total $\mathrm{CO}_{2}$ footprint (tons of $\mathrm{CO}_{2}$ equivalent) | 6,996,315 | $4,990,842$ |

## $\mathrm{CO}_{2}$ footprint of AXA's investments per asset class

| IG-listed corporate debt | 5,916,073 | 4,113,649 |
| :---: | :---: | :---: |
| Listed equities | 947,117 | 759,105 |
| Real estate | 133,124 | 118,087 |

## $\mathbf{C O}_{2}$ footprint of AXA's investments per sector

| Basic materials | 987,177 | 825,929 |
| :---: | :---: | :---: |
| Communications | 154,149 | 130,774 |
| Consumer cyclicals | 244,724 | 204,263 |
| Consumer non-cyclicals | 482,212 | 359,521 |
| Energy | 1,433,083 | 819,375 |
| Financial | 70,244 | 81,799 |
| Industrial | 993,946 | 902,716 |
| Technology | 32,305 | 33,081 |
| Utilities | 2,375,812 | 1,468,919 |
| Others | 89,539 | 46,377 |
| Real Estate | 133,124 | 118,087 |

## $\mathbf{C O} \mathbf{2}_{\mathbf{2}}$ footprint of AXA's investments per geography

| Americas | 2,453,391 | 1,717,752 |
| :---: | :---: | :---: |
| Asia | 1,244,138 | 937,391 |
| Europe | 3,154,139 | 2,210,375 |
| Other | 144,647 | 125,324 |

## Carbon footprint: AXA Group's own operations absolute emissions

The emissions of AXA Group's General Account portfolios far exceed AXA's direct emissions from its energy consumption (buildings), car fleets, business travel and IT activities (112,728 t.eq. $\mathrm{CO}_{2}$ in 2022).

|  | $2019$ | $2020$ | $2021$ | $2022$ |
| :---: | :---: | :---: | :---: | :---: |
| Total CO footprint (tons of $\mathrm{CO}_{2}$ equivalent) | 216,536 | 110,017 | 84,945 | (1) 112,728 |

*Energy, car fleets, business travel and IT
With respect to AXA's own operations, greenhouse gas emissions related to energy consumption, car fleets, business travel and IT decreased by $-48 \%$ between 2019 and 2022 to 112,728 t.eq. $\mathrm{CO}_{2}$ at the end of 2022, well below the 2022 target of 185,267 t.eq. $\mathrm{CO}_{2}$ which had been set to achieve a $20 \%$ reduction target between 2019 and 2025. However, after two years of substantially reduced greenhouse gas emissions due to the lockdowns and
travel restrictions in the context of the Covid-19 pandemic, the reopening of offices and the resumption of business travel led to a sharp increase in emissions in 2022 compared to 2021 (+33\%), which nevertheless remained below pre-pandemic levels. In $2022,39 \%$ of the Group's greenhouse gas emissions were related to energy consumption, $24 \%$ to IT, $21 \%$ to business travel (air and rail), and $16 \%$ to AXA Group's vehicle fleets.

## "Implied Temperature Rise" model applied to corporate equity and debt

Between 2018 and 2022, AXA used MSCl's Warming Potential model, which assesses how a company's projected greenhouse gas emissions ${ }^{1}$ align with global temperature targets for 2100 for corporate equities and debt.

In 2022, $\mathrm{MSCl}^{2}$ replaced the Warming Potential metric with an Implied Temperature Rise (ITR) model. The ITR model considers:

- The remaining carbon budget assuming global warming is to be kept well below $+2^{\circ} \mathrm{C}$ by 2100 ; and
- How much greenhouse gas a company can emit (across Scopes 1, 2 and 3) to stay within the limits.

At a portfolio level, the sum of a financed budget overshoot is compared to financed carbon budgets for portfolio holdings. Using the Transient Climate Response to cumulative carbon Emissions (TCRE) factor, the total overshoot is converted to a degree of temperature rise.

## Implied Temperature Rise: $\mathbf{2 0 2 2}$ AXA Corporate equity and debt results

## Implied Temperature Rise v

Asset class
2021
2022
V
V
V

## Corporate debt

| AXA S.A. | $+2.2{ }^{\circ} \mathrm{C}$ | $+2.2{ }^{\circ} \mathrm{C}$ |
| :---: | :---: | :---: |
| AXA Group | $+2.6^{\circ} \mathrm{C}$ | $+2.4{ }^{\circ} \mathrm{C}$ |
| Benchmark* | $+3.2{ }^{\circ} \mathrm{C}$ | $+2.6^{\circ} \mathrm{C}$ |


| Equity |  |  |
| :---: | :---: | :---: |
| AXA S.A. | $+2.2{ }^{\circ} \mathrm{C}$ | $+3.0^{\circ} \mathrm{C}$ |
| AXA Group | $+2.6^{\circ} \mathrm{C}$ | $+2.8{ }^{\circ} \mathrm{C}$ |
| Benchmark* | $+3.1^{\circ} \mathrm{C}$ | $+3.0^{\circ} \mathrm{C}$ |

Corporate debt \& equity

| AXA S.A. | $+2.2^{\circ} \mathrm{C}$ | ( $)+2.2{ }^{\circ} \mathrm{C}$ |
| :---: | :---: | :---: |
| AXA Group | $+2.6{ }^{\circ} \mathrm{C}$ | (v) $+2.5^{\circ} \mathrm{C}$ |
| Benchmark* | $+3.2{ }^{\circ} \mathrm{C}$ | $+2.7^{\circ} \mathrm{C}$ |

Source: MSCI/AXA.
*Equity: MSCI World AC
Corporate debt: ICE BofAML Global Broad Market Corporate

In 2022, the implied temperature rise of corporate equity and debt investments was as follows:

- For AXA S.A. $+2.2^{\circ} \mathrm{C}$, flat compared to 2021 ;
- For AXA Group $+2.5^{\circ} \mathrm{C}$, compared to $+2.6^{\circ} \mathrm{C}$ in 2021.

Between 2021 and 2022:

- AXA Group's corporate debt ITR decreased $-0.2^{\circ} \mathrm{C}$ to $+2.4^{\circ} \mathrm{C}$, down from $+2.6^{\circ} \mathrm{C}$, while the corporate debt benchmark ${ }^{3}$ decreased $-0.6^{\circ} \mathrm{C}$ to $+2.6^{\circ} \mathrm{C}$, down from $+3.2^{\circ} \mathrm{C}$. The Group's
evolution was highly driven by a decrease in the ITR of corporates from key sectors, such as energy, industrial \& utilities.
- On aggregate, AXA Group's corporate equity \& debt ITR decreased $-0.1^{\circ} \mathrm{C}$ to $+2.5^{\circ} \mathrm{C}$, down from $+2.6^{\circ} \mathrm{C}$, while a broad benchmark ${ }^{4}$ on the same universe decreased $-0.5^{\circ} \mathrm{C}$ to $+2.7^{\circ} \mathrm{C}$, down from $+3.2^{\circ} \mathrm{C}$. The Group's ITR remained below the benchmark on aggregate, as well as on most of the key sectors, resulting from a restrictive corporate selection. This was also explained by less relative exposure than the benchmark of the energy sector, which highly impacted the portfolio's ITR. The difference with the benchmark dropped in 2022 versus 2021, mainly explained by a relative underperformance in the basic materials, energy and consumer-cyclical sectors where the benchmark had a sharper decrease in ITR.

The decrease in the ITR of AXA Group's corporate equity and debt portfolio is encouraging. However it is too early to draw shortterm conclusions from such small variations in long-term metrics.

## Warming Potential methodology applied to sovereign debt

AXA uses the Climate Liabilities Assessment Integrated Methodology (CLAIM) model developed by Beyond Ratings ${ }^{5}$ to assess the temperature of AXA's investment portfolios in sovereign assets. This model and the MSCI ITR (for corporates) detailed above employ a similar approach. The CLAIM model uses governments' nationally determined contributions (NDCs) to the Paris Agreement's carbon budget to express the theoretical temperature of sovereign assets. The NDCs in the Paris Agreement and updated at COP26 are used to build a homogeneous allocation of greenhouse gas emission reduction commitments per country by 2030.

## Warming Potential: 2022 sovereign debt results

Based on this model, the warming potential of AXA S.A.'s sovereign debt in 2022 was $+1.8^{\circ} \mathrm{C}$ and the warming potential of AXA Group's sovereign debt was $+2.0^{\circ} \mathrm{C}$ (stable compared to 2021). The benchmark increased slightly to $+2.5^{\circ} \mathrm{C}$.

The warming potential of sovereign debt remained quite flat in 2022 as there were no major updates in NDCs which are the main driver of a country's warming potential. Similarly to previous years, AXA Group's sovereign portfolio overperformed the benchmark $\left(+2.0^{\circ} \mathrm{C}\right.$ versus $\left.+2.5^{\circ} \mathrm{C}\right)$, explained mainly by a different asset allocation to countries. In fact, the Group had a higher relative exposure to French Government debt, which had a low warming potential of $+1.7^{\circ} \mathrm{C}$. Additionally, the exposure to countries with high warming potential, such as the United States and Japan, was relatively lower than the benchmark.

## Warming potential v

Asset class $2020 \quad 2021 \quad 2022$

Sovereign debt

| AXA S.A. | $+2.1^{\circ} \mathrm{C}$ | $+1.9^{\circ} \mathrm{C}$ | $\left(+1.8^{\circ} \mathrm{C}\right.$ |
| :--- | ---: | ---: | ---: |
| AXA Group | $+2.3^{\circ} \mathrm{C}$ | $+2.0^{\circ} \mathrm{C}$ | $\searrow+2.0^{\circ} \mathrm{C}$ |
| Benchmark | $+3.0^{\circ} \mathrm{C}$ | $+2.4^{\circ} \mathrm{C}$ | $+2.5^{\circ} \mathrm{C}$ |

Source: Beyond Rating/AXA.
*Sovereign debt: JPM GBI Global

1. Direct (Scope 1) and indirect (Scope 2 and Scope 3) emissions from activities.
2. https://www.msci.com/our-solutions/climate-investing/implied-temperature-rise
3. ICE BofAML Global Broad Market corporate.
4. The split between equity and debt used in the aggregated Benchmark is the one of the AXA Group consolidated portfolio.
5. CLAIM methodology (Climate Liabilities Assessment Integrated Methodology). Learn more at: https://www.longfinance.net/programmes/sustainable-futures/london-accord/reports/how-measure-temperature-sovereign-assets/
(จ) Climate and Biodiversity metrics covered by a limited assurance conclusion, please refer to Section "Independent Limited Assurance Report (PwC)" for details.

This analysis reveals that a country's energy mix and high reliance on fossil fuels (such as in Australia, the U.S. and Canada) has been a key driver of future financed emissions for sovereign debt investors. For example, Japan has been phasing out its nuclear energy since 2012 and has gradually substituted this with a combination of coal and natural gas, leading to an increase in its warming potential.

Considering AXA's sovereign geographic exposure to the EU, a reduction in AXA's sovereign warming potential will heavily depend on coal being phased out and a corresponding rise in renewables and nuclear investments in its portfolio. This is particularly relevant to AXA's lending to Germany and Italy, given their share of AXA's asset allocation. While Italy and Germany are not among the largest coal producers in the world, nor among the countries with the largest proportion of coal in their primary energy mix, Germany and Italy nonetheless have some of the largest coal power plants in the EU. Of note, much attention has been focused on corporates' financed emissions/warming potential because shareholders can more readily engage with them. This is also where targets have been set. However, sovereign debt is a key asset class for most asset owners.

## Green Investments

In addition to AXA Group's intermediate investment carbon footprint reduction target and investment restrictions, green investments encourage sectors to strengthen mitigation and adaptation efforts. In November 2019, AXA Group committed to $€ 24$ billion in green investments by 2023. In 2021, AXA announced this target would rise to $€ 26$ billion.

Green investments include the following asset classes: green bonds, infrastructure debt \& equity, impact investments, real estate, and commercial real estate loans.

To support AXA's green investment target, AXA has developed an internal framework to define green investments based on external labels, certifications and environmental standards as appropriate. To qualify investments as green, AXA applies its standards to each of the following asset classes:

- Green bonds: the green bonds in which AXA invests are independently labelled based on Bloomberg's Green Bond Indicator (DT607). ${ }^{1}$ This field indicates if the net proceeds of the bonds go towards green projects or activities that promote climate change mitigation or adaptation, or other environmental purposes;
- Infrastructure: investments in infrastructure equity and debt are classified as green assets if the project is categorized in beneficial sectors defined by the Climate Bonds Initiative; ${ }^{2}$
- Impact investments: investments in AXA's Impact Funds are classified as green whenever:
- There are targeted climate impacts with clearly defined KPIs, or
- In the specific case of forests, sustainable management can be demonstrated (FSC or PEFC certification is required);
- Real estate: AXA's definition is limited to assets with a very high level of environmental certification ${ }^{3}$ and a minimum Energy Performance Certificate (EPC) rating of "B" or equivalent;
- Commercial real estate (CRE): for CRE debt, AXA uses a strict definition of green for loans backing an underlying asset with the aforementioned very high level of environmental certification.

In December 2022, the Group's green investments totaled $€ 25.1$ billion, up from $€ 22.6$ billion at end-2021. This increase is mainly due to new investments in green bonds, which totaled at $€ 11.9$ billion $($ at end-2022, up from $€ 10.8$ billion at end2021. This increase is less important than in previous years, mainly due to a negative impact of the rising rates environment. The overall increase in green assets was also driven by new
green infrastructure projects as well as new investments and refurbishments of real estate assets.

Green investments per asset under management v


An example of green assets the Group has invested in is the Infrastructure Hornsea II, a renewable energy infrastructure asset based in the UK. This offshore windfarm became fully operational on August $31^{\text {st }}$, 2022 and has became the largest offshore windfarm in the world. Its power capacity of over 1.3GW allows to provide renewable power to more than 1.4 million homes.

## Transition bonds and sustainability-linked bonds

In 2022, the Group reached its $€ 300$ million target to develop public transition bonds and sustainability-linked bonds (SLBs) set in 2021. The focus is on financing companies with credible plans to transition to net-zero emissions. SLBs differ from green bonds in that, just like conventional debt, they are general purpose bonds. These bonds incorporate targets linked to environmental, social and governance (ESG) factors. As such, they represent a new opportunity to fund the climate transition, while addressing other environmental and social challenges.
Sustainability-linked and transition bonds v

| Results for year 2022 | Sustainabilitylinked bonds | Transition bonds V |
| :---: | :---: | :---: |
| Total exposure | $€ 422 \mathrm{~m}$ | €362m |
| Investments (gross) | $€ 325 \mathrm{~m}$ | $€ 45 \mathrm{~m}$ |

Investors like AXA have identified SLBs to incentivize companies to transform their business model, as sustainability/ESG objectives are (i) measured through predefined key performance indicators and (ii) assessed against predefined sustainability performance targets (SPTs) in line with the SLB principles set out by ICMA and the Climate Bonds Initiative.

An example of SLBs the Group has invested in is Henkel, which has aligned its SLB with its main sustainability ambitions focused on climate and the circular economy: being climate-positive by 2040, reducing its Scopes $1 \& 2$ greenhouse gas emissions based on SBTi-validated targets, and notably making $100 \%$ of its packaging recyclable or reusable.

1. Bloomberg's definition of what constitutes a market-accepted green bond is based on the 2021 edition of ICMA's Green Bond Principles (GBP), available here: https://www.icmagroup.org/sustainable-fi nance/the-principles-guidelines-and-handbooks/green-bond-principles-gbp/. Bloomberg requires use-of-proceeds to be aligned with GBP to be eligible for green bond designation.
2. Beneficial sectors include solar, wind, bioenergy, hydropower, geothermal, energy distribution, energy storage, transport and water. For more
information, see www.climatebonds.net.
3. Minimum level BREEAM "Excellent," LEED "Gold" or equivalent.
( $)$ Climate and Biodiversity metrics covered by a limited assurance conclusion, please refer to Section "Independent Limited Assurance Report (PwC)" for details.

## Green Business

One way AXA is supporting its climate strategy as an insurer is through its Green Business Program, which aims to deploy non-life/non-health products (insurance coverage and services) that contribute to at least one of the four following objectives:

- Climate change mitigation;
- Climate change adaptation;
- Transition to the circular economy; and
- Limitation of biodiversity loss and pollution.

Three shades of green have been introduced to provide guidance and transparency on the materiality assessment of
a green business offer: encouraging sustainable behaviors, managing environmentally sustainable claims and covering environmentally sustainable assets/activities.

In April 2022, as part of its AXA For Progress Index, AXA Group committed to increasing gross written premiums for green business offerings to $€ 1.3$ billion by 2023 , up from $€ 1.1$ billion in 2020. In 2022, €1.7 billion of green premiums were collected. Based on this strong performance, AXA Group decided to increase its ambition and set a floor of $€ 1.7$ billion for 2023.

Please refer to the Green Business Report for more details and examples. ${ }^{4}$

# Methodologies to assess the alignment of AXA's investment strategy with the Paris Agreement 

AXA Group's investment portfolios are monitored alongside key performance indicators to illustrate how aligned its investment decisions are with climate mitigation and the adaptation required to support the Paris Agreement. AXA uses external methodologies to assess the alignment of its investment strategy with the Paris Agreement.

## Use of the EU's climate transition and Paris Agreement benchmarks in the management of index funds

AXA S.A. does not manage index funds and therefore the information requested here is not applicable to AXA S.A.

## ESG rating framework integration

AXA Group's investment philosophy, which also applies to AXA S.A., is based on the conviction that issues relating to environmental, social and governance factors will remain a major concern in the coming years. These non-financial factors are considered in both quantitative and qualitative ESG research: Through its asset manager AXA IM, AXA Group tracks the ESG performance of its investments using an internal ESG scoring tool (both for AXA's General Account assets and third-party client
assets). AXA IM's scoring methodology for traditional asset classes (i.e., listed equity, corporate and sovereign bonds) allows AXA IM to leverage its fundamental research capabilities. The tool uses MSCI ESG scores as primary inputs for sovereign and corporate bonds, providing consistent ratings for both asset classes.

See below the ESG scores as of end 2022 for AXA Group's investments.

ESG Scores v

| Asset Class | $\begin{gathered} \text { ESG } \\ \nabla \end{gathered}$ | E | $\mathrm{S}$ | G | \% of coverage |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Corporate bonds | 7.0 | 7.2 | 5.3 | 5.8 | 85\% |
| ICE BofAML Global Broad Market Corporate Index | 6.7 | 7.2 | 5.1 | 5.8 | 96\% |
| Equities | 6.9 | 6.7 | 5.3 | 5.7 | 93\% |
| MSCI ACWI Index | 6.7 | 6.5 | 5.2 | 5.6 | 100\% |
| Government bonds | 6.1 | 4.6 | 7.4 | 6.8 | 98\% |
| JPM GBI Global | 6.0 | 5.1 | 7.9 | 6.4 | 100\% |
| Corporate bonds + equities | 7.0 | 7.2 | 5.3 | 5.8 | 86\% |
| Corporate bonds + equities + government bonds | 6.5 | 5.7 | 6.5 | 6.4 | 92\% |

[^6]

## Investment strategy changes to align with the Paris Agreement objectives

Over time, the Group has developed specific sector guidelines, which apply to AXA S.A. and other Group entities, for activities in sectors that may pose certain risks to AXA Group as an investor and insurer. These currently include the following sectors: thermal coal, oil\& gas, manufacturers of 'controversial weapons', tobacco manufacturing, ecosystem conversion and deforestation. Among them, coal, oil and gas policies, which apply to both investment and underwriting activities, aim to contribute to the transition toward a more sustainable and less carbon-intensive economy.

## The AXA Group Coal Policy

Coal is by far the most carbon-intensive form of energy and as such coal-based power generation is seen as the most at risk industry in terms of asset stranding. AXA Group is committed to a long-term exit strategy reducing exposure to the thermal coal industry to zero by 2030 in the European Union and OECD countries, and by 2040 in the rest of the world, as suggested by the main climate scenarios (such as the IEA's "Beyond $+2^{\circ} \mathrm{C}$ " scenario). This approach is applied to both its investments and underwriting activities. To support the assessment, AXA uses the Global Coal Exit List, which is a publicly available database. However, AXA reserves the right to diverge from the GCEL on a case-by-case basis when more up-to-date data is identified.

## Investments

For General Accounts and in unit-linked assets in fully controlled mandates AXA Group bans investments, in the following companies:

- Power generation companies with a share of coal power production in their energy mix over $30 \%$ and/or coal
expansion plans producing more than 300 MW and/or over 10 GW of coal-based power installed capacity;
- Mining companies with a coal share of revenues over $30 \%$ and/or with annual coal production over 20 million tons and/ or developing new coal mines; and
- Certain coal industry partners, defined as manufacturers (e.g., equipment suppliers) and infrastructure players (e.g., port terminals or dedicated railways) developing significant new coal assets.


## Insurance

The underwriting restrictions ban property and construction covers for coal mines and coal plants. They also include coalrelated restrictions at the client level, mirroring, as appropriate, the criteria that apply to investments. Details of the governance process for underwriting referrals under this policy are set out in the Appendix to this Report.

The AXA Group Coal Policy is currently under review and is expected to be updated in the course of 2023. Full details of the AXA Group Coal Policy are available at www.axa.com.

## The AXA Group Energy Policy

## Investments

Since 2017, AXA Group has divested from oil sands-related businesses (defined as companies deriving more than $20 \%$ of their revenue from oil sands, including pipeline operators). As an asset owner, AXA Group has stopped investing in new upstream oil greenfield exploration projects unless they are carried out by companies with the most far-reaching and credible transition plans.

Furthermore, AXA Group is reducing its investment exposure to unconventional exploration and production, as follows:

- Arctic: AXA Group has extended the scope of its investment restrictions to the Arctic Region, in alignment with the Arctic Monitoring and Assessment Programme (AMAP). Only companies in the AMAP Region with Norwegian operations will be excluded from the scope of restrictions, given their high environmental standards and lower operational carbon footprint. AXA Group will exclude new direct investments in companies deriving more than $10 \%$ of their production from the AMAP-based region or producing more than $5 \%$ of the worldwide volume of AMAP-based oil \& gas;
- Oil sands: AXA Group has adopted a more stringent policy by ceasing direct investments in companies producing more than $5 \%$ of the worldwide volume of oil sands; and
- Fracking/shale oil and gas: AXA Group will no longer invest directly in companies deriving more than $30 \%$ of their production from fracking/shale oil and gas.

The main database used is the Global Oil \& Gas Exit List (GOGEL). Full details of the AXA Group Energy Policy are available at www.axa.com.

The AXA Group Energy Policy is currently under review and is expected to be updated in the course of 2023.

AXA Group monitors on a regular basis its exposure, including AXA S.A.'s exposure, to conventional and unconventional fossil fuels. The total exposures to coal is calculated by using exclusively the companies listed in the Global Coal Exit List provided by Urgewald. The total respective exposure of AXA Group's and AXA S.A.'s liquid assets to oil and gas is calculated based on Bloomberg sectors. The unconventional nature of the hydrocarbon activities of these sectors is then derived from the GOGEL list provided by Urgewald on an annual basis.

## Fossil fuel exposure v

| AXA Group fossil fuel exposure <br> $\checkmark$ | Assets Under Management (General Account assets) $\square$ | \% of <br> Assets Under Management (General Account assets) |
| :---: | :---: | :---: |
| Coal | ( ) $€ 1.7 \mathrm{Bn}$ | (1) 0.4\% |
| Overall oil \& gas | ( $£ 3.7 \mathrm{Bn}$ | ( 0.8\% |
| Unconventional oil \& gas | ( ) $€ 0.7 \mathrm{Bn}$ | (1) 0.1\% |

Source: AXA/Urgewald

| AXA S.A.'s fossil fuel exposure V | Assets Under Management (General Account assets) | \% of Assets Under Management (General Account assets) |
| :---: | :---: | :---: |
| Coal | ( 1 € 12.4 m | ( $0.2 \%$ |
| Overall oil \& gas | (1) $€ 53.1 \mathrm{~m}$ | (1) 0.8\% |
| Unconventional oil \& gas | () € 12.9 m | (1) 0.2\% |

## Source: AXA/Urgewald

At end 2022, AXA Group's exposure to fossil fuels represented $€ 5.4$ billion or $1.1 \%$ of the total value of the Group's investment portfolio. The exposure to coal totaled $€ 1.7$ billion, decreasing by $70 \%$ since FY 2018. For unconventional oil and gas activities, the exposure was $€ 0.7$ billion, representing a reduction of $75 \%$ compared to FY 2018.

## Insurance

Since 2017, AXA has stopped underwriting property and construction insurance policies for oil sand extraction sites and related transportation (pipelines), as well as drilling in the Arctic Region. ${ }^{1}$ In October 2021, AXA significantly strengthened its existing restrictions by adding additional conventional and unconventional oil and gas restrictions for the Arctic, oil sands and fracking/shale oil and gas and extended to all lines of business (except for employee benefits and treaty reinsurance).

AXA Group no longer underwrites greenfield oil exploration projects. Exemptions may be granted to companies with the most far-reaching and credible transition plans, based on a case-bycase review. Restrictions will take effect with a 12-month grace period ending on January 1, 2024.

Details of the governance process for underwriting referrals under this policy are set out in the Appendix to this Report.

The AXA Group Energy Policy is currently under review and is expected to be updated in 2023.

## Impact on investment activities, Climate Value-at-Risk (CVaR)

For the purposes of this Report, AXA Group, including AXA S.A., has used the Climate Value-at-Risk (Climate VaR) model developed by MSCI. This model is an estimation of how the value of AXA Group's investment portfolios - in corporate bonds and listed equity (excluding unit linked products) - could be impacted by climate policy risks, technology transition opportunities and extreme weather events. This model is currently applicable only to corporate assets (not sovereign assets) and is under continuous development. Annual updates to this model allow the Group to expand the range of measured climate-related financial risks related to AXA Group's investments and to assess them more precisely.

AXA Group does not use this metric in its day-to-day investment and risk management. However, the metric provides insight into the assets most at risk from climate change and how AXA Group is managing these risks over time.

## Climate VaR methodology overview

Climate VaR differs from the traditional concept of Value-at-Risk used in risk management. Unlike the conventional approach, Climate VaR does not consider the distribution of returns and calculate a low percentile based on that. Instead, Climate VaR values are derived climate scenarios, along with inferred macroeconomic parameters.

The three components of Climate VaR which AXA Group evaluates against different climate scenarios are:

## - Physical Risk Climate VaR

Physical climate risk scenarios define the possible climate-related consequences of increased greenhouse gas emission levels and the ensuing financial implications (i.e., burdens or opportunities) for businesses and their investors. The Physical Risk Climate VaR metric assesses the level of exposure ${ }^{2}$ and vulnerability ${ }^{3}$ of companies to increasingly frequent and severe extreme weather events.

This metric combines chronic climate risks, which refer to longterm shifts in climate patterns such as extreme heat, extreme cold, heavy precipitation, heavy snowfall and strong winds, and acute climate risks, which refer to event-driven physical risks such as coastal flooding, river flooding, tropical cyclones, low river flows and wildfires.

This metric thus evaluates the potential economic losses in a changing climate environment based on a given climate scenario.

The main challenge when applying the Physical Risk metric lies in capturing all possible extreme weather events. In addition, this metric focuses only on the assets owned by a particular company, as identified by MSCI, and does not account for the sustainability of the infrastructure, grids or other necessary components that enable the assets to operate and generate revenue for the company.

- Policy Risk Climate VaR (transition costs)

Policy Risk Climate VaR evaluates the potential economic losses for companies if they fail to adapt their activities to a given climate scenario ( $1.5^{\circ} \mathrm{C}, 2^{\circ} \mathrm{C}$ or $3^{\circ} \mathrm{C}$ scenario) and associated transition pathways.

The transition to a low-carbon economy through market and regulation changes may negatively impact businesses and their investors. The Policy Risk Climate VaR metric assesses how regulations stemming from countries' nationally determined contributions (NDCs) affect the company's greenhouse gases.

- Technology Opportunity Climate VaR (green opportunities)

The transition to a low-carbon economy may generate new opportunities for businesses and investors, particularly
through the advancement of green technologies. The Technology Opportunity Climate VaR metric evaluates possible future revenues that companies could generate from green opportunities. While this metric is not the only factor when estimating future green revenues, it notably looks at green patents and current low-carbon revenues. Consequently, this metric assesses the potential economic revenues for companies taking a carbon-reduction path in line with a specific climate scenario (i.e., the $1.5^{\circ} \mathrm{C}, 2^{\circ} \mathrm{C}$, or $3^{\circ} \mathrm{C}$ scenario) and the associated transition pathways.

## Climate scenarios - new approaches

In previous years, AXA Group relied on climate scenarios based on the AIM-CGE Model developed by the National Institute for Environmental Studies in Japan. The five new scenarios, used this year and included in this report, have been put in place by MSCl and are derived from the Network for Greening the Financial System (NGFS) scenarios. The NGFS scenarios are recognized by central banks and supervisors, making them a credible reference in the field.

A selection of five NGFS scenarios has been made to cover a spectrum of temperature increases ranging from $+1.5^{\circ} \mathrm{C}$ to $+3^{\circ} \mathrm{C}$ by 2100 . These NGFS scenarios also consider two distinct approaches to transitioning to a lower-carbon economy: an orderly transition and a disorderly transition.

Climate Value-at-Risk scenarios v

| Scenario name v | MSCI <br> name | Comments |
| :---: | :---: | :---: |
| Net Zero by 2050 | $1.5{ }^{\circ} \mathrm{C}$ REMIND NGFS Orderly | The two REMIND NGFS $1.5^{\circ} \mathrm{C}$ scenarios are very similar in terms of emissions pathways and temperature warming. Where they differ is in the use of low-carbon technologies, with the disorderly scenario using more low-carbon sources of technology in various sectors and the orderly |
| Divergent net-zero | $1.5^{\circ} \mathrm{C}$ REMIND NGFS Disorderly | scenario using slightly more carbon sequestration. |
| Below $2^{\circ} \mathrm{C}$ | $2^{\circ} \mathrm{C}$ REMIND NGFS Orderly | The REMIND NGFS $2^{\circ} \mathrm{C}$ scenarios are similar to the $1.5^{\circ} \mathrm{C}$ scenarios in terms of electricity generation fuel mix in 2050 and, for the Orderly $2^{\circ} \mathrm{C}$ scenario, in terms of carbon sequestration use. Where they differ is how fast the transition happens, the year emissions reach net-zero |
| Delayed transition | $2^{\circ} \mathrm{C}$ REMIND NGFS Disorderly | emissions and the projected carbon prices needed to reach the temperature target. |
| NDC | $3^{\circ} \mathrm{C}$ REMIND NGFS | The $3^{\circ} \mathrm{C}$ scenario assumes a slower pace of decarbonization than more ambitious scenarios and is based solely on current nationally determined contribution (NDC) of each country. |

## "Aggregated Climate VaR" metric

AXA Group applies an Aggregated Climate VaR metric to all its investment portfolios (corporate bonds and listed equities) under the five NGFS scenarios described above. This aggregated metric represents the percentage of the market value of the Group's total investment portfolio (corporate bonds and listed equities):

- In the best-case scenario ( $+1.5^{\circ} \mathrm{C}$ Orderly): $-10.1 \%$
- $-3.0 \%$ for physical risks,
- $-8.2 \%$ for policy risks,
- +1.1\% for technological opportunities
- In the worst-case scenario ( $+3^{\circ} \mathrm{C}$ NDC): $-6.9 \%$
- $-5.9 \%$ for physical risks,
- -1.2\% for policy risks,
- $+0.2 \%$ for technological opportunities.

The chart illustrates the increase (in absolute terms) of the physical risk where the climate scenarios are increasingly severe (i.e., from $1.5^{\circ} \mathrm{C}$ Orderly to $3^{\circ} \mathrm{C}$ NDC). The AXA Group would expect a more severe climate scenario to result in more acute and frequent extreme weather events and subsequently higher potential losses for corporates. On the other hand, the AXA Group also observes a higher policy risk when the climate scenario is close to $+1.5^{\circ}$. This could be because, in this climate scenario, companies could be required to make huge efforts and investments to transition their businesses in alignment with this scenario.

Climate Value-at-Risk for different scenarios (in \%, corporate debt \& equity - FY 2022) v


Source: MSCI/AXA

Caution is needed when drawing conclusions from the Aggregated Climate VaR metric. For example, in applying this metric, $a+3^{\circ} \mathrm{C}$ scenario appears less impactful on AXA Group's portfolio than a $+1.5^{\circ} \mathrm{C}$ scenario. This is driven mainly by the way physical risk is modelled and this metric only accounting for business interruption and asset damage at the company level from a set of non-exhaustive extreme weather events. Furthermore, this metric does not reflect the potential ensuing impact of severe climate scenarios at the macro level, such as potential damage to infrastructure, grids or other necessary components that enable corporates to operate and generate revenues. Finally, $\mathrm{a}+3^{\circ} \mathrm{C}$ scenario is generally linked to longerterm impacts on asset valuations, which are associated with higher discounting costs.

AXA Group performed an analysis of the Aggregated Climate VaR on its investment corporate debt and equities portfolios from

FY 2020 and FY 2021 to understand how its management actions and mark-to-market evolutions were impacting the evolution of its Aggregated Climate VaR. Over the last two years, the Aggregated Climate VaR in the ideal $+1.5^{\circ} \mathrm{C}$ Orderly NGFS scenario dropped to $-10.1 \%$ at end 2022, down from $-11.2 \%$ at end 2020. This can be attributed mainly to a decrease in AXA's relative exposure to the energy sector over the last two years, which is a key driver of the Aggregated Climate VaR with an average value exceeding - $50 \%$. The utilities sector is also a significant contributor to the Aggregated Climate VaR, and the Group's recent management actions have led to a decrease in the average Climate VaR in this sector.

The assessment of the various indicators presented in this chapter is performed annually.

## Climate metrics results summary v

|  | AXA Group |  |  | AXA S.A. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\text { FY } 2020$ | $\text { FY } 2021$ | $\text { FY } 2022$ | $\text { FY } 2020$ | $\text { FY } 2021$ | $\text { FY } 2022$ |
| Warming Potential $\left({ }^{\circ} \mathrm{C}\right)$ - Sovereign debt | 2.3 | 2.0 | (2) 2.0 | 2.1 | 1.9 | (1) 1.8 |
| \% of coverage | 100\% | 100\% | 99\% | 100\% | 100\% | 100\% |
|  |  |  |  |  |  |  |
| Implied Temperature Rise ( ${ }^{\circ} \mathrm{C}$ ) - Corporate bonds \& Equities | N/ $\mathbf{A}^{*}$ | 2.6 | (1)2.5 | N/A* | 2.2 | (2.2 |
| \% of coverage | $\mathrm{N} / \mathrm{A}^{*}$ | 65\% | 62\% | $\mathrm{N} / \mathrm{A}^{*}$ | 66\% | 81\% |


| Aggregated Climate Risks (CVaR) | $1.5^{\circ}$ Orderly <br> $3^{\circ}$ NDC | -11.2 -7.2 | -10.5 -7.0 | (*)-10.1 (*)-6.9 | -8.0 -9.1 | -8.8 -5.9 | (*) -9.1 (*)-5.1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Physicak Risk (CVaR) | $1.5^{\circ}$ Orderly | -3.1 | -3.0 | -3.0 | -4.1 | -2.7 | -2.2 |
|  | $2^{\circ}$ Orderly | -4.1 | -4.0 | -4.0 | -5.7 | -3.5 | -3.0 |
|  | $2^{\circ}$ Disorderly | -4.3 | -4.3 | -4.2 | -6.0 | -3.7 | -3.2 |
|  | $3^{\circ} \mathrm{NDC}$ | -6.0 | -5.9 | -5.9 | -8.6 | -5.2 | -4.4 |
| Policy Risk (CVaR) | $1.5^{\circ}$ Orderly | -9.3 | -8.7 | -8.2 | -4.5 | -7.4 | -7.6 |
|  | $1.5^{\circ}$ Disorderly | -12.8 | -12.0 | -11.6 | -6.6 | -10.0 | -10.9 |
|  | $2^{\circ}$ Orderly | -2.2 | -2.1 | -1.9 | -1.0 | -1.5 | -1.5 |
|  | $2^{\circ}$ Disorderly | -6.6 | -6.0 | -5.7 | -3.0 | -5.2 | -4.9 |
|  | $3^{\circ} \mathrm{NDC}$ | -1.4 | -1.3 | -1.2 | -0.6 | -0.9 | -0.8 |
| Technological Opportunities (CVaR) | $1.5^{\circ}$ Orderly | 1.3 | 1.2 | 1.1 | 0.6 | 1.3 | 0.7 |
|  | $1.5^{\circ}$ Disorderly | 2.3 | 2.1 | 2.0 | 1.1 | 2.5 | 1.4 |
|  | $2^{\circ}$ Orderly | 0.4 | 0.4 | 0.3 | 0.2 | 0.4 | 0.2 |
|  | $2^{\circ}$ Disorderly | 0.7 | 0.6 | 0.6 | 0.3 | 0.7 | 0.4 |
|  | $3^{\circ} \mathrm{NDC}$ | 0.3 | 0.2 | 0.2 | 0.1 | 0.3 | 0.1 |
| \% of coverage |  | 64\% | 63\% | 61\% | 88\% | 64\% | 81\% |


| ESG Score | $\mathbf{5 . 9}$ | $\mathbf{6 . 4}$ | $\mathbf{6 . 5}$ | $\mathbf{5 . 2}$ | $\mathbf{6 . 8}$ | $\mathbf{6 . 5}$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| $\%$ of coverage | $94 \%$ | $93 \%$ | $92 \%$ | $96 \%$ | $88 \%$ | $99 \%$ |


| Carbon Intensity ( $\mathrm{tCO}_{2}$ eq per \$mn. Revenue of GDP) | 192 | 163 | (1) 147 | 75 | 120 | (1) 120 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \% of coverage | 81\% | 88\% | 85\% | 89\% | 81\% | 95\% |


| Carbon Intensity $\left(\mathrm{tCO}_{2}\right.$ eq per $\left.€ \mathrm{mn} . \mathrm{EV}\right)$ | $\mathbf{7 0}$ | $\mathbf{4 7}$ | ( 43 | $\mathbf{2 7}$ | $\mathbf{3 2}$ | (van |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| $\%$ of coverage | $72 \%$ | $78 \%$ | $75 \%$ | $95 \%$ | $76 \%$ | $91 \%$ |


| Absolute Carbon Emissions ( $\mathrm{tCO}_{2} \mathrm{eq}$ ) | 9,617,567 | 6,996,315 | (1) 4,990,842 | 44,450 | 22,504 | (1) 39,387 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \% of coverage | 72\% | 78\% | 75\% | 95\% | 76\% | 91\% |

[^7]
# G. AXA Group's strategy for alignment with long-term biodiversity goals and related targets 

AXA Group views the biodiversity challenge as a natural extension of its climate efforts. Biodiversity loss endangers ecosystem services and poses risks to society and businesses that depend on them, and in turn investors and insurers that rely on a wellfunctioning economy. Furthermore, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), IPCC and the Taskforce on Nature-related Financial Disclosures (TNFD) all identify climate change as a key driver of changes to nature and by extension, biodiversity. ${ }^{1}$

AXA did not wait for a precise calculation of the pressures and impacts of its activities on biodiversity to act. As with AXA's approach to climate change, AXA aims to harness its expertise as both an investor and insurer. As a result, the Group has announced a series of initiatives designed to contribute positively to the protection of ecosystems and to act on the nexus between climate and nature, along with ongoing efforts to improve quantitative analyses relevant to biodiversity loss to support future target setting.

# Contribution to the reduction of the main pressures and impacts on biodiversity 

The Convention on Biological Diversity (CBD), also known as the Rio Convention is an international, legally binding treaty with three main objectives: ${ }^{2}$

- The conservation of biological diversity;
- The sustainable use of the components of biological diversity; and
- The fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

In December 2022 at the Conference of the Parties (COP15) in Montreal, Parties ${ }^{3}$ to the CBD adopted the Kunming-Montreal Global Biodiversity Framework ("Framework"). The Framework includes 23 new targets. Not all the targets are quantitative, and ongoing work is necessary to translate them into quantifiable and standardized objects for implementation by governments and eventually voluntary adoption by non-state actors (including the private sector).

Set out below are concrete actions already undertaken by AXA Group, and the relevant Targets under the Framework. These actions may provide guidance on future relevant private sector action in favor of biodiversity.

Contributing to Target 1: loss of highly important biodiverse areas close to zero by 2030

AXA Group Ecosystem Conversion and Deforestation Policy
Curbing deforestation conserves water resources, prevents flooding, controls soil erosion and preserves habitats and biodiversity, in addition to preserving key carbon sinks. The AXA Group Ecosystem Conversion and Deforestation policy seeks to address risks related to deforestation and protected areas of key biodiversity value. It concerns certain soy, palm oil, timber and cattle productions in regions where these industries strongly contribute to deforestation.

For investments, the policy has been applied to the Group's asset management entities to the extent that they manage General Account assets. For insurance, AXA Group restricts property, construction and marine cargo coverage in activities that actively contribute to deforestation.

This policy is implemented at the Group level and is subject to the oversight of the Responsible Investment Committee and the Group Underwriting Committee. In 2022, this policy was implemented by all AXA entities.

Full details of the current AXA Group Ecosystem Conversion and Deforestation Policy are available at www.axa.com.

The AXA Group Ecosystem Conversion and Deforestation Policy is currently under review and is expected to be updated in the course of 2023.

## Natural World Heritage Sites

In line with the UN PSI-UNESCO classification, AXA has undertaken to protect Natural World Heritage Sites (WHSs) by ensuring it does not support, through property and construction insurance policies, businesses in sensitive sectors that are developing activities incompatible with ecosystem preservation in these vital sites. The social and human rights dimensions of these projects are also assessed. WHSs are classified by UNESCO as containing both exceptional natural beauty and the most important and significant natural habitats for conservation. Examples include the Galapagos Islands of Ecuador and the Ivindo National Park in Gabon. They provide key biodiversity benefits, such as fauna and flora protection, and other environmental benefits, including soil stabilization, flood prevention and carbon capture. They also contribute to economies through jobs, ecotourism, recreation and exports.

Contributing to Target 10: sustainable management of agriculture, aquaculture and fisheries

## Accelerating the transition to regenerative agriculture through an impact investing strategy

Agriculture, land use and deforestation alone constitute the second largest source of greenhouse gas emissions globally and the main driver of biodiversity loss. Regenerative agriculture practices such as soil covers, crop rotations and no-till farming that aim to restore soil health can reverse this trend and play

1. https://tnfd.global
2. https://www.cbd.int/intro/
3. Parties to a treaty are the States or international organizations that have consented to be bound by the treaty and for which the treaty is in force (See Article 2 of the Vienna Convention on the law of treaties)
a crucial role in addressing climate change and environmental challenges.

AXA, Unilever and Tikehau Capital have created an impact investment fund dedicated to accelerating the transition to regenerative agriculture by focusing on three main areas:

- Protecting soil health to enhance biodiversity, preserve water resources and participate in the fight against climate change;
- Contributing to the future supply of regenerative ingredients to meet the needs of the growing world population on the one hand and consumer demand for increasingly sustainable products on the other; and
- Contributing to the progress of technological solutions that aim to accelerate the transition to regenerative agriculture.

The fund aims to act on a global scale, drawing on the international networks of AXA, Unilever and Tikehau Capital. These objectives and impact measurement are at the heart of its operational approach and fully integrated into its investment strategy.

## Contributing to Target 11: restore and enhance ecosystems through nature-based solutions

## Investing in natural capital

In 2021, the Group committed to a natural capital target of $€ 1.5$ billion, comprising $€ 500$ million dedicated to a Natural Capital Fund managed by AXA IM, and $€ 1$ billion dedicated to investments in sustainably managed forests. The objective is to sequestrate/avoid $25 \mathrm{Mt} \mathrm{CO}_{2} \mathrm{e}$ on an annual basis.

## Natural Capital Fund

The fund will principally finance projects that aim to protect and restore natural capital, for example in forests, mangroves and peatlands. In addition, the fund will invest in project developers to enhance their capacity to develop and deliver natural capital projects, solutions that enable faster and more accurate measurement of nature-based projects and marketplace solutions for carbon. At end 2022, progress towards the $€ 500$ milion Natural Capital target amounted to $€ 150$ million.

## - Case Study: Project Fagus

Project Fagus is an afforestation and reforestation program in France in partnership with Alliance Forets Bois, a forest cooperative with private landowners as members. The project encompasses the restoration of 1,725 hectares of degraded forests and will enable the sequestration of approximately $500,000 \mathrm{tCO}_{2} \mathrm{e}$ emissions while improving the forest management practices of approximately 270 forest owners.

The project will be certified by Label Bas Carbone (LBS), a national carbon certification standard created by the French Ministry of Ecological Transition in 2018 to promote the development of local carbon offset projects in France. Project Fagus will be the largest LBS-certified project to date.

## Sustainable forestry investments

Sustainable forestry investments include forests managed by AXA IM Alts on behalf of AXA Group and third-party clients that are certified by PEFC (Programme for the Endorsement of Forest Certification) or FSC (Forest Stewardship Council) at the time of acquisition or once under management. PEFC and FSC are independent certifications of responsible forest management.

Today, AXA IM Alts manages approximately 75,000 hectares on behalf of AXA Group, of which 12,000 are located in France, 35,000 in Finland, 24,000 in Australia and 4,000 in Ireland.

## AXA Group's forest investments v



In 2022 the Group forestry investments amounted to €932 million out of the $€ 1$ billion, an increase of $€ 42$ million compared to 2021, when investments already amounted to $€ 890$ million. The Group has a long history of investment in forests.

## - Case study: Forests for Good

AXA Group's forest estate in France covers about 12,000 ha. AXA Group, AXA IM Alts and AXA France have partnered with a consortium of scientists, NGOs and forestry experts (namely INRAE, Agro ParisTech, France Nature Environnement and Reforest'Action) in a three-year project that aims to propose a more effective and sustainable way to restore damaged plantations, promoting their multifunctionality (i.e., providing a habitat for biodiversity while fostering carbon sinks, biomaterial production, the water cycle and human well-being). This initiative is intended to be shared with forest ecosystem stakeholders and the broader public.

## Contributing to Target 12: increase the area and quality of urban green and blue spaces

## AXA XL Coastal Risk Index

At COP26, AXA XL, AXA Group's large commercial lines insurer, launched the Coastal Risk Index (CRI). This innovative tool maps current and future flood hazards resulting from climate change. For the first time, it integrates the protective benefits of coastal ecosystems into insurance risk models. CRI assesses coastal flooding in the context of climate change by comparing scenarios with and without coastal ecosystems, such as coral reefs and mangroves. This helps build the case for nature-based solutions.

CRI illustrates the:

- Potential benefits ecosystems provide to assets and populations in different flooding scenarios; and - The estimated value of restoring lost mangroves due to their flood reduction benefits, through new global mangrove maps.

CRI is designed to be used by communities, policymakers, insurers, investors and development banks to assess current and future flood risks and calculate the resilience value of ecosystems. This will improve how they measure risk and lead to more robust resilience strategies that catalyze the protection of coastal natural assets. AXA Group continues to support the ongoing development of CRI.

## Contributing to Target 15: enable businesses to monitor, assess and disclose impacts on biodiversity

AXA Group endeavors to support the development of biodiversity-specific metrics and indicators by integrating, testing and sharing its experience and feedback with the broader investor community, clients and tool developers such as Iceberg Data Lab (IDL). It also supports collective efforts to develop

## Biodiversity Footprint analysis

The quantification of business impacts on biodiversity is still a relatively new field. For the purposes of this Report, AXA Group uses the Corporate Biodiversity Footprint (CBF) metric developed by IDL on a pedagogical basis to explore the extent to which such tools allow an investor to analyze, at a portfolio level, the biodiversity-related impact of investment activities following a similar logic to the calculation of an investment portfolio's carbon footprint.

To draw a parallel with the biodiversity loss drivers identified by IPBES, CBF aims to measure the relative loss of biodiversity caused by changes in land use, greenhouse gas emissions (climate change contribution), and water and air pollution generated by a company's activities across its associated value chain.

For the reasons set out below, while the Biodiversity Footprint tool enables investors to obtain an approximative analysis of the key pressures and impacts of its investments on biodiversity, it is not yet appropriate for investment decisions or target-setting purposes.

To remediate this, the Group, with AXA Investment Managers, will continue to work closely with a range of stakeholders in the coming years to:

- Identify the potentially most impactful sectors/issuers and inform shareholder engagement practices on the matter of biodiversity;
- Continue to test biodiversity data and develop internal biodiversity research;
- Share knowledge internally on key biodiversity challenges, data and approaches;
- Provide methodological solutions to integrate biodiversityloss drivers not yet included: e.g., invasive species, sea-use change, ocean pollution and overconsumption of natural resources;
- Provide methodological solutions to estimate biodiversity dependencies and positive impacts; and
- Contribute to collective efforts to develop frameworks as a member of TNFD and EFRAG's Sustainability Reporting Board.


## Mean Species Abundance

The single unit of biodiversity impact used to calculate CBF is the Mean Species Abundance (MSA). ${ }^{1}$ MSA measures the average percentage abundance of native species in a delimited space under the influence of biodiversity loss pressures in comparison to undisturbed ecosystems. Aggregated, CBF provides a measure of negative impact, expressed as the volume of biodiversity loss caused by pressures generated by a company's economic activities in equivalent $\mathrm{km}^{2}$ of MSA identical to pristine forest loss or, in other words, in equivalent surface of km artificialized ${ }^{2}$ in a given year.

The methodology to compute the biodiversity footprint of AXA Group's investments is evolving continuously, and further work is required to understand the limits and strengthen tool
frameworks as a member of TNFD and EFRAG's Sustainability Reporting Board.

Please refer to Section 4.3 of AXA's 2022 Universal Registration Document ("Climate and biodiversity - Risks and impacts on biodiversity loss") for more details.
robustness. It is also necessary to encourage increased data availability and data quality at a company level. However, for illustrative purposes only, the Group publishes the biodiversity footprint for one portfolio. The biodiversity footprint on a portfolio level is expressed in $\mathrm{km}^{2}$ of MSA/ $€ \mathrm{~m}$ invested. Currently, CBF data aggregation on a portfolio level is done without double counting; this may change in the future.

The chosen portfolio combines corporate debt and equity assets and is dedicated to life insurance products (individual savings) of AXA France. The results are as follows:

Corporate biodiversity footprint per asset class v

| Asset class | Biodiversity footprint ( $\mathrm{km}^{2}$ MSA/ € million) <br> $\checkmark$ | Coverage <br> (\%) |
| :---: | :---: | :---: |
| Total | ( $)^{-0.078}$ | 57\% |
| Corporate bonds | -0.083 | 54\% |
| Equities | -0.034 | 91\% |

The biodiversity footprint for end-2022 is $-0.078 \mathrm{~km}^{2}$ of MSA/ $€ \mathrm{~m}$. A simple interpretation of this result would be that investing $€ 1$ billion is the equivalent of artificializing a $78 \mathrm{~km}^{2}$ plot of land, which corresponds to:

- $3 / 4$ the area of Paris; or
- Nearly 460 times the area of the Stade de France, where major Olympic Games events will be held in Paris next year.

This result is due mainly to the basic materials and financial sectors and more specifically related to the Scope 3 impacts of the corporates in these sectors. The challenges of calculating financial sector impacts are particularly relevant: Scope 3 is highly dependent on the level of disclosure (volumes of revenues associated by type of activity, sectoral allocation of funding, etc.) on each of the categories of financial activities (loan books, fund management, intermediation, other financial services, etc.). While relative transparency on loan books is currently provided by banks, detailed information on other activities like asset management is almost inexistent. This leads to a high level of approximation in calculations impacting the resulting data quality. CBF is thus not a true impact metric but a theoretical proxy allowing investors to identify the economic activities contributing most to biodiversity loss.

1. This indicator was proposed as part of the development of the GLOBIO3 model, the objective of which is to simulate the impact of different human pressure scenarios on biodiversity. The GLOBIO model was developed by PBL Netherlands Environmental Assessment Agency to quantify global human impacts on biodiversity. (Source: IDL Methodology).
2. Artificialization of an environment, of a natural or semi-natural habitat is the loss of its qualities. The term refers to the loss of biodiversity and ecosystems destruction. Artificialization corresponds to the transformation of an environment due to the human presence.
( $)$ Climate and Biodiversity metrics covered by a limited assurance conclusion, please refer to Section "Independent Limited Assurance Report (PwC)" for details.

# H. AXA Group's approach to integrating environmental, social and governance criteria into risk management 

The Group's management of sustainability risks is part of a comprehensive system of internal controls and risk management applying to all Group entities including AXA S.A., as described more extensively in AXA's 2022 Universal Registration Document. The Group is engaged in the insurance, reinsurance, asset management and banking businesses on a global scale. As such, it is exposed to a wide variety of risks, including market, credit, insurance, operational and other material risks.

## Sustainability risk assessment

The Group has conducted an internal risk assessment to identify its main sustainability risks, in accordance with the requirements of Directive 2014/95/EU related to extra-financial reporting. ${ }^{1}$

The sustainability risk assessment is updated every year. Risk factors for each area related to sustainability (employer responsibility, the environment, societal impact, business behavior including respect for human rights, and stakeholder engagement) are identified based on the sustainability risks studied in previous years. These risks are cross-referenced with the AXA Group Operational Risk Profile and compared to the S\&P Global Corporate Sustainability Assessment.

Please refer to Section 4.1 of AXA's 2022 Universal Registration Document ("Sustainability Risk Assessment") for more details.

## Risk governance framework v



[^8]
## Adapting risk management techniques to climate change

Assessing climate change risks is a growing priority across the financial services industry. It is also an integral part of AXA's risk management framework.

The European Solvency II Directive and its delegated acts (Solvency II Directive 2009-2009/138/EC) require sustainability risks to be reflected in insurance and reinsurance undertakings risk management: underwriting and reserving policy, investment risk management and, where relevant, in policies on other risk management areas. The identification and assessment of sustainability risks must be included in the tasks of the insurance and reinsurance undertakings risk management function (including the Own Risk and Solvency Assessment-ORSA, which AXA Group must produce as a report that is filed with the applicable national supervisor). The Group's ORSA report is reviewed annually by the AXA Solvency II Committee and presented, first to the Audit, Risk and Compliance Committee (ARCC) and then to the Audit and the Finance \& Risk Committees of the Board of Directors, before being submitted to the Board of Directors, which approves the conclusions of the Group's ORSA report and authorizes its filing with the French supervisor, ACPR.

As per the Solvency II framework, AXA's ORSA must provide an overview of the work underway at AXA Group to assess the potential implications of climate change, as well as the necessary business adaptation and mitigation actions.

Sustainability risks are covered by various existing processes (e.g., reputation risks, emerging risks, regulatory risks and Group stress scenarios). Despite the overlap between sustainability risks and other risks (emerging, reputational and natural catastrophe risks), the ORSA report encompasses the main sustainability risks and notably climate-related risks, in compliance with Solvency II requirements.

AXA endeavors to continuously enhance its overall understanding and assessment of the potential climate risk impact and further develop internal climate scenario analyses. Risk management frameworks need to address climate risk specificities. Insofar as climate change risks arise over the medium- to long-term, their trajectories and impact are uncertain. Moreover, changes in climate dynamics will create structural changes with broad effects on the economic, financial and insurance activities that are not fully reflected in historical data. In this respect, climate scenario analysis based on different trajectories of future climate, macro-economic and financial conditions is a relevant tool to conduct a forward-looking assessment of potential vulnerabilities related to climate-change risks.

## Supervisory stress tests and internal analysis

The development of climate scenario analyses and stress tests has been accelerating, particularly through the pilot climate exercise launched in June 2020 by ACPR and a similar exercise
launched by PRA/the Bank of England in 2021 as described below.

These exploratory exercises aim at (i) contributing to a better integration of climate-change risk into the risk management system (limits or inadequacies of the models, absence or incomplete nature of the data, etc.) and (ii) providing a first assessment of industry exposures and vulnerabilities. For that purpose, Banque de France and ACPR specifically developed in 2020 an analytical framework covering physical and transition risks while providing French insurance and banking firms with new forward-looking data based on NGFS scenarios.

Unlike traditional stress tests, the ACPR pilot did not stress the solvency ratio but the SII balance sheet using forward-looking calibration over four long-term horizons (2025, 2035, 2040 and 2050) with the option to include dynamic management actions (asset allocation, price increases, reinsurance, etc.).

ACPR provided three climate transition scenarios ("orderly," "sudden" and "delayed") converging on the 2050 Paris Agreement carbon neutrality target and one physical scenario reaching consensus among the expert community (RCP 8.5 scenario).

AXA Group contributed to this exploratory exercise and sees the use of climate scenario analysis as an opportunity to map out the potential long-term implications of climate change on its investment portfolios and insurance business.

Through this type of active cooperation with supervisory authorities and industry peers, AXA Group aims to improve its framework aimed at addressing medium- to very long-term climate change risks, although the exercise is highly uncertain, and many methodological challenges remain.

As part of AXA Group's ORSA, the ACPR scenarios published in connection with the 2020 pilot climate exercise have been supplemented to better reflect AXA Group's own risk profile.

Property and casualty (P\&C) physical risks have been assessed through modular approaches (from simple to sophisticated modeling) to encompass the three drivers of natural risks (changes in hazards, exposure and vulnerability) and assess the potential impacts (i.e., the evolution of modeled average annual losses (AAL) of forward-looking scenarios with uncertainty in terms of pessimistic vs. optimistic views).

Regarding health and protection-related risks, AXA has leveraged the scenarios developed in 2020 by ACPR to focus on the study of the mortality increase caused by urban pollution and define AXA's own methodology to derive mortality shocks under the most unfavorable scenario.

ACPR's work on climate change will continue with the launch of a second stress-testing exercise in 2023 for insurers, as announced in February 2023 (date of the exercise to be confirmed).

# Description of the main environmental, social and governance risks considered and analyzed, and the frequency of reviews 

The sustainability risk mapping approved by the Group Audit Risk \& Compliance Committee (ARCC) assessed 18 sustainability risks for AXA Group in 2022 in five main areas:

- Governance: stakeholder engagement;
- Employer responsibility: safe environment, inclusion and diversity, and talent management/loss of key staff;
- Climate change and biodiversity: AXA Group's impact on climate change as an investor, the impact of climate change on AXA Group as an investor, AXA Group's impact on climate change as an insurer, the impact of climate change on AXA Group as an insurer, AXA Group's impact on biodiversity,
the impact of AXA Group's own operations on climate change and the impact of climate change on AXA Group's own operations;
- Inclusive insurance: partnership and philanthropy; and,
- Business behavior: anti-bribery and anti-corruption measures, business conduct, responsible data use, data privacy, data security, responsible procurement and tax policy.

In 2022, as part of the sustainability risk assessment carried out annually within the context of Directive 2014/95/EU reporting for the Group (including AXA S.A.), climate change and biodiversity loss were identified as two of the main sustainability risks, as described in the AXA Group Sustainability risk assessment mentioned earlier.

Please refer to Chapter G of this report for more information on risk management regarding biodiversity.

## Climate change risks to AXA Group's activities

Climate change risks are usually understood to comprise the following key risk drivers impacting companies' valuation and profitability:

- Physical risk refers to the direct impacts of climate change on persons and property, such as those arising from warmer temperatures, the increase in the frequency and severity of extreme weather events, fires, rising sea levels and changes in exposure to vector-borne diseases. For (re)insurers, the physical risks may significantly impact business and the (re) insurance industry more broadly, including with respect to risk perception, pricing and modeling assumptions, the need for new insurance products, the amount, frequency and quantum of claims. Physical risk has a direct impact on undertakings, both through the impairments in value associated with assets held by (re)insurers and through changes in the frequency and cost of these risks on the liability side of the balance sheet;
- Transition risk stems from a change in the behavior and strategies of industrial companies, market participants and customers in response to climate change and because of the implementation of climate-related policy, regulatory and technological developments including those due to the crosssectoral structural changes stemming from the transition towards a low-carbon economy. Transition risk has an impact on (re)insurance products and underwriting and impairs the value of investments held by (re)insurers; and
- Liability risk can result from both the physical and transition risks of climate change, including because of potential disputes, claims for compensation and legal proceedings brought against insurees, companies (re)insurers are invested in and potentially directly against insurers; seeking damages for a contribution to climate change or for inaccurate or
insufficient disclosure on material financial or operational risks. There is an increasing risk of other forms of climaterelated litigation; in particular, claims by shareholders and other stakeholders for greenwashing, misrepresentation, misleading conduct, misselling, fraud, breaches of fundamental human rights, breaches of fiduciary duties and breaches of disclosure obligations in listing rules or other corporate regimes, or for having inadequate controls or processes in place.


## Climate-related liability risks

The insurance business could be impacted in several ways by the growth of climate change-directed litigation. AXA, as the Group's parent company, has identified potential areas of impact:

- Underwriting: certain P\&C coverage (e.g., general liability, professional indemnity and directors and officers liability insurance) could be particularly impacted by climate change litigation. The sectors that have been identified as most at risk include carbon intensive sectors, sectors exposed to the physical risks of climate change (including utilities and farming) and the financial sector;
- Investments: strategic climate change litigation against corporates could jeopardize insurers' existing investments, impair businesses' corporate strategies, expose investee companies to financial risks (including defense costs and damages claims), impact insurers' investment portfolios and devalue carbon-intense assets;
- Governance: insurers increasingly have regulatory and legal obligations with regards to climate risk governance, scenario analysis and stress testing, as well as climaterelated disclosure requirements. Businesses are under increasing stakeholder scrutiny to consider and disclose the impact of climate related risks on company investments and operations. If and when climate litigation risk is seen as a financial risk, institutions may be required by law to quantify and disclose the risks and the potential impact that climate change litigation can have on their income statements and balance sheets. To mitigate the risks presented by climate change litigation, AXA closely monitors the potential impacts on underwriting, investment and shareholder engagement, corporate governance and the company's reputation.


## Action plan to reduce exposure to the main risks

Climate-related risk could have adverse long-term macroeconomic effects, especially under a disorderly transition scenario that may affect all sectors. That said, AXA has limited exposure to carbon-intensive sectors. AXA Group, including AXA S.A., is pursuing its efforts to further decarbonize its portfolio, which will likely help mitigate the potential impacts of climate change on its activities going forward.

The quantitative exercise carried out as part of the ACPR stress test highlighted AXA's responsible investment strategy and the
impact of its historical divestment from carbon-intensive sectors. Furthermore, AXA can further decrease this exposure through active investment decisions concerning the reorientation of fixedincome maturities to best in class by sector with:

- A preference for corporates with formal low-carbon commitments;
- A limitation on investment maturities; and
- Engagement actions encouraging corporates to implement a low-carbon economy strategy.


# Quantitative estimate of the financial impact of the main ESG risks 

## Assessing the financial risk of climate change

Based on the representative risks to which the Group, including AXA S.A., is exposed (flooding in Europe, hurricanes in the U.S., urban atmospheric pollution and vector-borne diseases in France and climate-related financial risks), the estimated financial impacts on the Group using ACPR and AXA Group's ORSA scenarios are relatively limited.

## Impact on insurance activities

## Physical risks to AXA's property and casualty business

Climate change is causing significant changes in weather patterns, resulting in an increase in physical risks, including chronic and acute risks. Chronic risks refer to the long-term impacts of climate change on physical systems, such as heat waves and rising sea levels. Acute risks refer to more immediate and extreme impacts of climate change, such as tropical cyclones, floods, droughts and wildfires. Climate change is causing an increase in the frequency and intensity of these events, making them more damaging and costly to manage.

For the property and casualty business, the physical risks of climate change that would most affect this business by 2050, under a pessimistic scenario (RCP 8.5) are rising temperatures, rising sea levels, and extreme precipitation.

Flood: risks linked to extreme rainfall are likely to become more severe and more common by 2050 in some regions, including North America, and Northern and Eastern Europe, where they could be multiplied by up to 2.5 compared with the current risks using a pessimistic projection scenario (RCP 8.5) according to some climate data.

Tropical cyclones: precipitation rates are expected to increase and coastal flooding from storm surges due to rising sea levels will also become more frequent. It is likely that the frequency of the most intense tropical cyclones (Category 4 and 5 storms) will increase in the future. Tropical cyclones can also cause significant flooding, landslides and other secondary effects. Climate change is expected to exacerbate these impacts, as rising sea levels increase the vulnerability of coastal areas and heavy rainfall becomes more common in some regions.

Droughts: as the Earth warms, the spatial extent and length of droughts is expected to increase by 2050, notably in the Mediterranean, Southern Africa, Australia, and Central and South America.

Due to the Group's worldwide exposure, which affords a high level of intrinsic diversification, the possible evolution of future P\&C natural catastrophe (NatCat) claims remains driven mainly by changes in future exposure (demographic changes and wealth growth), rather than an increase in the climate hazard itself. The Group 's current studies show that, in France, the flood risk would increase by $1.5 \%$ per year up to 2050 ( $80 \%$ due to evolving exposure and $20 \%$ due to changing physical flood characteristics) under a pessimistic climate scenario in which greenhouse gas emissions continue to rise to the end of the century. Such a change could be managed in a timely manner with no significant impact on AXA by adapting AXA's underwriting, pricing, reserving or reinsurance strategy and fostering prevention initiatives.

In 2022, the Group took steps to build on its stress test exercises and expand the methodologies and processes developed to consider climate-change scenarios, notably across the AXA XL division. One key conclusion of the 2021 stress test exercises is the need to have a multi-model view when assessing future climate-risk trends. There was also a focus on illustrating and communicating the uncertainty, limitations and challenges associated with these approaches. The goal is to ensure that business decision-making properly incorporates the quantification of risk. The key conclusion from these exercises was similar to the ACPR exercise; i.e., the changes expected in terms of hazards are much smaller in the near term than those from exposure, such as rebuild cost inflation.

## The Group's health and protection business

The Group used the ACPR stress test approach, focusing on two physical scenarios:

Scenario 1: vector-borne diseases (e.g., dengue and malaria).
This scenario considers an increase in the probability of pathogen transmission by vectors such as mosquitoes, ticks and fleas.

This is due mainly to rising temperatures resulting in a shift in land that is hospitable to those vectors. This probability varies depending on the place of residence of the insured population and their vulnerability to vector-borne diseases. The timing of the impact depends on the pace of the temperature increase, which remains highly uncertain.

Scenario 2: pollution in urban areas. This scenario considers a deterioration in air quality resulting in a higher rate of respiratoryrelated diseases and deaths. This would impact the following insurance cover: death, health (consultation and hospitalization) and disability (work stoppage).

In 2020, AXA estimated that AXA's health and protection business would be rather resilient to climate change impacts over a 30 -year period. The main financial impact would come from the pollution scenario and, in particular, the consequences on life insurance. Nevertheless, this impact was expected to be limited because, even using a very conservative approach, the assessed impact would be absorbed through management actions such as realistic repricing.

In 2021, AXA also conducted a six-month study on the impact of climate change on its health and protection business by deriving AXA's own air pollution mortality shocks. Without applying any reactive management actions such as repricing, AXA's internal study confirmed the relative resilience of the AXA Health \& Protection business to climate change in general and the air pollution scenario in particular. This had already been demonstrated during the climate pilot exercise.

## Stress tests and physical and transition risks: the Group's investments

Climate-related risk could have adverse long-term macroeconomic effects that may affect all sectors, especially under a disorderly transition scenario. Nevertheless, based on the ACPR 2020 pilot exercise and AXA's 2022 ORSA stress tests, the impact of financial market scenarios on AXA Group's investments is estimated to be rather low. This is due notably to AXA Group's low exposure to the carbon-intensive sectors likely to be most affected by the climate transition. Indeed, the quantitative exercise carried out as part of the ACPR stress test highlighted AXA Group's responsible investment strategy and its significant divestment from carbon-intensive sectors.

## Physical risks

The Group's assets might be exposed to physical risks through direct property investments.

## In-house risk analysis for real-estate assets

Extreme weather events may also impact real assets, which are subject to both physical and transition risks in TCFD terminology. AXA Group has a significant amount of claims-related data to conduct a physical risks analysis of its real estate portfolio. The underlying climate mechanisms overlap with property (re) insurance but the impacts differ significantly when looking at such assets from an investor's perspective.

Since its first Climate Report in 2016, AXA Group has studied the effects of climate change on its real-estate holdings. This analysis covers a range of direct property investments totaling more than $€ 45$ billion in 2022. AXA Group's Responsible Investment and Risk Management teams analyzed the financial impact of floods, windstorms and hail on these properties in a selection of 20 nations that make up close to $85 \%$ of its portfolio.

According to research utilising AXA Group's proprietary Clymene analytic platform, average annual losses (ALL) are still small in comparison to the value of all assets. The analysis currently uses asset-level data that depends on the geolocation of buildings, as well as their primary occupancy. The following key figures provide the results of the assessment based on the average annual loss for each country.


Average annual loss per peril


A Average annual flood loss per country

Sweden, Australia, Poland, Austria, |Finland

Average annual windstorm loss per country



- More than $€ 45$ Bn of assets worldwide analyzed


A Average annual hail loss per country

AXA Group's real-estate exposure is global with most of its portfolio located in Europe ( $80 \%$ ). The portfolio's highest risk exposure is to floods ( $39 \%$ of the AAL), followed by hail (32\%) and windstorms ( $28 \%$ ). The total average annual loss for the 2022 real-estate portfolio amounted to an estimated $€ 5$ million. This figure was calculated in proportion with AXA Group's stake in each property. Furthermore, Germany leads the AAL in terms of the risk of flooding (46\%) followed by the United States (24\%) and Switzerland ( $21 \%$ ). Japan, the United States, France and Germany account for $69 \%$ of the average annual loss due to windstorms. The U.S. and France make up $63 \%$ of the AAL for hail hazards.

## Transition risks

The CPRS method is used at the Group level to quantify potential exposure to transition risks: Climate Policy Relevant Sectors (CPRS) is a classification of economic activities defined by Professor Stefano Battiston ${ }^{1}$ providing a standardized and actionable classification of activities where revenues could be affected (positively or negatively) in a disorderly transition to a low-carbon economy, based on energy technology (i.e., fossil fuels or renewable energy).

CPRS are identified considering: (i) their direct and indirect contribution to greenhouse gas emissions, (ii) their relevance to climate policy implementation (i.e., their cost sensitivity to climate policy change) and (iii) their role in the energy value chain (technology). For this reason, the CPRS classification is regarded as a reference for climate-related financial risk assessment and has been used by several international financial institutions to assess investors' potential exposure to climate transition risk.

CPRS includes six economic sectors (fossil fuels, utilities, energy intensive, transportation, buildings and agriculture with mapping to NACE classification) which are identified by considering their direct and indirect contribution to greenhouse gas emissions, their relevance to climate policy implementation and their role in the energy value chain.

Based on the CPRS classification, the Group's exposure to industries potentially affected by transition risk is contained, as they represent $29 \%$ of the overall considered exposure. Of note, $68 \%$ of the corporate bonds exposure belonging to a CPRS sector is expected to mature by 2030.

## Scenario analysis

Available climate change scenarios offer high-level narratives to illustrate the potential trajectories of the economy under different scenarios but are difficult to translate into near-term climate-change implications and the transition for private and public decision makers. This inherent uncertainty increases with the length of the time horizon.

As part of its 2022 ORSA, AXA Group made an estimate of the transition risks of its investments by using the scenario proposed by EIOPA as part of the 2022 climate stress test required by the IORP II Directive on the activities and supervision of institutions for occupational retirement provision. The 2022 EIOPA climate scenario reflects a sudden, disorderly transition to carbon neutrality due to delayed policy action. This scenario explores high transition risks compared to an orderly transition scenario.

For its ORSA, the Group simplified the EIOPA IORP scenario by focusing its analysis on corporate bonds and listed equities (General Account assets) to assess how portfolios could be exposed to and impacted by the most penalized sectors and stranded assets. For this purpose, we considered the credit spread shocks and equity price changes by sector, while ignoring the other shocks on interest rates and other asset classes.

The overall impact at the Group level of transition risks based on this EIOPA scenario (IORP) is equivalent to approximately $-10 \%$ of the shocked assets' market value.

## Evolution of methodological choices and results

The following table shows a summary of the scenario analysis used in this chapter.

| Scenario analysis v |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Corresponding temperature rise V | Aspects covered | Scenario | Source | Time frame | Scope |
| 1.9 (median) | Physical risks | SSP2-RCP4.5 | IPCC | Medium term (2040-2060) | Residential, industrial and commercial LOBs |
| 2.4 (median) | Physical risks | SSP5-RCP8.5 | IPCC | Medium term (2040-2060) | Residential, industrial and commercial LOBs |

[^9]
# I. List of financial products referred to under Sections 8 and 9 of the Sustainable Finance Disclosure Regulation (SFDR) 

## List of financial products mentioned under Articles 8 and 9 of SFDR

AXA S.A. is not a financial participant under SFDR and thus has no financial products referred to under Sections 8 and 9 of SFDR.


## Appendix

## Guidance table for TCFD recommendations



## Guidance table for TNFD recommendations

| Themes | TNFD recommendations | Corresponding sections of the report |
| :---: | :---: | :---: |
| Governance |  |  |
| Describe the organization's governance around nature-related dependencies, impacts, risks and opportunities | a) Describe the board's oversight of naturerelated dependencies, impacts, risks and opportunities <br> b) Describe management's role in assessing and managing nature-related dependencies, impacts, risks and opportunities | Chapter B - Internal resources Chapter C-Governance |
| Strategy |  |  |
| Describe the actual and potential impacts of nature-related dependencies, impacts, risks and opportunities on the organization's businesses, strategy and financial planning where such information is material | a) Describe the nature-related dependencies, impacts, risks and opportunities the organization has identified over the short, medium and long term <br> b) Describe the effect nature-related risks and opportunities have had on the organization's business, strategy and financial planning <br> c) Describe the resilience of the organization's strategy to nature-related risks and opportunities, taking into consideration different scenarios <br> d) Disclose the location ${ }^{1}$ where there are assets and/or activities in the organization's direct operations, and upstream and/or downstream and/or financed | Chapter D - Engagement strategy <br> Chapter G - Biodiversity strategy <br> Chapter F - Climate change strategy |
| Risk management |  |  |
| Describe how the organization identifies, assesses and manages nature-related dependencies, impacts, risks and opportunities | a) (i) Describe the organization's process for identifying and assessing naturerelated dependencies, impacts, risks and opportunities in its direct operations (ii) Describe the organization's approach to identifying nature-related dependencies, impacts, risks and opportunities in its upstream and downstream value chain(s) and financed activities and assets <br> b) Describe the organization's process for managing nature-related dependencies, impacts, risks and opportunities, and actions taken in light of these process <br> c) Describe how processes for identifying, assessing and managing nature-related risks are integrated into overall risk management <br> d) Describe how affected stakeholders are engaged by the organization in its assessment and response to naturerelated dependencies, impacts, risks and opportunities | Chapter H-Risk management |
| Indicators \& targets |  |  |
| Disclose the metrics and targets used to assess and manage relevant naturerelated dependencies, impacts, risks and opportunities | a) Disclose the metrics used by the organization to assess and manage material nature-related risks and opportunities in line with its strategy and risk management process <br> b) Disclose the metrics used by the organization to assess and manage dependencies and impacts on nature <br> c) Describe the targets and goals used by the organization to manage naturerelated dependencies, impacts, risks and opportunities, and its performance against these | Chapter G - Biodiversity strategy Chapter F - Climate change strategy |

# Climate, biodiversity and ESG initiatives supported by AXA S.A., as the parent company of AXA Group 

TCFD: AXA Group co-chaired the global industry-led Task Force on Climate-Related Financial Disclosures (TCFD) upon its launch in December 2015. TCFD was set up by the Financial Stability Board (FSB) and originally chaired by Michael Bloomberg and Mark Carney (former Governor of the Bank of England, now UN Special Envoy on Climate Action). TCFD provides guidance on how to disclose climate change risks and opportunities. In 2019, FSB approved AXA Group's renewed membership of TCFD, notably with an ambition to investigate the relevance of investment temperature metrics.

TNFD: AXA Group is a member of TNFD. Its members include both financial institutions and corporates. It is developing an industry standard to identify and mitigate impacts, dependencies and risks related to nature. A beta framework was released in March 2022. Testing and refinement will continue until mid-2023 in consultation with key knowledge partners. AXA Group is a member of the Metrics and Targets Working Group and is actively working with other members to identify the best existing approaches. TNFD membership also provides AXA Group with access to best practices on identifying and mitigating biodiversity-related risks.

GFANZ: the Glasgow Financial Alliance for Net Zero (GFANZ) is a coalition of non-state actors committed to aligning with the goal of net-zero emissions by 2050. AXA Group is a member of the GFANZ Real Economy Transition Plan working group. It participates in GFANZ via the Net-Zero Asset Owner Alliance (NZAOA), and the Net Zero Asset Managers Initiative (NZAMI).

- NZAOA: AXA Group joined the UNled Net-Zero Asset Owner Alliance in November 2019. NZAOA is an international group of institutional investors committed to transitioning their investment portfolios to Net-Zero greenhouse gas emissions by 2050. This involves regular reporting on progress, including establishing intermediate targets every five years.
- NZAMI: AXA Group's Asset Management business, AXA IM, is a member of the Net Zero Asset Managers Initiative, which brings together an international group of asset managers committed to supporting the goal of net-zero greenhouse gas emissions by 2050, in line with global efforts to limit warming to $+1.5^{\circ} \mathrm{C}$, and supporting investing aligned with net-zero emissions by 2050.

ORRAA: AXA Group is a co-chair of the Ocean Risk and Resilience Action Alliance (ORRAA) formed following the 2018 Ocean Risk Summit. ORRAA brings together finance and insurance companies, along with governments, non-profits and stakeholders to drive investment in marine and coastal natural capital, reduce ocean and climate risks, and build resilience in coastal communities.

## Sustainable Blue Economy Finance

Initiative: AXA Group became a member in 2021, signing up to the Sustainable Blue Economy Finance Principles and endorsing the \#BackBlue commitment. This initiative, founded by the European Commission and other institutions, provides key principles to promote the implementation of Sustainable Development Goal 14 (Life Below Water) and set out ocean-specific standards.

Climate Finance Leadership Initiative: the Climate Finance Leadership Initiative (CFLI), launched in September 2018 by the UN Secretary General and presided by Michael Bloomberg, seeks to develop standardized and securitized investments at scale to tackle climate change.

## Alliance of CEO Climate Leaders: this

is a group of 50 CEOs set up by the World Economic Forum (Davos) to actively engage in global efforts to create market opportunities for tackling climate change. Its goals are to promote strong climate action, including a commitment to reduce carbon emissions, to support TCFD, to develop low-carbon solutions and finance, and promote adequate regulation. AXA Group joined in 2018.

IDF: The Insurance Development Forum (IDF) is an insurance industry-led publicprivate partnership dedicated to closing the insurance protection gap in countries vulnerable to the impacts of climate change. It is supported by the United Nations and the World Bank, gathering members from the public sector, multilateral organizations, NGOs and civil society.

## Underwriting referrals process

A business referral process is in place to monitor the implementation of AXA's sector guidelines for AXA Group's insurance activities. This involves any sensitive business risks identified being escalated to Group Risk Management (GRM). Such sensitive business risks are assessed by sustainability underwriting experts. High-risk ESG cases are escalated to the Group Underwriting Committee (GUC). In 2022, 160 business cases were escalated. These 160 cases correspond to 6\% of AXA XL's large commercial clients.

## Sustainability referrals v

Sustainability sector guidelines


Sensitive business risk referrals in 2022 by sector v


Risk assessment

Sensitive business risk referrals and decisions taken v


128
Proceed (including cases
with mitigation plan and follow-up and cases within a grace period)

# Independent Limited Assurance Report ( PwC ) 

## Limited assurance report from one of AXA S.A.'s Statutory Auditors on the Identified Sustainability Information presented in the AXA's 2023 Climate \& Biodiversity Report dated June 27, 2023

To the Board of Directors of AXA S.A.,

In our capacity as statutory auditor of AXA S.A. (the "Company" or "AXA") and in accordance with your request, we have undertaken a limited assurance engagement on the selected sustainability performance indicators for the year ended December 31, 2022 (the "Identified Sustainability Information") presented below and identified with a $(\checkmark)$ in the Company's 2023 Climate \& Biodiversity Report dated June 27, 2023 (the "2023 Climate \& Biodiversity Report"):

- KPI 1 : Carbon intensity by revenue or GDP, covering Corporate debt \& equity and Sovereign debt, for AXA S.A. and AXA Group;
- KPI 2 : Carbon intensity normalized per Enterprise Value, covering Corporate debt \& equity, for AXA S.A. and AXA Group;
- KPI 3 : Carbon absolute emission, covering Corporate debt \& equity, for AXA S.A. and AXA Group;
- KPI 4 : Implied Temperature Rise (Corporate debt \& equity), for AXA S.A. and AXA Group;
- KPI 5 : Warming potential (Sovereign debt), for AXA S.A. and AXA Group;
- KPI 6 : Climate Value at Risk for Corporate debt \& equity, for AXA S.A. and AXA Group;.
- KPI 7 : Amount of Green Bonds, for AXA Group;
- KPI 8 : Carbon footprint of group's operations, for AXA Group
- KPI 9 : Corporate Biodiversity Footprint, for a limited scope of portfolio dedicated to life insurance products (individual savings) of AXA France;
- KPI 10 : Coal exposure, for AXA S.A. and AXA Group;
- KPI 11 : Unconventional hydrocarbons exposure, for AXA S.A. and AXA Group;
- KPI 12 : Overall oil \& gas exposure, for AXA S.A. and AXA Group.


## Our Limited Assurance Conclusion

Based on the procedures we have performed as described under the section "Summary of the Work we Performed as the Basis for our Assurance Conclusion" and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Identified Sustainability Information presented in the 2023 Climate \& Biodiversity Report for the year ended December 31, 2022 is not prepared, in all material respects, in accordance with the Reporting Criteria (see below under "Understanding how AXA has prepared the Identified Sustainability Information").

We do not express an assurance conclusion on the Identified Sustainability Information in respect of earlier periods or on any other information included in the 2023 Climate \& Biodiversity Report. In particular, we have not reviewed and do not provide any assurance over other individual project information reported.

## Understanding how AXA has prepared the Identified Sustainability Information

The absence of a commonly used generally accepted reporting framework or a significant body of established practice on which to draw to evaluate and measure the Identified Sustainability Information allows for different, but acceptable, measurement techniques that can affect comparability between entities and over time.

Consequently, the Identified Sustainability Information needs to be read and understood together with the following reporting framework used by the Company:

- KPI 1 to 3: S\&P Global - Trucost Data Methodology Guide - Corporate Environmental Performance regarding the "Corporate" and The World Bank - Sovereign ESG portal regarding the "Sovereign";
- KPI 4 and 6: MSCI Climate Value-at-Risk and Warming Potential ; - KPI 5: Beyong Ratings - CLAIM methodology;
- KPI 7: Guide to Green Bonds on the Terminal - Understanding the Bloomberg Green Bond Universe;
- KPI 8: AXA Environmental Reporting Protocol, 2022;
- KPI 9: Iceberg Data Lab - Corporate biodiversity footprint methodology; - KPI 10-12: Urgewald \& Merrill Lynch - Global Oil \& Gas Exit List;
(together the "Reporting Criteria"), which AXA has used to prepare the Identified Sustainability Information, and significant elements of which are disclosed in the 2023 Climate \& Biodiversity Report which AXA has used to prepare the Identified Sustainability Information.


## Inherent Limitations in Preparing the Identified Sustainability

 InformationThe Identified Sustainability Information may be subject to inherent uncertainty because of incomplete scientific and economic knowledge and the quality of external data used. Moreover, some information is sensitive to the choice of methodology and the assumptions and/or estimates used for its preparation and presented in the 2023 Climate \& Biodiversity Report.

## AXA's Responsibilities

Management of AXA is responsible for:

- selecting or establishing the Reporting Criteria for preparing the Identified Sustainability Information;
- the preparation of the Identified Sustainability Information in accordance with the Reporting Criteria;
- designing, implementing and maintaining internal controls over information relevant to the preparation of the Identified Sustainability Information that is free from material misstatement, whether due to fraud or error.


## Our Responsibilities

We are responsible for:

- planning and performing the engagement to obtain limited assurance about whether the Identified Sustainability Information is free from material misstatement, whether due to fraud or error;
- forming an independent conclusion, based on the procedures we have performed and the evidence we have obtained; and
- reporting our conclusion to the Directors of the Company.

As we are engaged to form an independent conclusion on the Identified Sustainability Information as prepared by management, we are not permitted to be involved in the preparation of the Identified Sustainability Information as doing so may compromise our independence.

## Professional Standards Applied

We performed our limited assurance engagement in accordance with the professional guidance issued by the French Institute of Statutory Auditors (Compagnie Nationale des Commissaires aux Comptes) applicable to such engagement and the International Standard on Assurance Engagements 3000 (Revised), Assurance Engagements other than Audits or Reviews of Historical Financial Information issued by the International Auditing and Assurance Standards Board.

## Our Independence and Quality Control

We have complied with the independence and other ethical requirements of the French Code of Ethics for Statutory Auditors (Code de Déontologie) as well as the provisions set forth in Article L.822-11 of the French Commercial Code (Code de Commerce) and the International Code of Ethics for Professional Accountants (including International Independence Standards) issued by the International Ethics Standards Board for Accountants (IESBA Code), which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

Our firm applies International Standard on Quality Management 1, which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Our work was carried out by an independent and multidisciplinary team with experience in sustainability reporting and assurance.

## Summary of the Work we Performed as the Basis for our Assurance Conclusion

We are required to plan and perform our work to address the areas where we have identified that a material misstatement of the Identified Sustainability Information is likely to arise. The procedures we performed were based on our professional judgement.

In carrying out our limited assurance engagement on the Identified Sustainability Information, we:

- conducted interviews with the people responsible for preparing the Identified Sustainability Information and gaining an understanding of the Company's processes, control environment and, where appropriate, the information systems used to produce the Identified Sustainability Information;
- assessed the appropriateness of the Reporting Criteria defined by the Company for producing the Identified Sustainability Information, with regard to AXA's specific circumstances. We also assessed the relevance, completeness, reliability, objectivity and understandability of the Company's selected Reporting Criteria, with due consideration of industry best practices when appropriate;
- with regard to investment KPIs (i.e., all the above-mentioned KPIs except KPI 8):
- verified the consistency of the total assets under management used as the basis for calculating the Identified Sustainability Information, with, depending on the relevant scope (AXA Group or AXA S.A. or the portfolios concerned by KPI 9), the data used to prepare the financial statements or consolidated financial statements for the year ended 31 December 2022 published by the Company,
- verified the consistency of data communicated by third
parties (e.g., greenhouse gas emissions) by implementing analytical procedures, based on representative samples, in order to corroborate changes in relation to the previous year and reconciliations with public information regarding the relevant assets;
- evaluated, on a sample basis, the process for collecting and compiling the data used to produce the Identified Sustainability Information, in order to assess completeness and accuracy thereof in relation to the Reporting Criteria, and implementing procedures to verify the proper consolidation of the data collected to produce the Identified Sustainability Information.
- with regard to KPI 8:
- verified the consistency of the indicator with the indicator presented in the consolidated non-financial performance statement (DPEF) for the year ended 31 December 2022, for which we issued a limited assurance report on 20 March 2023,
- verified the consistency of the methodology specified by AXA S.A. in the Reporting Criteria with the methodology applied to determine the indicator presented in the consolidated nonfinancial performance statement (DPEF) for the year ended 31 December 2022;
- assessed the overall consistency of the Identified Sustainability Information presented in the 2023 Climate \& Biodiversity Report.

Our work did not include carrying out procedures on data established and communicated by a third party and / or methodologies developed by a third party ${ }^{1}$, other than the verification of the consistency of data communicated by third parties by implementing analytical procedures, based on representative samples, in order to corroborate changes in relation to the previous year and reconciliations with public information regarding the relevant assets.

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

June 27, 2023
Neuilly-sur-Seine

## Bénédicte Vignon <br> Partner

## Sylvain Lambert

Partner on Sustainability Development

## Cautionary statement regarding forward-looking statements and important legal information

This Climate and Biodiversity Report may include statements with respect to future events, trends, plans, expectations or objectives and other forward-looking statements relating to AXA S.A.'s future business, financial condition, results of operations, performance and strategy as they relate to the climate objectives and other goals set forth herein. Forward-looking statements are not statements of historical fact and may contain the terms "may", "will", "should", "continue", "aims", "estimates", "projects", "believes", "intends", "expects", "plans", "seeks" or "anticipates" or words of similar meaning. Such statements are based on Management's current views and assumptions and, by nature, involve known and unknown risks and uncertainties; therefore, undue reliance should not be placed on them. In particular, the actual achievement of the climate-related and other goals set forth in this Climate and Biodiversity Report may differ materially from those expressed or implied in such forward-looking statements. Furthermore, many of the factors impacting the achievement of our climate goals may be more likely to occur, or more pronounced, as a result of catastrophic events, such as weatherrelated and other catastrophic events, including weather-related catastrophic events, pandemics, terrorist-related incidents or acts of war. Please refer to Part 5 - "Risk Factors and Risk Management" of AXA S.A.'s Universal Registration Document for the year ended December 31, 2022 (the "2022 Universal Registration Document"), available on AXA S.A.'s website (www.axa.com), for a description of certain important factors, risks and uncertainties that may affect AXA S.A.'s business and/or results of operations, particularly in respect of the ongoing war in Ukraine. AXA S.A. assumes no obligation to publicly update or revise any of these forward-looking statements, whether to reflect new information, future events or circumstances or otherwise, except as required by applicable laws and regulations. This Climate and Biodiversity Report and the information included herein were prepared on the basis of data made available to AXA S.A. as of the date of this Climate and Biodiversity Report. Unless stated otherwise in this Climate and Biodiversity Report , this Climate and Biodiversity Report and the information included herein are current only as of such date. This Climate and Biodiversity Report refers to certain nonfinancial metrics, such as ESG scores, key performance indicators, controversy scores, climate or sustainability-related metrics and benchmarks, as well as other non-financial data, all of which are subject to measurement uncertainties resulting from limitations inherent in the nature and the methods used to determine them. Non-financial metrics used herein generally have no standardized meaning and may not be comparable to similarly labelled measures used by other companies. In addition, AXA S.A. reserves the right to amend, adjust and/or restate the data presented in this Climate and Biodiversity Report , from time to time, without notice and without explanation. The data presented or included in this Climate and Biodiversity Report may be further updated, amended, revised or discontinued in subsequent publications of AXA S.A. depending on, among other things, the availability, fairness, adequacy, accuracy, reasonableness or completeness of the information, or changes in applicable circumstances, including changes in applicable laws and regulations. The measurement techniques used for determining non-financial metrics and data may involve complex modelling processes and research. The use of different measurement techniques can also result in materially different measurements, while the precision of these techniques may vary. In addition, the determination and use of non-financial metrics and data, in particular when integrating sustainability risks or the impact of investment decisions on sustainability factors in investment processes, remains subject to the limited availability of relevant data: such data is not yet systematically disclosed by issuers, or, when disclosed by issuers or collected from third-party data providers, it may be incorrect, incomplete or follow various reporting methodologies. Furthermore, most of the information used to determine non-financial metrics or factors is based on historical data, which may not be complete or accurate or may not fully reflect the future non-financial performance
or risks of the underlying investments. Although a rigorous selection process is applied to data providers with a view to provide appropriate levels of oversight, AXA S.A.'s ESG and other processes, including AXA S.A.'s proprietary ESG scoring tool, may not necessarily capture all non-financial risks and, as a result, AXA S.A.'s assessment of the impact of its investment decisions on sustainability factors may not be accurate, or unforeseen sustainability events could adversely affect the performance of the investment portfolio. While the methodologies for non-financial scoring applied by AXA S.A. are regularly updated to take into account changes in the availability of data or methodologies used by issuers to disclose non-financial information, there is no assurance that such methodologies are or will be successful at capturing all non-financial factors. This Climate and Biodiversity Report may include or refer to information obtained from, or established on the basis of, various third-party sources, including, but not limited to, third-party benchmarks and indexes. Such information may not have been reviewed by AXA S.A., and AXA S.A. does not approve or endorse such information by inclusion thereof or reference thereto. In addition, such third-party information may not have been independently verified. Accordingly, AXA S.A. does not guarantee the fairness, adequacy, accuracy, reasonableness or completeness of such information, and no representation, warranty or undertaking, express or implied, is made or responsibility or liability is accepted by AXA S.A. as to the fairness, adequacy, accuracy, reasonableness or completeness of such information, and AXA S.A. shall not be obliged to update or revise such information. In accordance with applicable laws and regulations, AXA S.A.'s 2022 Universal Registration Document includes, in particular, (i) all the components of the Annual Financial Report (rapport financier annuel) referred to in Article L. 451-1-2 (I) of the French Monetary and Financial Code (Code monétaire et financier) as well as in Article 222-3 of the AMF General Regulation (Règlement Général de l'AMF); (ii) all information required to be included in the management report of the Board of Directors to AXA S.A.'s Shareholders' Meeting held on April 27, 2023, prepared pursuant to Articles L. 225-100 et seq. and L. 22-10-35 et seq. of the French Commercial Code (Code de commerce); and (iii) all the elements required to be included in the corporate governance report established pursuant to Articles L. 225-37 et seq. and L. 22-10-8 et seq. of the French Commercial Code (Code de commerce). This Climate and Biodiversity Report does not form part of AXA S.A.'s 2022 Universal Registration Document and is not intended to address or provide information in respect of, nor should it be relied upon as addressing, or should any reference herein to AXA S.A.'s 2022 Universal Registration Document be construed as addressing, any of the abovementioned requirements of (i) the Annual Financial Report, (ii) the management report of the Board of Directors to AXA S.A.'s Shareholders' Meeting or (iii) the corporate governance report. Where reference is made to a website in this Climate and Biodiversity Report , the contents of such website do not form part of this Climate and Biodiversity Report. This Climate and Biodiversity Report enables AXA S.A., as an authorized reinsurance undertaking since May 2022, to comply with the requirements set forth in Article 29 of Law No. 2019-1147 of November 8, 2019 and in the Decree No. 2021-663 of May 27, 2021. However, it does not purport, nor intend to comply with the requirements laid down in Regulation (EU) 2020/852 of the European Parliament and of the Council of June 18, 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 (the "Taxonomy Regulation") or Regulation (EU) 2019/2088 of the European Parliament and of the Council of November 27, 2019 on sustainability-related disclosures in the financial services sector (the "SFDR Regulation"), including their respective commission delegated regulations, or with the voluntary disclosure recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).


[^0]:    1. Past Climate Reports are available on www.axa.com.
    2. Article 29 of Law No. 2019-1147 dated November 8, 2019, on energy and climate and Decree No. 2021-663 dated May 27, 2021
    3. Article 173-VI of Law No. 2015-992 dated August 17, 2015, on the energy transition for green growth
    4. AXA's 2022 "Universal Registration Document" for the year ended December 31, 2022 ("Annual Report") was published in March 2023.
[^1]:    1. These results are subject to volatility linked to the evolution of industry carbon emissions, financial market performance and coverage of issuers AXA Group has invested in that may evolve over time. AXA Group's priority is to achieve a - $20 \%$ carbon footprint reduction target by 2025 with 2019 as the base year. 2. Data available from FY 2021 onwards based on the Implied Temperature Rise methodology applied on corporate bond \& equities asset class.
    2. 2022 edition of the S\&P Corporate Sustainability Assessment (CSA), which measures companies' sustainability performance. Top performers can be included in the Dow Jones Sustainability Indices (DJSI).
    3. Based on its strong performance in 2022, AXA Group decided to set a more ambitious target, with a $€ 1.7$ billion floor for 2023.
[^2]:    1. AXA was also a founding member and the Chair of the Net-Zero Insurance Alliance until May 2023, when it decided to discontinue its membership and continue its sustainability journey individually.
[^3]:    1. Regulation (EU) 2020/852 of the European Parliament and of the Council of June 18, 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088.
    2. Commission Delegated Regulation (EU) 2021/2139 of June 4, 2021, supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives, and (ii) the Commission Delegated Regulation (EU) 2021/2178 of July 6, 2021, supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by specifying the content and presentation of information to be disclosed by undertakings subject to articles 19a or 29a of Directive 2013/34/EU concerning environmentally sustainable economic activities, and specifying the methodology to comply with that disclosure obligation as amended by the Commission Delegated Regulation (EU) 2022/1214 of March 9, 2022.
[^4]:    1. AXA S.A. has no individual target but contributes to the overall Group target to reduce the carbon footprint of AXA's General Account assets by $20 \%$.
    2. $20 \%$ cumulative reduction for listed corporate debt and equities, and real estate assets.
    (จ) Climate and Biodiversity metrics covered by a limited assurance conclusion, please refer to Section "Independent Limited Assurance Report (PwC)" for details.
[^5]:    3. Insurance-Associated Emissions.
    4. Gross Written Premiums.
    ( Climate and Biodiversity metrics covered by a limited assurance conclusion, please refer to Section "Independent Limited Assurance Report (PwC)" for details.
[^6]:    AXA Group also uses sector guidelines (set out below) and engagement (see Chapter $D$ ) to give full effect to its approach to ESG integration in its investment strategy.

[^7]:    *Data available from FY 2021 onwards based on the Implied Temperature Rise methodology applied on Corporate bond \& Equities asset class

[^8]:    1. Directive 2014/95/EU of the European Parliament and the Council of October 22, 2014 amending Directive 2013/34/EU as regards the disclosure of nonfinancial and diversity information by certain large undertakings and groups
[^9]:    1. Battiston et al. (2017). "A climate stress-test of the financial system," Nature Climate Change 7, 283-288
