



Investment
Managers



2022

Article 29 - TCFD combined report

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Explanation of the report structure

Expanding on its ambition to lead in the Sustainable Finance policy space, expressed as early as in 2015 with Article 173 (VI) of the Energy Transition for Green Growth Act, the French Government goes a step beyond in 2022 with the introduction of the Article 29 of its new Energy Climate Law. The new framework maintains and expands expectations in terms of transparency with regards to the integration of environmental, social and governance (ESG) and climate risks and opportunities in investment policy, on-boarding key several concepts from the EU Sustainable Finance Disclosure Regulation. It goes even further by introducing a requirement to implement strategies to progressively align with the Goals of the Paris Agreement, as well as disclosure requirements in relation with biodiversity.

The Task Force on Climate Related Financial Disclosures (“TCFD”) was a similar call asking companies to disclose information on climate-related risks and opportunities, this time with a global reach. This framework continued to evolve in 2021 notably with a view to be more specific in terms of the metrics to be reported, as well as to further encourage reporting entities to define and publish detailed transition plans.

These initiatives have had a major impact on investors, asset managers but also issuers more broadly, and the TCFD serves as a central framework in our regular interactions with companies. This report aims to provide an overview of AXA IM’s approach to Sustainability and adheres to the TCFD’s general guidance for the financial sector. In 2022, we have added more details with regards to our biodiversity and net zero strategies.

It aims to address the French Article 29 of the Law Energy-Climate regulatory requirements¹. We are also working on the implementation of SFC and FCA upcoming regulations, to which this report already partially complies. The Hong Kong regulator (Securities and Futures Commission "SFC") has also issued the Consultation Conclusions on the Management and Disclosure of Climate-related Risks by Fund Managers. We are under the final stage of implementation and this report addresses some of the SFC requirements.

¹ Worldwide holdings include the assets managed by AXA IM Paris.

2021 Review

2021 was marked by several regulatory developments which guided our Responsible Investment (RI) activities and mobilized AXA IM's teams efforts:

- The entry into force of the EU Sustainable Finance Disclosure Regulation (“SFDR”)² level 1 requirements in March 2021, a disclosure framework aimed at ensuring an appropriate integration of sustainability risks in investment decisions, as well as sufficient and comparable information depending on the level of ESG integration;
- The entry into force of the “2020-03 position-recommendation” of the AMF Doctrine in France in March 2021, regulating extra financial disclosures for products distributed in France to retail investors;
- The publication of the Article 29 of the French Energy-Climate law (“Article 29 LEC”) in May 2021, requiring financial institutions to strengthen their Climate and Biodiversity strategy by June 2022 and the publication of the EU Taxonomy Delegated Acts in July 2021, requiring financial institutions to include disclosures in prospectus on how funds take into consideration the environmental objectives (only climate change mitigation and adaptation for 2022) of the EU Taxonomy and to what extent.

Along with the preparation for these regulatory developments, the COP26 climate change conference held in Scotland in November 2021 was a pivotal moment in the journey on the fight against climate change, five years after the COP21 where Paris Agreements have been signed³. The ambition of this global meeting was to implement Paris Agreements' goals by encouraging states to raise their climate ambitions and make new commitments. The private sector, including financial firms must support countries in their ambition by re-directing financial and investment flows into climate-friendly and resilient technologies and secure global net zero.

- After joining the Net Zero Asset Managers initiative in December 2020, we worked on our first Net Zero target released in October 2021, and subsequently updated in April 2022.

Our desire to be a transition leader requires us to be clear on red lines – practices or activities which we do not think can be part of the transition to a more sustainable world. We therefore worked in 2021 on the reinforcement of our policies, considering the developments listed above.

- Our Palm Oil policy was extended to a more comprehensive Ecosystem Protection and Deforestation policy and we reinforced our ESG Standards policy with additional exclusions on Human Rights and International Norms and Standards violations. This work continues as illustrated by the publication of our strengthened Climate Risks policy early 2022.
- Stewardship strategy is another key element of our RI framework on assets and activities on which we remain exposed. Climate remained our main theme of dialogue, but there was also a clear increase in the proportion of corporate-governance-related engagements against 2020 levels. This reflected the trend towards the integration of ESG across companies' business activity and organisation as they pursue genuinely effective ESG strategies. Ecosystem protection and human capital were key engagement themes too.

Finally, we are committed to providing transparency on the integration of ESG criteria at fund level. While we released an Engagement report at fund level in the first half of 2021, we continue to work on the improvement of our existing ESG and Voting reports offering.

² [EUR-Lex - 32019R2088 - EN - EUR-Lex \(europa.eu\)](#)

³ The COP26 has been postponed by one year due to COVID-19 global pandemic.

1- Governance

1.1 Our Philosophy

AXA IM has been involved in responsible investment for more than 20 years and is actively engaged in progressively incorporating Environmental, Social and Governance (“ESG”) factors into each area of management expertise, and in the development of a range of responsible- and impact-investment products.

We believe that ESG factors can influence, not just the management of investment portfolios across all asset classes, sectors, companies and regions, but also a range of interests affecting clients and other stakeholders.

Our investment philosophy is based on the conviction that sustainable development issues are a major concern for the coming years. We believe that combining fundamental ‘non-financial factors’ with traditional financial criteria will help us build more stable portfolios that perform better over the long term. The non-financial approach has become a necessity in more ways than one:

- It is instrumental in removing companies and investments from portfolios when they cause exposure to high levels of ESG risk, which would ultimately affect financial performance
- It focuses on companies and investments that have implemented best practice regarding managing their environmental impacts, governance and social practices, and whose responsible practices leave them better prepared, in our view, to meet the major challenges of the future
- It may support improved performance by means of active dialogue with companies on managing ESG concerns around investments and limiting our clients’ exposure to reputational risk

AXA IM’s responsible investment framework, policies and processes are built to consider both impacts, at varying degrees depending on the level of integration of our products – in line with the principles of the EU Sustainable Finance Disclosure Regulation.

1.2 Human and Technical Resources

Human Resources

The Responsible Investment (RI) capabilities are, since 2020, embedded within AXA IM’s two business units, Core and Alts. RI is now embraced by all investment teams which perform RI-related activities as part of their day-to-day. AXA IM Core and Alts teams work collaboratively in the implementation of AXA IM’s RI Strategy described in this report, notably to reach net zero greenhouse gas emissions by 2050 across all assets under management.

AXA IM Core

AXA IM has invested significant resources into recruiting RI experts and analysts who work with our investment teams to integrate ESG issues into their investment processes. The range of backgrounds includes fund management, sell-side research, quantitative analysis, strategy and project management, in addition to relevant RI experience; ensuring that RI issues are integrated using an investment-relevant approach. In total, 29 employees are involved at full-time in RI / ESG activities. There are other professionals who are not included but whose ESG work is embedded in their day-to-day routine.

More specifically, the RI research capabilities were organised as follows in 2021, within AXA IM Core:

RI Experts teams:

- A RI Coordination and Governance team responsible for coordinating the definition of the Sustainability roadmap and for steering transversal RI projects. The team is also in charge of research and engagement on corporate governance topics and develops and implements our voting policy on key themes mentioned above. The Active Ownership strategy is built and led jointly with the RI Research team. This team also helps to ensure consistency between the different business units of AXA IM in their approach to sustainability.
- A RI Research team responsible for thematic research with a focus on climate, biodiversity, human capital & diversity as well as data privacy, ensuring it translates into implementable investment decisions across platforms. This team also leads shareholders engagement on those themes. Within this team, dedicated RI Analysts are in charge of defining the eligible Green, Social and Sustainability bonds universe. They rely on our proprietary framework notably inspired by the Green and Social Bond Principle (GSBP) and the Climate Bonds Initiative (CBI) Standards.
- An ESG Research and Impact team responsible for conducting ESG and Impact analysis at company level, working closely with fund managers. Dedicated Impact Analysts perform qualitative impact analysis on companies based on five key pillars, reviewing their products or services and operational activities to demonstrate whether a company contributes to the Sustainable Development Goals or to a specific outcome.
- A RI Solutions, Tools and Models team dedicated to the development of ESG quantitative solutions. As such, the team has developed a proprietary ESG framework and RI Search platform, providing portfolio managers and analysts with ESG raw quantitative data, KPIs, internal and external research and proprietary ESG scores.

RI champions within the business:

- RI Champions within investment teams in charge of coordinating RI-related projects within their investment platform, of the integration of ESG criteria in decision-making process, supporting investment teams on RI-related topics and make the link between RI-dedicated teams and investment teams.
- ESG product and quantitative specialists within the Investment Specialist and Quant Lab teams oversee respectively product and business development activities and support the integration of ESG criteria and RI approaches within portfolio construction and decision-making processes.

In addition to these teams, c. 9 employees from Operational functions within Core and within the Global COO department are fully dedicated to ESG, to ensure the adaptation of our operational and IT framework to ESG integration and proper level of oversight from control functions.

AXA IM Alts

In addition to the breadth of Responsible Investment experts embedded within the asset management business to provide thematic research, coordination and governance, AXA IM Alts has a dedicated team of experts to support investment teams in identifying and managing ESG related risks and opportunities specific to Alternative asset classes.

- Sustainability analysts: a dedicated team of 7 experts supports the Real Estate and Infrastructure businesses through the specific research and analysis of portfolio performance, climate related risk and reporting in addition to day-to-day support for all investment teams.
- AXA IM Alts also relies on 5 Regional ESG Leads who oversee the integration of ESG across real estate assets in geographies they cover by leading sustainability related projects.
- Dedicated Impact Investing team of 6 investment professionals which analyses and selects impact projects in alternative assets such as private equity, venture capital, private debt, real assets and project finance with the aim to address the needs and aspirations of underserved people globally while protecting natural environment and contribute to the UN SDGs.

Finally, AXA IM has a dedicated Corporate Responsibility team, guided by the three pillars of ESG: Environment, Social, and Governance. We actively engage with all areas of the business to explore opportunities to push for progress on our key pillars to ensure we walk the talk, and do ourselves that which we ask of others. We also benefit from our parent AXA Group, which is a leading industry voice fighting for progress on topics such as climate change and social inclusion.

ESG Objectives and Training

Our employees are regularly trained on ESG and RI through internal and external training.

- An ESG Academy was launched in 2020 to support the ESG upskilling of employees - relying on ESG Certificate from the Chartered Financial Analyst (CFA) Institute and the Certified ESG Analyst (CESGA) from the European Federation of Financial Analysts Societies (EFFAS).
- Expanding the programme in 2021:
 - We delivered workshops to upskill our employees on ESG and climate, including a Masterclass in Net Zero, a course on ESG Fundamentals as well as a course on ESG for Real Assets.
 - AXA Group launched the AXA Climate Academy programme to help employees better understand the basic science of climate, understand the role AXA must play and empower individuals to commit to change. This programme becomes mandatory in 2022 for all employees.
- In addition, RI experts organise ongoing training on ESG issues for AXA IM staff. These sessions cover AXA IM Sustainability approach (e.g. Net Zero commitment and methodologies, scoring methodologies, engagement and voting activities).

ESG and responsible investment considerations are included in the appraisal process of different teams including Responsible Investment dedicated teams. Since 2018, all heads of investment platforms have ESG objectives included in their target letter. Portfolio managers who are involved in the management of ESG assets have related objectives. In 2021, sustainability risks (an environmental, social or governance event or condition that, if it occurs, could cause an actual or a potential material negative impact on the value of an investment) have been integrated into the [Remuneration Policy](#), in line with regulatory evolutions. From January 2021, individual objectives for investment teams include elements

related to the sustainability risk framework and updated investment processes include the monitoring of these risks.

Technical resources

The RI Solutions, Models and Tools team bases its analysis models on a range of internal and external data sources: ESG-rating agencies, broker research, and company and press publications. In 2021, AXA IM spent more than €2,2 million euros in third-party ESG-related product and services, including ESG data.

SUPPLIERS	STRENGTHS / EXPERTISE	ADDED VALUE	Scores and Research	Raw Data and KPIs
MSCI	Leader on corporate and sovereign ESG rating with a strong track-record and expertise on climate analysis for corporates	ESG and climate research	✓	✓
Vigeo-EIRIS	Strong expertise in social issues and European small & mid cap	Methodology based on analysing stakeholders from the leadership, implementation, and results perspectives	✓	✓
Sustainalytics	Controversies analysis / exposition to some activities and compliance with international norms	Controversies and reputational risks	✓	✓
Ethifinance	Strong expertise on European micro and small caps	ESG ratings used for Leverage loans and private debt asset classes.		✓
Bloomberg	Full range of ESG services	ESG KPIs used for investment and reporting purposes.		✓
ISS - Ethix	Offers expertise across a full range of ESG issues	Ethical filters and controversial weapons	✓	
ISS - Oekom	Expertise in Impact analysis	Impact research and UN SDG alignment assessment	✓	✓
Trucost	Full range of quantitative environmental and social key performance indicators (KPIs) – including SFDR PAIs – and taxonomy alignment metrics ⁴	Full range of quantitative environmental KPIs, SFDR PAIs and taxonomy alignment metrics		✓
Beyond ratings	Expertise in Climate analysis	Climate research for Sovereign assets	✓	✓
Carbone 4	Offers a climate risk package	Measures the carbon impact of investments	✓	✓

⁴ “SFDR PAIs” refers to Principle Adverse Impacts under the EU’s Sustainable Finance Disclosure Regulation

Iceberg Data Lab I Care & Consult	Measurement of investors' investments impact on biodiversity	These two data providers joined forces to develop metric quantifying companies' impact on biodiversity and nature to help investors integrate this into risk assessment and research	✓	✓
Urgewald (NGO)	Coal, oil and gas research	Coal, oil and gas research with GCEL and GOGEL		✓

To adapt to the ongoing evolution of market practices (whether regulatory or client driven) that are more and more demanding in terms of ESG assessment, AXA IM constantly monitors and refines ESG methodologies and accordingly adapt the tools provided to portfolio managers to achieve advanced ESG integration.

To do so, we monitor the quality and service offerings of all ESG data providers in the market, and regularly interacts with them to understand and challenge when necessary methodologies and related changes. As investors, we seek the best information possible, which requires using different ESG providers leveraging their strengths on specific areas.

In terms of challenges, the following points can be noted:

- Methodologies are still in the works, and complex (e.g. climate / alignment). ESG data relies on these methodologies, and is therefore subject to changes, and to challenge. This makes it more difficult to integrate in the investment decision than a traditional financial information, based on well-know and shared standards.
- Lack and cost of ESG data – although initiatives to encourage issuers to report in a more homogeneous, transparent, and usable manner are multiplying (TCFD on climate data, Workforce Disclosure Initiative on social data, etc.), ESG data remains heterogeneous and therefore complicated to use when investing and reporting. We encourage initiatives at the European and Global level to reinforce the availability of ESG information at issuer level, but also to make it available in an easy and less costly manner. AXA IM supports initiatives aimed at ensuring convergence and cooperation at global level, to develop standardized, mandatory ESG data. We support the work of the EFRAG taskforce as part of the CSRD preparation, and advocate for convergence including via our participation to SASB Investor Advisory Group.

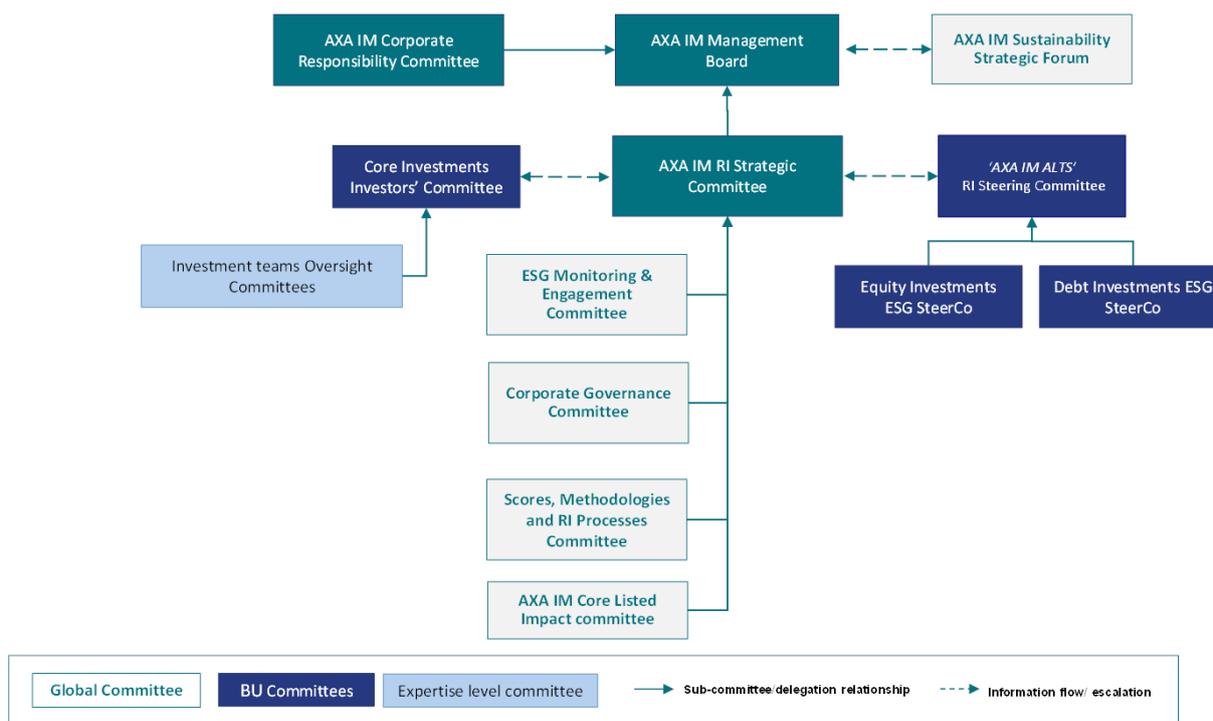
Concrete example of the selection of a data provider

To fulfil [Sustainable Finance Disclosure regulation \(SFDR\)](#) introduced in 2019 including the disclosure of the Principle Adverse Indicators (PAI) and EU Taxonomy data, AXA IM had to choose a provider to report these data. To identify the best provider in terms of coverage, data quality and cost, AXA IM sent a Request for Proposal (RFP) to 10 different providers. At the time the RFP was launched, the SFDR RTS and the Taxonomy Regulation were not finalized.

As AXA IM manage assets in Developed and Emerging market and from different asset classes such as Equity, Sovereign and Corporate Debt, the providers to which the request was sent had to be able to have a coverage wide enough in terms of asset classes and geographical zones.

To make the best possible choices, strengths and weaknesses of each data providers were reviewed and compared to determining factors such as coverage, data quality, alignment with sustainability-related regulations, calculation methodologies and level of transparency on these methodologies, update frequency and cost.

1.3 RI Governance Committees



Source: AXA IM, as of 31/12/2021. For illustrative purposes only.

Committee	Role
AXA IM Sustainability Strategic Forum and Management Board	<ul style="list-style-type: none"> The AXA IM Sustainability Forum was launched in January 2021 and is led by our Executive Chairman, Marco Morelli. The Management Board was ultimately responsible for the definition and oversight of our Sustainability strategy. From 2022, this Forum will become the Sustainability Strategic Committee attended by all members of our Management Board, as well as selected Sustainability experts, and held quarterly. This is where we will shape our vision and agree our ambitions for sustainability at AXA IM, across responsible investing and corporate responsibility.
AXA IM RI Strategic Committee	<ul style="list-style-type: none"> Leading body in charge of proposing AXA IM's strategy with regards to Responsible Investment and monitoring its delivery This notably includes the definition of sectorial policies and RI product framework as well as piloting efforts on selected themes such as climate change and biodiversity
AXA IM Corporate Responsibility Committee	<ul style="list-style-type: none"> Define AXA IM CR strategy, taking into AXA Group strategy, with concrete roadmap Animate a community through communication and business actions
AXA IM Corporate Governance Committee	<ul style="list-style-type: none"> Provide strategic oversight of AXA IM's corporate governance, stewardship and voting activities in relation to investee companies and ensuring clients' rights and obligations are exercised in a manner consistent with good practice standards

AXA IM ESG Monitoring and Engagement Committee	<ul style="list-style-type: none"> • Ensure views developed on ESG risks and opportunities, from exclusion to engagement topics are discussed collegially, considering possible implications for AXA IM • Facilitate coordination between various stakeholders in the implementation of the engagement strategy • Act as a gatekeeper of AXA IM exclusion policies • Oversee the ESG scores override process (“ESARC”) • This committee also looks after thematic issues, including climate and biodiversity related topics.
AXA IM ESG Scoring and Quantitative methodologies Committee	<ul style="list-style-type: none"> • Ensure coordination of ESG integration in a more operational manner • Discuss industrialization topics • This committee also looks after thematic issues, including climate-and biodiversity related quantitative topics.
AXA IM Core Listed Impact Committee	<ul style="list-style-type: none"> • Review and Validate proposal of Listed Impact funds • Build and promote AXA IM view on Impact in Listed Asset Classes
AXA IM Alts Steering Committee (RI, Equity Investments ESG, Debt Investments ESG)	<ul style="list-style-type: none"> • Endorses the AXA IM Alts RI Strategy, implements and monitors ESG methodologies, scores and RI processes for both Equity and Debt Businesses
Oversight Committees	
AXA IM Investment Oversight Committee (Fixed Income, Framlington, Multi-Asset)	<ul style="list-style-type: none"> • To provide formal oversight of the investment activity at expertise level as part of the Front Office controls achieved through review of reports (see below) presented to the Committee. ESG indicators are reviewed as part of this.
AXA IM Core Investments Investors Committee	<ul style="list-style-type: none"> • Discuss and decide on the main issues raised by the Investment Oversight Committees (backwards perspective) • Discuss and decide on evolutions in investment strategies and processes, and in manage, share and leverage Research capacities and outputs (forward perspective) • Review investment performance & risk indicators (including ESG indicators)

As part of the reorganisation of the Responsible Investment and Corporate Responsibility activities undertaken by AXA IM’s Management Board in 2020, the governance structure will change in 2022 with significant enhancements to continue to embed ESG within AXA IM Core and AXA IM Alts business units. This new organisation will allow AXA IM to redefine and strengthen its RI Strategy, covering both listed and alternative assets classes, improve collaboration and synergies between the two business units and better consider specificities of each asset class, and ensure alignment with our own Operations and Practices through a joint work with the CSR team.

2- Strategy

In this section we describe our ESG, Climate and Biodiversity strategies as well as key 2021 updates. We provide details on ESG scoring methodologies which are part of our AXA IM RI Framework. Climate and biodiversity metrics and methodologies which are mostly used for reporting purpose are described in the section **4 – Targets and Metrics**.

At AXA IM, we believe the financial industry has a key role to play in the fight against climate change and the move to more sustainable economies, which guides our Responsible Investment strategy and roadmap. The participation of the financial sector to achieve global sustainable objectives is one of the key pillars of political action plans to achieve climate-neutral economies – as expressed by the European Union with its “double-materiality” approach.

In that perspective, 2021 was marked at AXA IM by:

- The implementation of major Sustainable Finance policies aimed at channelling financial flows into products which support the transition to a greener and more sustainable world, through greater transparency and accountability. We continued to adapt and reinforce our approaches in this perspective, while regularly exchanging with policymakers, supervisors and peers, including through our participation to the newly created IIGCC policy steer-group which AXA IM co-chairs and to the Eurosif SFDR advisory group. These exchanges aimed at helping to ensure short-term implementation challenges (incl. lack of comparable data reported by issuers, concepts subject to interpretation in the policies leading to heterogeneity in implementation, etc.) could be solved effectively to enable the achievement of the long-term ambition of those new policies. Raising awareness and supporting education on sustainable finance topic continues to be a key focus for AXA IM in that perspective.
- The work done to define our Net Zero target, methodologies and implementation approach, following our decision to join the Net Zero Asset Managers (“NZAM”) initiative in December 2020, and in preparation for Article 29 LEC.

Those two major changes led us to continue to evolve our RI policies and framework in 2022, as described in this report. We have combined in this section the information related to our strategy with regards to ESG, Impact, Climate, Biodiversity, as well as key metrics.



Since 1998 Responsible Investment principles are part of our company’s DNA

Source: AXA IM as at 31/03/2022. (1) Principle for Responsible Investment. RI = Responsible Investment ESG = Environmental, Social, Governance (2) In-house RI Platform (3) awarded by the Environmental French Ministry in 2016. References to league tables and awards are not an indicator of future rankings in league tables or awards. (4) Source Novethic Launched at the end of 2015 following the COP21 by the French Ministry of the Environment, Energy and the Sea, the “Transition Énergétique et Ecologique pour le Climat” label (Energy and Ecological Transition for Climate) helps to comply and fulfil a fund’s commitment

to financing the green economy. The Environment Ministry sets out the share of green activities to be held to claim the label. references to league tables and awards are not an indicator of future rankings in league tables or awards. Information contained in this document may be updated from time to time and may vary from previous or future published versions of this document (5) based on AXA IM's methodology, (6) before the 3rd of August 2018, the strategy was Planet Bonds strategy

2.1 AXA IM Responsible Investment Framework

AXA IM's RI Framework is organised around three pillars:

1. ESG Quantitative and Qualitative Research
2. Exclusion policies
3. Stewardship policies

2.1.1 ESG Quantitative and Qualitative Research

ESG Scoring Methodologies

We use ESG scoring methodologies to help portfolio managers integrated ESG considerations in their investment decisions. ESG scoring methodologies rely on data reported by companies which are still heterogenous due to the absence of global, mandatory sustainability reporting standard which mean they should be used with caution. Through our advocacy efforts, we support the on-going development in the sustainability-reporting space, including at EU level with the revision of the CSRD and at global level with the work of the ISSB, and in particular advocate for a proportionate integration of the double-materiality principles.

Some of our strategies apply binding criteria in relation with the ESG score, which are described in their regulatory documentation.

2021 updates

In 2021, we have improved our ESG Scoring methodologies for traditional asset classes as follows:

- Early 2021, we have consolidated our Corporate ESG scoring methodology to improve the coverage on small and mid-caps. Thanks to Ethifinance, specialised on the ESG Scoring of SMEs and mid-size companies listed on European markets, and their Gaïa database, we are able to calculate an ESG score for more than 300 additional companies.
- Since March 2021, we deployed the issuance bonuses' process already applied to green bonds to social and sustainability bonds. For Sustainability bonds, the bonus is distributed between the E and S pillars based on the Green and Social share of the bond.
- In November 2021, we have strengthened our ESG scoring methodology. Previously, we combined data from three providers, but we have now adopted a single-provider ESG scoring model which is coupled with an overlay of AXA IM's own analysis. Entitled Q², this new and enhanced qualitative and quantitative approach offers increased coverage as well as fine-tuned fundamental analysis.

Description of ESG scoring methodologies

ESG Scoring methodology for Listed Assets

In 2021 AXA moved from a “blended score” which was an aggregation of KPIs from different providers to a structured score called Q². Q² stands for Qual and Quant.



Source: AXA IM, as of November 2021. For illustrative purpose only.

Using MSCI ESG scoring model as the starting point, Q² methodology allows to increase the coverage provided by MSCI as when MSCI doesn't provide a rating for an issuer, AXA IM ESG analysts can provide a documented, fundamental ESG analysis, which in turn will be transformed into a quantitative ESG score following MSCI pillars aggregation methodology and scores normalization, such coverage-enhancing ESG scores are referred to as “qual-to-quant”. In 2021, we created 247 ESG Scores based on a qualitative analysis.

Second, when MSCI does cover an issuer but AXA IM's ESG analysts disagree with MSCI's ESG assessment (for example because the assessment is based on scarce and/or outdated data), a documented, fundamental ESG analysis can be submitted to the peer review of the ESG Assessment and Review Committee (ESARC), chaired by the Head of AXA IM Research; if the ESARC validates the analysis, it will be transformed into a quantitative ESG score and will override the existing, previously prevailing MSCI score. In 2021, 34 scores have been corrected through this ESARC process.

Third, in the fixed income space, Q² will keep an instrument-level differentiation in ESG scores with a ESG score premium for sustainable bonds (green and social bonds) for which AXA IM's analysts (in RI Research) have a documented, fundamental positive or neutral opinion.

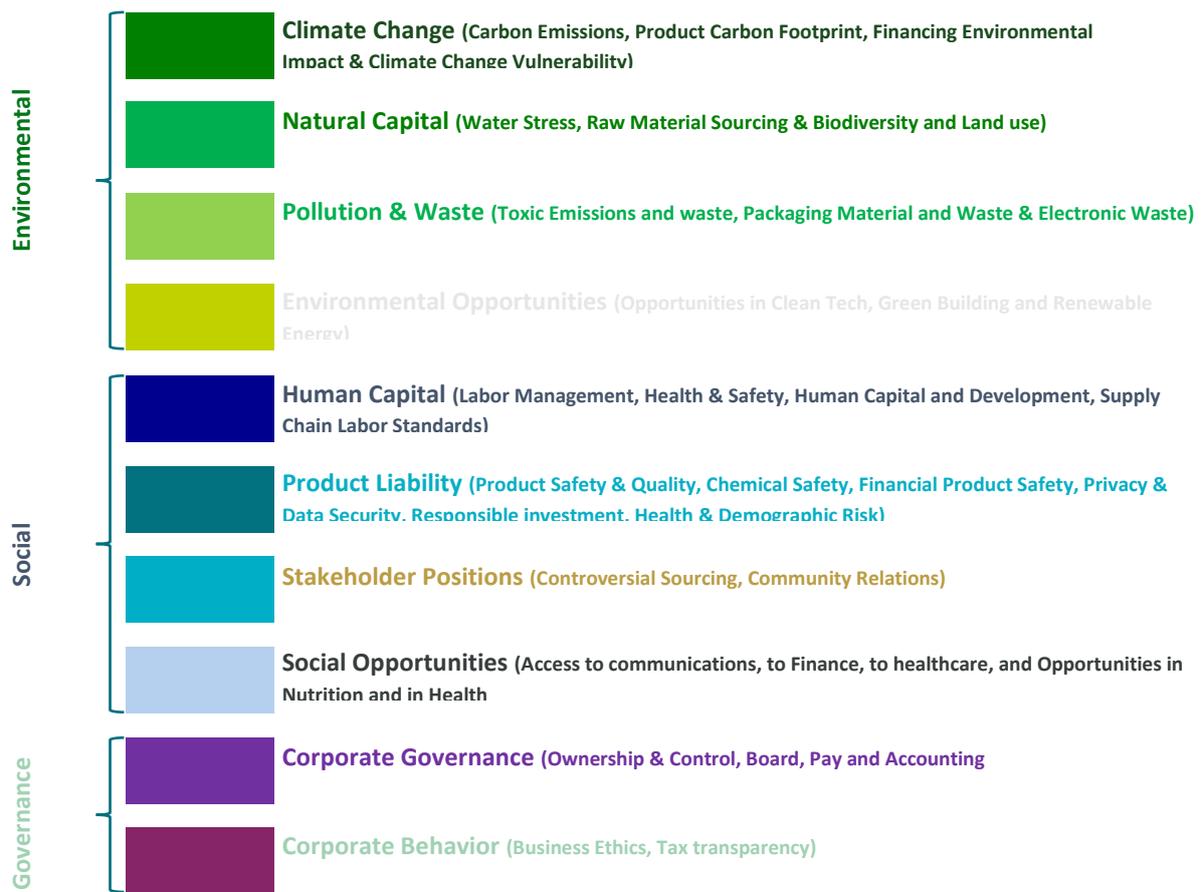
Finally, AXA IM will keep “cascading” ESG scores from root issuer to its affiliates after and beyond what MSCI does in this respect.

MSCI scores are used as a starting point, for corporates and for sovereigns, which enables Q² to provides consistent ratings between the two asset classes. MSCI scores range from 0 to 10.

▪ Corporate ESG Ratings Methodology

Key issues are industry-specific environmental, social and governance externalities that may impact a company or industry. MSCI identifies 35 Key issues within the three ESG pillars comprising 5-30% of the total ESG Rating:

- To arrive at a final ESG Rating, the weighted average of individual Key Issue Scores is normalized relative to MSCI ESG Rating Industry peers.
- The weightings consider both the contribution of the industry, relative to all other industries, to the negative or positive impact on the environment or society; and the timeline within which we expect that risk or opportunity for companies in the industry to materialize.
- The framework is such that a Key Issue defined as “High Impact” and “Short-Term” would be weighted three times higher than a Key Issue defined as “Low Impact” and “Long-Term”.
- Level of contribution to social or environmental externality: Similar to the process outlined above, each GICS (Global Industry Classification Standards) Sub-Industry is assigned a “High”, “Medium”, or “Low” impact for each Key Issue based on MSCI analysis of relevant data (e.g., average carbon emissions intensity).
- Expected time horizon of risk / opportunity: The time horizon of each Key Issue (Short-Term, Medium-Term, Long-Term) is classified based on the type of risk or opportunity that each Key Issue presents to companies.
- The Governance Pillar weight has been determined assuming a “High Contribution/Long Term” and “Medium Contribution/Long Term” assessment on Corporate Governance and Corporate Behavior respectively across all sub-industries. Additionally, the weight on the Governance Pillar will be floored at a minimum value of 33%.
- The Risk Exposure Score and Risk Management Score are combined such that a higher level of exposure requires a higher level of demonstrated management capability in order to achieve the same overall Key Issue Score.
- A controversy penalty if it is judged to pose material risks can be applied to the Key issue Score. A controversy case that is deemed to indicate structural problems that could pose future material risks for the company triggers a larger deduction from the Key Issue Score than a controversy case that is deemed to be an important indicator of recent performance but not a clear signal of future material risk.



Source: AXA IM, MSCI, 2021.

▪ Small and mid caps

To complement our corporate methodology for specific asset classes as small and mid-caps, we expanded our coverage in partnership with Ethifinance. It relies on 45 raw scores sourced from Ethifinance & Trucost, all rated on a scale from 0 to 10 and classified in 6 factors and 13 sub-factors. The sectorial weighting replicate MSCI 's one.

This expansion allows the ESG coverage of the funds targeted to improve significantly.

▪ Sovereign ESG Ratings Methodology

27 Key issues within the three ESG pillars:

- The MSCI ESG Government Ratings reflect how countries' exposure to and management of environmental, social, and governance risk factors may affect the long-term sustainability of their economies.
- The weight of an ESG pillar is determined after assessing the impact of that pillar on the long-term competitiveness over the short, medium and long term.
- Expected time horizon of risk / opportunity: time horizon of each Key Issue (Short-Term, Medium-Term, Long-Term) is classified based on the type of risk or opportunity that each Key Issue presents to the countries.
- The Governance Pillar weight is assigned a higher weight (50%) than the Environmental and Social pillars (25%) as governance offers the most dynamic ways to influence the management of environmental, social and institutional risks.
- The Risk Exposure Score and Risk Management Score are combined such that a higher level of exposure requires a higher level of demonstrated management capability in order to achieve the

same overall Key Issue Score. Within this approach, a country's Government ESG score is constrained by its risk management score



Source: AXA IM, MSCI, 2021.

- **Green, social and sustainability bonds**

A specific methodology for green, social and sustainability bond has been designed to include the bonds' qualitative assessment made by the RI Research team into the Q² scoring frameworks. The scores integrate these qualitative inputs, whether it is a corporate or sovereign bond, to produce an enhanced ESG score for green, social and sustainability bonds issuances.

Thus, the scores given to these instruments are a combination of both quantitative and qualitative assessments. The ESG score of the bond can either be the same as its issuer, or get a bonus depending on the qualitative assessment.

It allows us to differentiate these impact bonds from common bonds through ESG scoring and to favour investments participating in climate and social transition.

ESG-rating methodologies for Alternative Asset Classes

- **Direct Property**

The ESG rating methodology for real estate assets has been developed around 3 pillars: Environmental (E), Social (S) and Governance (G), each covered by dedicated indicators. The assessment is linked to the performance of a building over a defined period and therefore takes into account criteria that can be measured at the asset level. All E, S and G components are linked to the building itself or to its management method and are defined in such a way as to allow the evaluation of any type of physical real estate asset, regardless of its asset class (residential, office, hotel, etc.).

The ESG rating grid is a proprietary tool, initially developed in 2016, in line with various sectoral benchmarks, such as BREEAM in use and GRESB, in order to integrate the expectations of the main stakeholders and to guarantee the coherence of the actions carried out at asset level. This rating grid has been further developed during 2021 to more fully integrate new risks (eg. climate related risk), and to more clearly reflect evolving impact indicators.

A user guide accompanies the grid to explain each of the criteria and sub-criteria to ensure consistent use by asset managers. The rating has been developed to address the specificities of all real estate asset classes and their geographic locations, and takes into account all uses per asset, beyond the data and information for which AXA IM Alts, which encompasses the activities of AXA REIM SGP, exercises operational control.

The rating out of 200 (reduced to a score out of 10) takes into account a weighting of each criterion according to the importance of the issue in relation to AXA IM Alts' ESG policy and the manager's levers for action, while respecting the requirements of the SRI label. In line with AXA IM Alts' ESG strategy, environmental criteria play a predominant role in the rating, representing 60% of the total score. Social and governance criteria represent an equivalent weighting of 20% each.

The new ESG scoring grid has a total of 27 questions, 25 of which are scored, for a total of 200 points. The final score is calculated out of 10. In total, 12 new questions have been added compared to the previous grid and 2 questions have been deleted or substantially changed. Some themes have been added (e.g. climate resilience, impact on local communities, biodiversity), to reflect the growing importance of these themes in AXA IM Alts' sector benchmarks and stakeholder expectations. The questions also require more precise answers (e.g., details of measures in place in the building) to allow for more accurate monitoring and reporting over time.

OBJECTIVE: Assess the real performance of the building					
Category	#	Question	New topics	Points / 200	
ENVIRONMENT	ENERGY	1	What is the level of this building of the local energy performance scheme?		12
		2	Is energy consumption data collected automatically and regularly?		5
		3	What is the annual final energy consumption of the whole building?		12
		4	Which energy efficiency measures are implemented on the building?		12
	CARBON	5	Is the building's electricity consumption provided by renewable energy sources?	NEW	5
		6	What is the energy source of heating the building?		5
		7	Have you set an greenhouse gas emissions reduction plan to align the asset's GHG emission intensity with the CRREM 1.5°C trajectory?	NEW	12
		8	Does the building enable the use of low carbon transport?		12
	WATER	9	How has the annual water consumption of the building evolved?		8
		10	Which measures are in place to reduce water consumption in the building?		10
	WASTE	11	Is the amount of waste produced in the building recorded and uploaded to Deepki?	NEW	4
		12	Are a waste sorting facility or a waste recovery or recycling contract in place in the building?		4
		13	Which measures are in place to optimize waste management?	NEW	4
	BIODIVERSITY	14	What % of the site area is vegetated?		Not assessed
CERTIFICATION	15	Does the building have a valid third-party independent sustainability certification?		15	
	15b	Have other environmental certifications been obtained for your building?	NEW	Not assessed	
SOCIAL	COMFORT AND WELL BEING	16	Which measures are in place to evaluate the comfort and wellbeing of the tenants?	NEW	5
		17	Which measures are in place to improve the comfort and wellbeing of the tenants?	NEW	10
	ENGAGEMENT	18	Are ESG clauses (or green lease) included in the building's lease contracts?	NEW	10
		19	Which measures are in place to engage with the tenants?		5
20	Which measures are in place to contribute to the social and economic development of the local community?	NEW	10		
GOVERNANCE	ACTION PLAN	21	Is there an action plan in place to improve the ESG performance of the building?	NEW	10
	RESPONSIBLE PROCUREMENT	22	Is there an RFP process in place for all service providers operating on the asset?		5
		23	Are sustainability clauses included in contracts with service providers?		10
	CLIMATE RESILIENCE	24	Is the building significantly exposed to a physical risks linked to natural catastrophes and climate change?	NEW	5
		25a	Are risk management measures in place to adapt to the impacts of natural catastrophes and climate change?	NEW	5
25b	Are measures in place to adapt to the impacts of climate change?	NEW	5		

Source: AXA IM, 2021.

A preliminary ESG score is calculated at the time of acquisition, noting that many assumptions may be made as data availability is usually limited. Once under management, asset managers are responsible for undertaking an annual review and update of the ESG score for the asset within our dedicated ESG data management platform. This assessment forms the basis of the asset level ESG action plan, and specifically identifies activities and initiatives to address asset level sustainability risks and principal adverse impacts as part of our active approach to asset management. For Joint Ventures these internal ESG assessments further inform our engagement with partners and tenants.

Note: for quantitative questions related to energy (electricity, gas, district heating) and water consumption, the grid uses actual consumption data collected by the property managers in the data management platform to measure these environmental indicators.

- **CRE Debt and Infrastructure Debt**

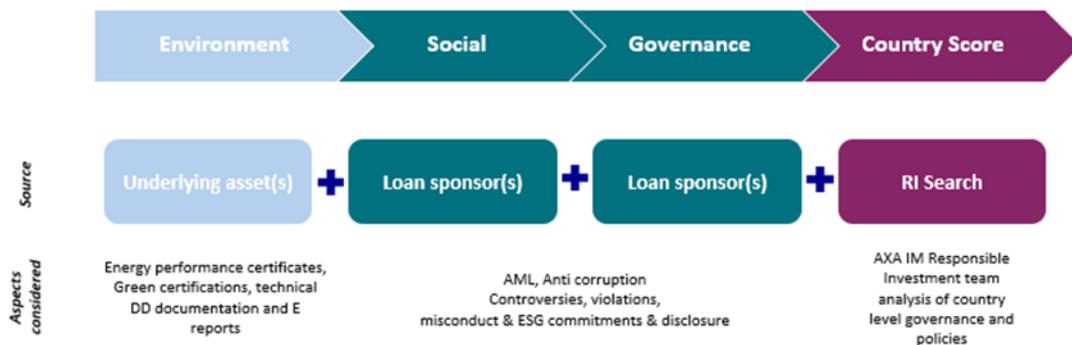
For the asset classes of commercial real estate (CRE) debt and infrastructure debt, non-financial criteria are taken into consideration during the due diligence and investment committee process. A scoring methodology specific to these two asset classes was developed in 2016 for the purpose of allocating an ESG score. In 2022 these rating tools are under review and will evolve to reflect the changing risks and impact indicators for each sector.

For CRE Debt, the methodology developed reflects the approach in place for real estate, analysing key criteria of the underlying real estate assets to determine relative ESG performance. Analysis of the underlying asset is complemented by an assessment of loan sponsors, the ultimate owners of the underlying asset, based on their publicly available commitments and policies in relation to ESG.

The ESG assessment has a total of 14 indicators (5 for the underlying asset and 9 for the loan sponsor(s)). Each indicator has a list of possible responses allowing us to determine a score. The assessment of underlying assets relies on information and data provided during the underwriting

process, while the review of sponsors relies on public information disclosed by the sponsors regarding their commitments to ESG.

Due to the nature of investment class (i.e. debt) there are limitations as to the ability to effect change in the underlying asset performance. However, to actively manage the level of sustainability risk within a portfolio, the teams review changes in coverage of certifications with public databases, as well as and change in loan sponsor commitments.

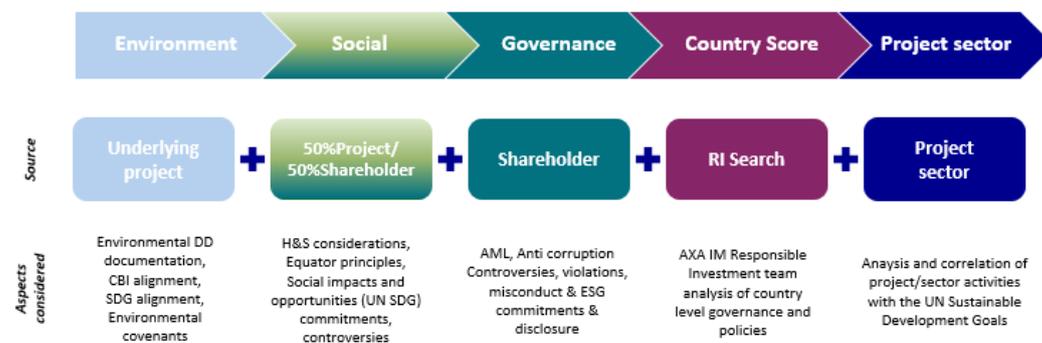


Scope of work

- ESG Score conducted during due diligence
- Balanced ESG score considers underlying asset environmental criteria and loan sponsor commitments
- Assessment conducted by fund management for loans in scope with support from ESG team

Source: AXA IM, 2021.

For Infrastructure Debt, the ESG assessment has a total of 33 indicators. We require that borrowers provide comprehensive technical and environmental data to enable us to properly assess the investment. The indicators reviewed are based on the project sector, social utility, environmental impact and ESG commitments of shareholding companies.



Scope of work

- ESG Score conducted during due diligence
- Balanced ESG score considers project environmental and social considerations, as well as shareholder
- Assessment conducted by fund management with support from ESG team

Source: AXA IM, 2021.

To assess the environmental and social score of the transactions, our investment teams will take into account:

- The category of the project (eg. Renewable energy, energy grids, transport, telecom etc.)
- Specific covenants related to environmental matters
- Specific environmental risk in the due diligence process (biodiversity risk, water risk etc)

- Certification of the project by a recognized entity (BREEAM New Infrastructure, CEEQUAL, SuRe etc.)
- Environmental risks and opportunities aligned with the Climate Bond Initiative
- Environmental & Social risks and opportunities via alignment with UN SDGs
- Specific health and safety risks

To complement the project E and S performance, indicators for the S and G components also consider the following for the project shareholders:

- Public charter engagement (UN PRI signatory, UNGC signatory)
- Compliance analysis (KYC and AML screening, World Check database screening)
- Participation in ESG initiatives (Sustainability policy, GRESB participation, public membership association)

These indicators help to determine the overall ESG score of the project which serve as informative indicators of underlying ESG performance and sustainability risk.

▪ Infrastructure equity

For the asset class of infrastructure equity, non-financial criteria are taken into consideration during the due diligence and investment committee process as well. A scoring methodology specific to this asset class has been developed for the purpose of allocating an ESG score.

The ESG assessment has a total of 15 indicators. Each indicator has a list of possible responses allowing us to determine a score. Our ESG evaluation accounts for criteria based on project's sector categorization under the Climate Bonds Initiative (CBI) Taxonomy and the draft EU Taxonomy, including any specific environmental impacts. In addition, we assess the ESG commitments of shareholding companies or partners and review performance against specific indicators such as Health and Safety, Board gender diversity and compliance with the OECD Guidelines on Multinational Enterprises. Investment specific performance targets which are aligned with the above assessments are incorporated into the active management of direct equity infrastructure investments.

▪ Leverage loans and private debt

For new loans and bonds issued by corporates that are not rated by the previous methodology, another scoring methodology is put in place based on Ethifinance data provider.

This methodology relies on answers to 32 questions rated on a scale from 0 to 10 and classified in the same 6 factors and 13 sub-factors as the corporate framework. The sectorial weighting and regional adjustment are also the same.

The controversy level of the issuer is also evaluated by Ethifinance and integrated in the model in the same way as the corporate framework.

As ESG assessment is relatively new in this asset class, disclosure for some issuers is very low, therefore we add a penalty score for unanswered questions. This penalty also helps communicating to the loan market, the importance of looking at all these topics while it is at the start of these ESG considerations.

- Other private debt assets classes

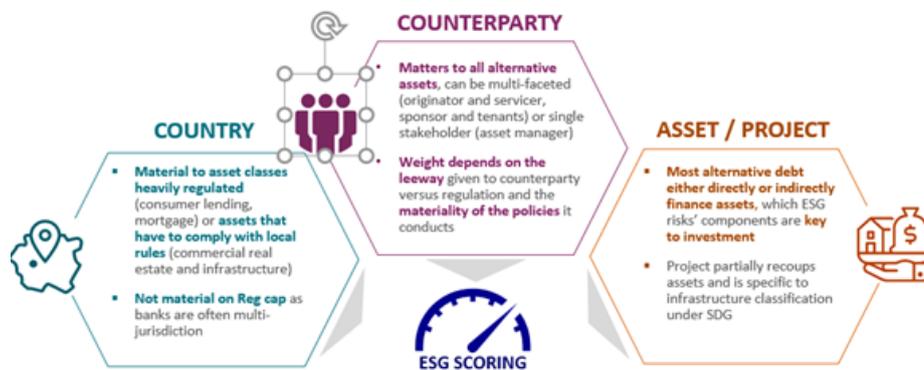
Proprietary methodologies capturing Alternative Debt specificities through quantitative and qualitative assessment have been developed in 2021

1. Consumer lending

- For ABS, mortgage loans and asset financing, a variety of indicators are taken into account depending on the nature of assets:
 - CO2 emissions for auto ABS,
 - Energy efficiency measures or labels for residential or commercial assets,
 - Social risk linked to predatory lending, etc
- Holistic ESG Due diligence is implemented based on:
 - ESG assessment on counterparty, asset portfolio & country
 - Data provided by external providers as well as questionnaire completed by our counterparty

2. Corporate lending

- ESG Leveraged loans methodology is based on:
 - Questionnaire completed by corporate
 - Controversial risks review and sustainability analysis
 - CLOs framework focusing on CLO manager & portfolio to assess CLO Manager ESG selectivity
 - Reg Cap approach based on originating banks & underlying portfolio to assess ESG on Reg Cap transaction as a whole
3. The ESG scoring has been adapted to **private debt & alternative credit specificities** in assessing country, counterparty and asset/project factor depending on the expertise as follows:



Source: AXA IM, 2021.

ESG Qualitative Research

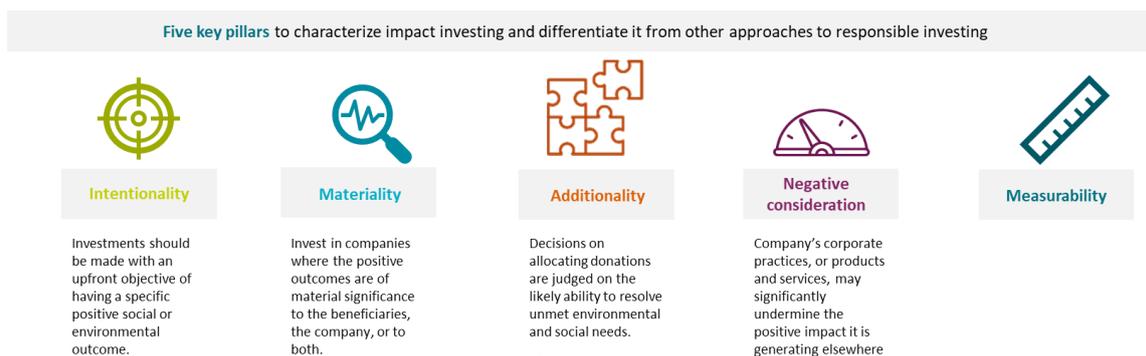
Thematic Research

At AXA IM, we produce in-house ESG research on key themes including Climate Change, Biodiversity, Gender diversity and human capital, Cyber security and data privacy, Corporate Governance notably. Research papers are published on the Investment Institute page of our website, and listed further below in this report. This research allows us to identify ESG risks, understand and anticipate their impacts on the assets in which we invest as well as the impact of our investments on environmental and social aspects. Key findings from this research also inform adjustments to our stewardship and exclusion strategies. AXA IM's thematic research papers are published on our [Investment Institute](#).

Impact Investing in Listed Markets Framework

AXA IM uses a proprietary "Impact Investing in Listed Markets" framework to identify and select issuers. Through this proprietary impact investing framework used by dedicated Impact Analysts, we can identify best-in-class companies that contribute to the UN SDGs (categorized as 'Impact Leaders'). These pillars are what characterize impact investing and differentiate it from other approaches to responsible investing:

AXA IM's approach to impact investing in listed assets



Source: AXA IM, 2021. For illustration purpose only.

To read more about our [AXA IM's five pillars to impact investing](#)

In 2022 we are expanding our coverage, especially with companies having positive impacts on biodiversity and companies operating mainly in developing markets.

Impact Leader Bank Rakyat Indonesia	Impact Leader Carbios SA
Bank Rakyat Indonesia (BRI) is one of the largest banks in Indonesia and offers a sustainable model for financialization. According to World Bank data, only 49% of the Indonesian population have a bank account ⁵ , making financial inclusion a key priority. BRI targets growth in underserved segments, serving 13. ⁵ million micro	Plastic waste pollution continues to soar, being one of the most pressing environmental issues that we must tackle. Plastic waste management and recycling infrastructure however remain insufficient to effectively solve the rising pollution problem. Only about 9% of all plastic waste generated since 1950

⁵ Demircuc-Kunt et al., 2018, Global Financial Inclusion Database, World Bank, <https://data.worldbank.org/country/ID>

borrowers and the company aims for 55% of the loan book to be composed of micro loans by 2025⁶. BRI offers a branchless banking channel and trains customers to become BRI agents, encouraging financial literacy. By increasing access to financial services for underbanked groups, the company contributes to SDGs 1 and 8. While the company is excelling as a key provider of financial services to underbanked populations, we remained concerned regarding financing of potentially environmentally harmful activities, including a small % of the loan book that financed palm farms. We have been engaging with BRI, as part of our engagement activities, since 2019 on financing of palm oil producers. The company has made good progress by encouraging borrowers to gain RSPO⁷ or ISPO certification⁸, and all new loans require RSPO or ISPO certification. The company has given existing borrowers a deadline to achieve certification and the portion of loans financing palm oil producers has been decreasing. We continue to engage the company on this issue and monitor responsible financing.

has been recycled according to the OECD⁹. Whereas mechanical recycling represented the only way to treat plastic waste for decades, new and impactful treatment methods are emerging such as chemical and enzymatic recycling. Carbios is at the forefront of enzymatic recycling, an enzyme-based process that can depolymerize multiple types of waste plastic simultaneously and repolymerize them in virgin-quality material. Carbios' process can recycle previously hard-to-treat plastics such as synthetic fibres, soiled or coloured plastics. Previously unrecyclable plastic waste is becoming an economically viable raw material, with the potential to displace demand for virgin, fossil-based polymers. Peer-reviewed by the Nature Journal, Carbios' plastic treatment process was calculated to be 10,000 times quicker¹⁰ than any biological plastic recycling process tested to date and emits 30% less carbon emissions than the conventional plastic treatment systems involving incineration and landfilling¹¹. Carbiolice, a subsidiary involved in the bioplastic economy, is also developing impactful solutions via enzyme-based additives that accelerate the decomposition of bioplastics. We initiated a dialogue with the company during the year to elaborate on the group's operational footprint. Using water in a closed loop system and working at low temperatures, Carbios' system is resource-efficient and low in pollutant discharges. We encouraged the company to pursue efforts in operational footprint management, lifecycle assessments, extra-financial reporting, and reassured them that sustainability disclosures are a valuable tool for responsible investors.

Source: AXA IM, 2021. For illustration purpose only.

⁶ BRI Q1 2022 Financial Update Presentation, p17-18. <https://www.ir-bri.com/misc/PS/2022/Q1-2022-Financial-Update-Presentation.pdf>

⁷ [RSPO - Roundtable on Sustainable Palm Oil](#)

⁸ [ISPO - Home \(ispo-standard.com\)](#)

⁹ OECD - [Plastic pollution is growing relentlessly as waste management and recycling fall short](#)

¹⁰ Tournier, V., et al. "An engineered PET depolymerase to break down and recycle plastic bottles." Nature 580.7802 (2020): 216-219. Available at <https://www.nature.com/articles/s41586-020-2149-4>

¹¹ Carbios (2021) Global Consumer Brands Unveil World's First Enzymatically Recycled Bottles. Available at [Global Consumer Brands Unveil World's First Enzymatically Recycled Bottles - Carbios](#)

Green, Social, Sustainability, Sustainability-Linked and Transition bonds

▪ Green, Social and Sustainability bonds

AXA IM has developed a proprietary green bond assessment framework¹². We built on this to create new frameworks for social and sustainability bonds. These are very similar in terms of structure, but some aspects differ due to the specificities of social and sustainability bonds. This approach is stringent, but it is also continuously evolving and aims to fulfil three main objectives:

- Driving investments towards authentic and impactful green assets and social projects
- Raising the integrity and transparency standards of the Green, Social and Sustainability bonds (“GSSB”) market
- Ensuring that GSSB issuers are committed to fight climate change and to address sustainability challenges, and that this commitment is reflected in business practices and operations

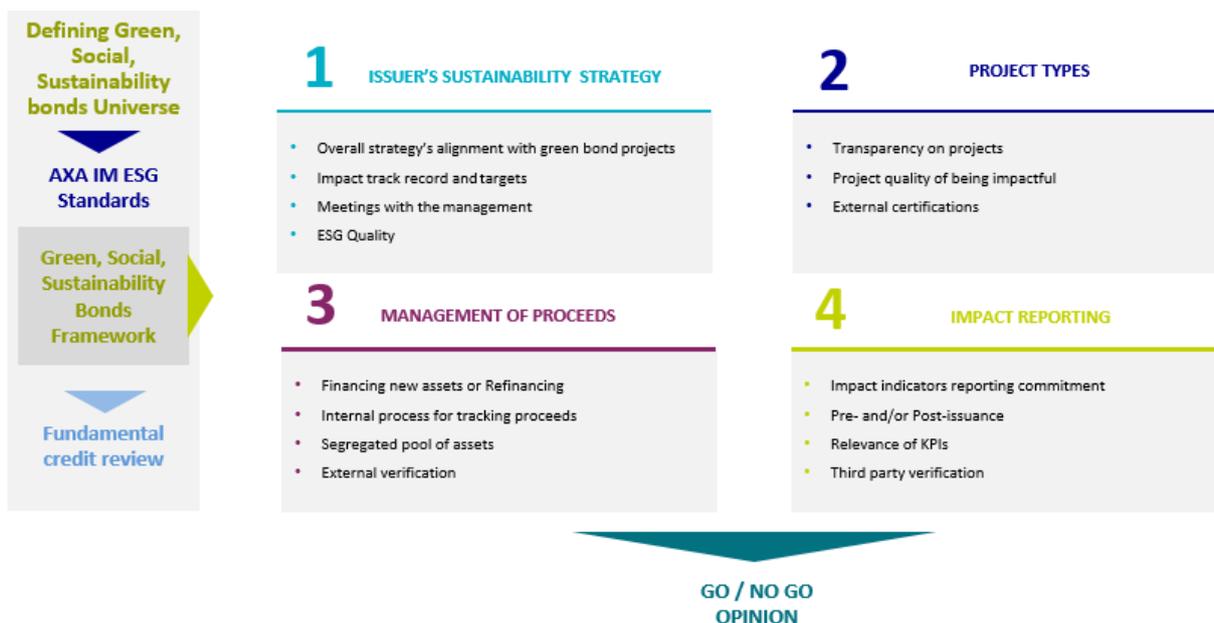
Selectivity is key in ensuring that only the most relevant and impactful green and social projects receive the necessary financing. These frameworks have so far been used to review more than 1600 GSSBs, and we believe this has helped us to avoid possible misuse of funds, risks of unethical practices and greenwashing. On average, since 2014, our green bond framework has led us to exclude around one in five bonds presented to us as green, social, or sustainable.

AXA IM’s GSSB assessment framework, notably inspired by the Green and Social Bond Principles (GSBP) and the Climate Bonds Initiative (CBI), is made up of four pillars:

1. The environmental, social and governance (ESG) quality and strategy of the issuer
2. The use of proceeds and the process for project selection
3. The management of proceeds
4. Impact reporting

AXA IM’s Green, Social and Sustainability bonds proprietary framework

¹² These frameworks are used in a systematic manner by our Global Green Bonds and Social Bonds strategies. They are used to inform the decisions of portfolio managers for other strategies but do not apply in a systematic manner.



Source: AXA IM, for illustrative purpose only. These are internal guidelines which are subject to change without notice.

For each pillar, our analysts review, assess, and monitor several well-defined criteria, many of which are mandatory. At the very least, the issuer has to surpass our exclusion criteria and to comply with our “requirement” criteria in order to be investable. If a GSSB also meets our “expectation” criteria, it would place the issuer among the GSSB leaders. The factors outlined below are intended to be indicative and non-exhaustive. This is primarily because individual GSSBs can vary greatly and therefore their individual assessment involves subjective criteria, as is always the case in qualitative analyses.

At AXA IM, we believe that the use of proceeds of a green bond should reflect the issuer’s efforts towards improving its overall environmental strategy and its alignment with the Paris Agreement on climate change. On the social side, the issuer should also make its ambition to deliver positive societal outcomes clear. Full transparency about the projects financed and on the tracking of the proceeds is therefore essential to our assessment. We pay particular attention to impact reporting, where both qualitative and quantitative indicators are expected.

To reach more about our [Green Bond Framework](#).

Spain Government Bond



Issuer's ESG quality & strategy

Spain has an ambitious strategy to align with the EU objectives and make sure the country will help in achieving a 1.5-degree scenario. In terms of climate objectives, Spain is notably targeting for 2030: a 2/3 reduction of GHG emissions; a 74% increase of renewable energy for electricity generation; a 39.5% gain in energy efficiency.

Project types

Low carbon transportation (71%), Sustainable water management (12%), Biodiversity conservation (5%), Climate change adaptation (4%), Renewable energy (4%), Waste management (2%), Energy efficiency (2%).

Management of proceeds

The proceeds will be managed through Spain's funding program, and the allocation will be externally verified.

Impact reporting

Spain is committed to provide annual impact reporting and has identified relevant KPIs for each of the eligible categories. These notably include GHG emissions avoided.

Motability Operations Group



Issuer's ESG quality & strategy

MO serves customers with disabilities in the UK by enabling them to lease a new car, scooter, powered wheelchair or wheelchair accessible vehicle using their government mobility allowances. The social bond issuance is clearly aligned with MO's business strategy which can be seen as a social pure play.

Project types

Proceeds of the social bond will be used to finance or refinance vehicles, powered wheelchairs, or scooters for customers that receive one of the qualifying higher-rate mobility allowances provided by the UK government. The leasing package is >45% cheaper than comparable market offerings.

Management of proceeds

MO intends to allocate the proceeds within 24 months after the issuance and to get the allocation externally verified.

Impact reporting

Expected impact and other qualitative metrics range from of beneficiaries of associated activities to customer satisfaction scores, customer retention rates and affordability. The impact reporting will be enriched by qualitative case studies.

Source: AXA IM, 2021. For illustrative purposes only.

▪ Sustainability-Linked Bonds

AXA IM is committed to the idea that investors will be better positioned if they acknowledge and address climate change and sustainability in their portfolios. This has prompted us to carefully monitor the arrival of a new type of fixed income asset class: Sustainability-Linked Bonds (SLBs).

SLBs differ from Green, Social and Sustainability Bonds (GSSBs), a market where we have worked to achieve a leadership position for some years now. Unlike GSSBs, SLBs are not "use-of-proceeds" instruments – just like conventional debt, they are general purpose bonds. However, they do represent a new opportunity to fund the climate transition and other environmental and social challenges. They may also have the potential to deliver long-term, sustainable performance for our clients.

The main difference between SLBs and conventional bonds is that SLBs integrate objectives linked to environmental, social and governance (ESG) factors. According to the SLB principles set out by the International Capital Market Association (ICMA) they are:

“ ...any type of bond instrument for which the financial and/or structural characteristics can vary depending on whether the issuer achieves predefined Sustainability/ ESG objectives. Those objectives are (i) measured through predefined Key Performance Indicators (KPIs) and (ii) assessed against predefined Sustainability Performance Targets (SPTs).¹³ ”

Put simply, an SLB issuer will have to pay more to its investors if it fails to meet its predefined SPTs – and will still pay the same coupon if it succeeds. But this isn't about greedy investors hoping SLB issuers

¹³ Source: Climate Bonds Initiative

fail in their sustainability ambitions – it is about responsible investors like AXA IM using SLBs to incentivise companies towards behaviour that we believe will benefit them, and us, over the long term.

SLBs could therefore act as a powerful tool, in particular, but not only, for high-emitting issuers to finance their transition towards a more sustainable business model. While GSSBs focus on specific projects and assets to be financed, SLBs establish a link between the issuer’s ESG ambitions and the financial characteristics of the bond. An issuer’s sustainability strategy may already form part of our GSSB assessment process, but it becomes the core feature for an SLB. Despite the differences, we see a common issue in these two types of instruments: There is no consensus on what a high-quality SLB is. AXA IM has therefore decided to define its proprietary framework for evaluating SLBs, and we set out our methodology and criteria in the document available for download below.

We want to highlight that SLBs will not be part of our green and impact investments – as opposed to GSSBs – but rather of our transition investments. We consider that SLBs and use-of-proceeds transition bonds both relate to transition finance instruments that will allow AXA IM to take an active role in powering that transition – in addition to our green and impact investing strategies through GSSBs.

AXA IM’s SLB assessment framework is made up of four pillars:

1. Issuer’s sustainability strategy & KPIs relevance and materiality
2. SPT ambition
3. Bond characteristics
4. SPT monitoring & reporting

For each pillar, at the very least, the issuer has to surpass our “exclusion” criteria and comply with our “requirement” criteria in order to be investable. If an SLB also meets our “expectation” criteria, it would place the issuer among the SLB leaders, in our view. All of these criteria are set out for each pillar below. The factors outlined are intended to be indicative and non-exhaustive. This is primarily due to the fact that individual SLBs can vary greatly and therefore their individual assessment involves company-specific factors, as accepted within qualitative analysis approaches

► Forecasts and our 2022 projects

If quantity matters and is critical to meet the Paris Agreement goals, the growth of the green bond market should not take place at the expense of its quality. AXA IM’s green bond assessment framework is built to ensure that our expectations for green bond issuers are met. Our analysts aim to select green bonds that are in line with our clients’ ambitious environmental strategies.

AXA IM’s call for transition bonds in 2019 reflected our view that the green bond market should keep its standards in terms of quality and integrity, while providing solutions to support issuers in their transition journey. We welcome the recent development of sustainability-linked bonds, which are innovative tools to finance the transition to a more sustainable economy. In 2021, we published our framework for assessing Sustainability-linked bonds.

Focus on the EU Green Bond Standard

The EU Green Bond Standard (EU GBS) is meant to be a voluntary, non-legislative standard to enhance the effectiveness, transparency, comparability and credibility of the green bond market and to encourage the market participants to issue and invest in EU green bonds. Building on the ICMA Green Bond Principles notably, the EU GBS is based on four key components:

1. Alignment of the green projects/assets with the EU Taxonomy
2. Mandatory publication of a green bond framework
3. Mandatory reporting, both on the allocation of proceeds and on environmental impact
4. Mandatory verification of i) the green bond framework and ii) the allocation report by an external reviewer

AXA IM provided feedback on the consultation around the proposal for the EU GBS. We welcome this initiative as it will bring mandatory, high quality requirements for green bond issuers that aims at issuing EU GBS-certified green bonds. The EU GBS is similar to AXA IM's proprietary green bond assessment framework on many aspects – e.g. high quality of green projects, mandatory reporting. That said, we will keep using our internal assessment methodology, notably because we will keep excluding fossil fuel and nuclear-related projects from our green bond investments – gas and nuclear might be part of the EU Taxonomy. In addition, the EU GBS does not address the issuers' ESG quality and strategy, which is a key aspect of our assessment framework. Lastly, as a global investor, we cannot only rely on the EU GBS as it will predominantly target EU green bond issuers.

The European Parliament's Committee on Economic and Monetary Affairs recently approved a draft of the proposed EU GBS. Regarding next steps, investors and issuers are waiting for a final validation of the standard before we start to see the first EU GBS-aligned green bonds on the market.

2.1.2 Exclusion policies

Our ESG Quantitative and Qualitative research help us to better understand the materiality of E, S and G challenges on sectors, companies, and countries. This research feeds our integration and exclusion strategies by identifying ESG risks that could have a detrimental and irreversible effect on the performance of our portfolios as well as on long-term global sustainability objectives if we were to be exposed to assets that carry these risks. Our normative and sectorial exclusions set the red lines and send a clear message to companies and sovereigns on what we consider it is not acceptable to contribute to a climate and social transition.

On assets on which we remain exposed, we apply our voting and engagement strategies with the objective to support issuers in their transition journey. In applying our stewardship strategy, we set clear and meaningful objectives communicated to management, we hold regular meetings to verify and evaluate progress; and we vote with conviction or pursue other escalation techniques when required.

Our [Responsible Investment policies](#) are regularly updated to reflect its convictions and comply with the latest recent regulatory developments, including the Shareholders' Rights Directive II, the Sustainable Finance Disclosure Regulation as well as the EU Taxonomy regulation.

By ruling out certain activities or practices, our exclusion policies help us to address sustainability risks. Most of our investments benefit from AXA IM's sectorial policies while an additional screening is in place for ESG Integrated and ACT assets through our ESG standards (our RI fund categories are described in the section 2.5). When implemented simultaneously these policies cover:

- **Environmental – E:** climate (coal mining and coal-based energy production; oil sands production and oil sands-related pipelines; shale and tight oil and gas; arctic oil and gas), biodiversity

(ecosystem protection and deforestation) and soft commodities (food commodities derivatives) – those exclusions are part of what is called AXA IM sectorial policies.

- **Social – S:**
 - Controversial weapons manufacturing - part of AXA IM sectorial policies
 - health (tobacco producers), labor, society and human rights (violations of international norms and standards; white phosphorus weapons producers; exclusion of investments in securities issued by countries where serious violations of Human rights are observed) – those exclusions are part of what is called AXA IM ESG standards
- **Governance – G:** business ethics (severe controversies, violations of international norms and standards), corruption (severe controversies, violations of international norms and standards) – part of AXA IM ESG standards.

2021 Updates

In 2021, AXA IM strengthened its exclusion policies with:

- The reinforcement of existing sectorial and normative exclusions to eliminate companies and sovereigns exposing portfolios to ESG risks and to exclude companies that have the worst practices in terms of managing their environmental impact, governance and social practices.
 - We extended our existing palm oil policy in June 2021 with a more comprehensive approach to ecosystem protection and deforestation. In addition to the exclusion of companies involved in unsustainable palm oil production, including land rights conflicts and illegal logging issues, we now ban companies which face significant land use controversies and are responsible for biodiversity loss in relation to soy, cattle and timber. We also reinforced our engagement approach with companies involved in those issues, to help change and improve practices.
 - In September 2021, our ESG Standards policy was revised, reflecting a reinforced consideration of human rights when assessing corporates and sovereigns. This revision aimed to further align investment processes with several global initiatives and norms. These include the United Nations Guiding Principles on Business and Human Rights, the International Labour Organization (ILO) conventions, the United Nations Global Compact (UNGC), and the OECD Guidelines for Multinational Enterprises, with the exclusion of issuers which do not comply with those norms.
 - As for sovereign investments, AXA IM avoids investing in debt instruments issued by countries where worst forms of human rights violations are observed.
- In November 2021, AXA IM announced new exclusions and engagement programme, which are being rolled-out early 2022.

2.1.3 Stewardship policies

Our aim is to play a leading role in financing the transition to a greener and more sustainable world. Part of this involves encouraging companies in their transition journey through focused shareholder engagement and open dialogue to enable change. Through our Voting and Engagement, we have an opportunity to use our influence to drive a broader change for the benefit of society and the planet.

This is a central pillar of responsible investment at AXA IM, and we therefore continuously review ways to make this dialogue as efficient and impactful as possible.

We see three essential ways to do this: Clear and meaningful objectives communicated to management; regular meetings to verify and evaluate progress; and voting with conviction or pursuing other escalation techniques when required. Our active dialogue with companies allows us to effectively monitor our investments, and ensure we maintain open channels which can enable change to the benefit of society, the planet – and ultimately our clients.

Here are reference materials describing our Voting and Engagement strategies and the result of their implementation:

- ▶ [Corporate Governance and Voting policy](#)
- ▶ [Engagement policy](#)
- ▶ [2021 Active Ownership and Stewardship report](#)
- ▶ [Full voting records](#)

- [**A clear voting strategy on Climate change issues**](#)

The use of our voting rights enables us to convey clear and strong messages to management, informed by our research and the progress of engagement with a company. We believe targeted voting can help us fulfil our promise to clients to act as an effective steward of their assets, leveraging our considerable size of aggregated assets under management to reinforce a shared message.

We believe investors are most effective in this when the momentum is collective and consistent. Right now, with the potential powerful influence of the finance industry in driving the transition becoming ever clearer, we think that dispersing voting decisions widely through potentially hundreds of investors could risk diluting the considerable influence of the asset management industry, as well as detaching voting from the engagement process.

We consider voting to be a crucial aspect of being an active shareholder. It is a vital part of the investment process and an opportunity to influence companies. Our voting and engagement activities are closely aligned. We regularly engage companies before and after the vote. AXA IM has established a Corporate Governance Committee which is responsible for overseeing the implementation of AXA IM's Corporate Governance & Voting Policy. The policy is reviewed and updated annually by the Committee prior to voting season to apply to all meetings going forward.

We also have voting guidelines for specific markets ensuring we do not apply a one-size-fits-all approach but are more refined in our thinking. Ultimately, when reviewing resolutions proposed at general meetings, we judge them against fundamental principles of good corporate governance, while taking account of best-practice standards appropriate to the relevant market and the company's circumstances.

Therefore, this policy prescribes general principles, but AXA IM will take into consideration specific circumstances such as geography, company size, market capitalization, number of our holdings, and most importantly the ongoing engagement with the management and directors of the company concerned. Our approach is based above all on a regular dialogue with the companies we invest in, an understanding of their activities, their sector and the challenges they face.

General 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:** As a transition leader, we aim to support the companies in which we invest and therefore their boards, by voting in favour of proposals unless they are inconsistent with the appropriate direction of travel.
3. **Engagement:** In the event of a resolution that is contrary to our policy, standards of good governance or the protection of the long-term interests of shareholders, we will seek to engage with the company before voting against a resolution, on a best effort basis and depending on several factors, including the severity of the ESG risk tackled via the resolution and the significance of our holdings. We strive to vote in an informed manner, to have a quality vote, guided by our policy and any additional information provided by the company, or thereby to change the approach taken by the company. We will seek to inform the companies engaged of any potential vote against management in advance, and the reasons for that vote. For the other companies, we will inform them of our voting intention on a best-efforts basis.

In **2021**, we voted at **5,546** general meetings and
We did not fully support management for **59%** of relevant general meetings

The 2021 voting season was dominated by a desire to integrate environmental and social issues into voting choices, driven by social justice movements, or highlighting environmental inaction. It contrasted with the more “timid” trend of 2020 on climate and diversity issues. The surge of ‘say-on-climate’ proposals has demonstrated the market focus on environment and climate transition. The social pillar was also a hot topic notably human rights and capital management in light of the ongoing impacts of the pandemic.

The policy response to the climate emergency has reinforced the need for companies to act on the environment and accelerate the implementation of their strategy. Historically, the climate issue has been addressed through shareholder resolutions, or even activism, and not through management resolutions. The 2021 season was therefore notable for the rise of say-on-climate resolutions, which see the company set emission reduction targets and commit to submit its climate action plan to an annual vote. We voted on 23 say-on-climate proposals, with 18 proposals submitted by management and five shareholder-led proposals.

When it comes to climate specifically:

- Concerns over the climate strategy of a company may impact our votes on “traditional” resolutions such as the appointment of board directors, the approval of the remuneration policy for instance, especially for sectors which are considered most material to climate transition.
- we have a clear approach that frames how we decide whether to support climate-related resolutions presented by management or shareholders:
 - Case-by-case basis assessment of say-on-climate by the governance team and our climate change experts
 - Particular attention to the scientific evidence on which these transition plans are based
 - Analysis of the governance framework around these resolutions (board oversight, executive remuneration, frequency, etc.)

► Vision for 2022

As in 2021, the next few years will be dominated by a new climate activism, with a discussion around companies' short- and medium-term climate strategies – and around social issues through the Just Transition theme.

Learning from the 2021 voting season, we are updating our voting policy in 2022 to further integrate ESG issues into corporate governance:

- We will review the ESG skills of directors
- Integration of ESG elements in remuneration, adding tangible, relevant, meaningful key performance indicators
- Transparency as priority by pushing for the adoption of non-financial disclosure for oil majors
- Support where it is deserved by backing management that presents well-proposed transition plans that embeds regular review and sets medium-term targets

For more details on our voting activities in 2021 and our voting process, please refer to our [2021 Active Ownership and Stewardship report](#).

▪ Shareholders' Engagement

Through our engagement activities, we seek to use our influence as investors to encourage companies to mitigate environmental and social risks relevant to their sectors. We do this on behalf of our equity and bond holdings, in listed and non-listed markets. For 'engagement with objectives', we systematically track engagement progress using five stages that set out the range of possible outcomes.

We take an active engagement approach, emphasising direct dialogue with companies on sustainability and governance issues that have a material impact on long-term financial performance. We also conduct engagement to contribute to the achievement of societal targets such as those defined by the United Nations' SDGs. We determine our engagement priorities based on our observation of global market developments and emerging ESG practices. Our engagements are linked to our key thematic focus areas and we principally engage in a proactive fashion.

Alleviating Climate Change is one of our key focus when leading these activities, representing 33% of our engagement activities in 2021.

While this theme is transversal and relevant to all firms from all sectors, we focus our efforts where materiality is greatest, notably energy (hence the relevance of UN SDG 7 and SDG 13), but also banks – through their lending policies as well as the building materials industry.

We also noted a clear increase on the proportion of corporate governance-related engagements (21%) versus 2020 levels (16%), reflecting the trend towards the integration of ESG at companies' strategy level and across business activity, a number of these meetings also addressing E and S issues. Human capital (20%) and resource and ecosystems (14%) were also major focuses of engagement, explained by the implementation of the gender diversity engagement program on SBF 120 companies at the beginning of 2021 and the development of strengthened engagement program on biodiversity in the second half of 2021. In total, we conducted 283 engagements with 245 entities. More than 80% of engagements in 2021 were linked to the UN SDGs.

In **2021**, we conducted **283** engagements with **245** entities.

More than **80%** of engagements were linked to the UN SDGs.

In 2021, we focused our climate research effort on the energy transition and the oil and gas industry. The findings from this research will be of direct use while engaging with companies in the oil and gas value chain.

Regarding engagement, the year was notable for the first ‘say-on-climate’ resolutions at several annual general meetings (AGMs) where firms outlined their climate action plans. In this context, we engaged and held detailed discussions with French groups TotalEnergies and Vinci. We also signed a letter with other investors, coordinated by Climate Action 100+, to be read at TotalEnergies’ AGM highlighting potential areas of improvement in the group’s climate strategy. We also participated in collective engagements with French utility Engie¹⁴, car maker Renault¹⁵ and Colombia’s Ecopetrol¹⁶, three companies which went on to significantly improve their climate commitments. Through our votes, we contributed to the election of three new board members at US oil group ExxonMobil, against the explicit wishes of the management.

Increasingly, the discussions we are having while engaging on climate are becoming more detailed and specific. Beyond the minimum requirements of having both a long-term ambition and mid-term targets aligned with Paris Agreement goals, we are asking companies to be very detailed about their actions, the alignment of governance and capital allocation with the strategy and the inclusion of their whole value chain in their climate strategy. We also encourage transparency around the implementation of these commitments through public reports. At AXA IM, we believe that this holistic approach is necessary to assess the credibility of those strategies and is consistent with the systemic nature of the energy transition. When sector frameworks exist, we encourage investee companies to set science-based targets, and we therefore supported the annual CDP-related investor statement¹⁷.

► Vision for 2022

We will continue to push for more ambitious climate strategies and expect more ‘say-on-climate’ resolutions to be put to investors. We will be attentive to their content in light of our revised engagement requirements as described above. We will select our climate engagements based on the materiality for AXA IM and because our net zero commitments. We will also continue our participation in the Climate Action 100+ investor group.

Three strikes and you’re out engagement approach

Climate focus

From 2022, Companies we consider to be laggards in addressing climate change and its risks will be subject to a ‘three strikes and you’re out’ principle. This policy aims to define clear areas of improvement for those companies, tailored to their activities, and communicated to their management at the beginning of the engagement with a clear and short timeframe for progress.

For more details on our engagement activities on ESG themes and engagement process, please refer to our **2021 Active Ownership and Stewardship report**.

¹⁴ [Putting strategy into action \(engie.com\)](https://www.engie.com)

¹⁵ [Renault Group - Climate Report April 2021 \(publispeak.com\)](https://publispeak.com)

¹⁶ [Ecopetrol](https://www.ecopetrol.com) Group announces its commitment and plan to achieve net zero carbon emissions by 2050

¹⁷ 220 financial institutions across 26 countries are pressing 1600 companies to set emissions reduction targets through the [Science Based Targets initiative](https://www.sciencebasedtargets.com) to ensure that corporate ambition is independently verified against the de-facto industry standard for robust and credible climate targets. From July 2022, these must be aligned with a 1.5°C pathway to be approved. [Financiers with \\$29 trillion ask 1600 companies for science-based targets ahead of COP26 - CDP](https://www.cdp.net/en/press-releases/2022/07/financiers-with-529-trillion-ask-1600-companies-for-science-based-targets-ahead-of-cop26-cdp). CDP (formerly the Carbon Disclosure Project) is a donor- member- and government-funded organisation that runs a global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts.

- **Involvement with industry groups and policy makers**

At AXA IM we adhere to the principles, standards and codes which govern policies and practices in the markets where we are active. For many years, responsible investment practices were framed by ‘soft’, industry-led standards, but 2021 marked a step change for the financial industry in Europe. The Sustainable Finance Disclosure Regulation (SFDR)¹⁸ came into force, along with its French counterpart, the AMF Doctrine 2020-03¹⁹ and the International Sustainability Standard Board (ISSB) was created. Still, as we enter the implementation phases for those groundbreaking sets of legislation, engagement with policymakers and regulatory authorities remains essential to address short-term challenges. The objective of our public policy engagement is to encourage a regulatory framework for investors where sustainability and responsible investment are taken seriously. We think this can help tackle greenwashing – where climate-related rhetoric is not matched by action. Our approach reflects and reinforces the practices, framework and disclosures we have developed over time including in response to the Article 173 of the Energy Transition Law²⁰. Our advocacy efforts have focused on the following:

- **Advocating for relevant, comparable, and sustainability-related information to become available for a broader scope of issuers.**
- **Addressing some of the current shortcomings of the SFDR.** While we strongly support its overarching objective of providing increased transparency, and comparability to our clients, the regulation at this stage remains vague on a number of concepts which are essential to its effective application. This includes the definition of what a sustainable investment is, resulting in uneven implementation across the market. The regulation had been intended as a disclosure regime but has been seen by many as a quasi-labelling regime – potentially damaging the legitimacy of the SFDR, in our view.
- **Bringing closer together net zero efforts and sustainable finance policy implementation.** These two major priorities mobilised teams across the industry in 2021, requiring a rethink of our way of working in order to further integrate environmental (and social) considerations across our organisations. Both priorities aim to efficiently channel financial flows to ensure the funding of the transition to a world aligned with the goal of keeping global heating to well below 2°C or ideally 1.5°C. In 2021, in our engagement with policymakers as well as with net zero coalitions, we have advocated for further convergence between the two. This could be achieved in many ways, including with a ‘Transition Label’, with clear requirements both in terms of investment process, forward-looking targets in terms of carbon-intensity reduction and robust stewardship policies. We welcome recent initiatives in the UK and France to develop such a label and will continue to promote this topic through our engagement in 2022.

► **Vision for 2022**

We think 2022 will be yet another landmark year on the public policy side, where we will continue to make progress in the implementation of sustainable finance policies, and hope to see equal momentum on the real policy side, while acknowledging the impact and influence of macro-economic events. We aim to continue to engage with our investor base, providing educational content on those important and evolving policies, to encourage an understanding of how they may change our way of working and change the nature of portfolio investments.

¹⁸ [EUR-Lex - 32019R2088 - EN - EUR-Lex \(europa.eu\)](#)

¹⁹ [Position - Recommandation DOC-2020-03 : Informations à fournir par les placements collectifs intégrant des approches extra-financières \(amf-france.org\)](#)

²⁰ [Article 173 - LOI n° 2015-992 du 17 août 2015 relative à la transition énergétique pour la croissance verte \(1\) - Légifrance \(legifrance.gouv.fr\)](#)

AXA IM Alts approach to responsible investment

As one of the world’s largest real assets managers, our investment decisions do much more than generate financial returns. They can also minimise the environmental impact of our assets, protecting them against the effects of climate change and working collaboratively to unleash the transformative potential of a more sustainable future.

Within AXA IM Alts, we take an integrated approach to responsible investment management whereby we follow three steps when systematically integrating ESG considerations into our investment decisions: defining the investible universe by applying sector exclusions and ban lists, integrating ESG factors into investment decisions with proprietary ESG scores, and integrating ESG targets into active management for annual business plans where relevant.

Responsible investment sits at the core of AXA IM Alts’ approach to business, where we consider both financial and non-financial criteria in our investment decisions. This helps us to build a more sustainable future while also delivering tangible, real-world assets that contribute to the global economy and the needs of society. Here is how we are integrating ESG considerations into our investment cycle in a way which is relevant for our various investment platforms:



Source: AXA IM, 2021. For illustrative purpose.

- **AXA IM Alts: Private Debt and Alternative Credit**

Within the private debt and alternative credit businesses, our focus rests where we are able to take the most relevant actions to consider ESG in our investment decisions. This approach acknowledges some of the limitations of securitised ownership to take direct action on underlying investments and better informs how we define our investment universe to limit exposure, in alignment with AXA IM policies, and how we more specifically include ESG factors in our investment decisions across the breadth of our product base.

Consumer lending

For ABS, mortgage loans and asset financing, a variety of indicators are taken into account depending on the nature of assets:

- CO2 emissions for auto ABS,

- Energy efficiency measures or labels for residential or commercial assets,
- Social risk linked to predatory lending, etc

Holistic ESG Due diligence based on:

- ESG assessment on counterparty, asset portfolio & country
- Data provided by external providers as well as questionnaire completed by our counterparty

Corporate lending

- ESG Leveraged loans deep dive based on:
 - Questionnaire completed by corporate
 - Controversial risks review and sustainability analysis
- CLOs framework focusing on CLO manager & portfolio to assess CLO Manager ESG selectivity
- Reg Cap approach based on originating banks & underlying portfolio to assess ESG on Reg Cap transaction as a whole

Real Estate lending

- Balanced ESG assessment factoring:
 - Environmental impact
 - Sponsor commitments
 - Country score
- For CRE, assessment of the underlying portfolio, focusing on:
 - Energy efficiency labels, EPC,
 - Clean transportation,
 - Environmental risks
- Infrastructure debt project assessment including its alignment with 7 of UN Sustainable Development Goals
 - [AXA IM Alts: Direct Equity](#)

Listed Real Estate Investment

For Listed Real Estate Investment, a shared approach with AXA IM Core is used and assessed in conjunction with the AXA IM Core RI analysts:

- ESG assessment on investee company, asset portfolio & country, including:
 - CO2 emissions
 - Engagement and Controversy levels
 - Human Rights and Employment considerations
 - Data provided by external providers as well as questionnaire completed by our counterparty
- Structured engagement to identify real estate specific underlying risks

Infrastructure Investment (Direct Equity)

- ESG Investment framework based on:
 - Proprietary methodology developed in conjunction with the RI team and Questionnaire completed by investment team
 - Controversial risks review and sustainability risk analysis
- Full DD assessment based on framework to assess underlying operating business and counterparty, including specific ESG and decarbonisation plans.

Real Estate Investment

- 5 key ESG factors assessed at IC:
 - Regulatory / Transitional Risk
 - Physical climate risk
 - Certification level

- KYC/AML checks
 - Proprietary ESG score
- ESG Score: Assessment of the underlying asset(s), focusing on:
 - Energy, water, waste, tenant engagement, green leases, procurement controls, climate risk and resilience and proposed action plan

- **Integration of ESG into Real Estate**

Real Estate is responsible for almost 40% of global carbon emissions, annually. As one of the world's largest real asset managers, we can take actions which have a meaningful impact on reducing our carbon emissions to contribute to achieving the Paris Agreement targets and limit global temperature increase to below 1.5°C.

Our goal is to enhance the value of assets we manage on behalf of our clients in a responsible and sustainable way. To do so, we have actively integrated ESG criteria into our investment decision-making processes.

In our direct real estate investment business, we include consideration of both financial and non-financial criteria in our investment decisions. Non-financial criteria include environmental, social and governance (ESG) factors as well as sustainability risks, which may have a material impact on investment performance.

We assess sustainability risks and opportunities through the systematic review of key non-financial factors in each investment committee proposal. These factors provide us with a sufficiently broad approach to flag most sustainability-related risks while enabling our investment teams to focus on specific and relevant investment-level risks, where apparent.

During the Investment Committee (IC) process (the decision-making forum for all real estate investments), proposals consistently review five ESG factors to provide an initial view on asset-level sustainability risk and form the basis of key actions for the ongoing strategic asset plan for each investment. These factors cover the following:

- Regulatory Risk reviewing the estimated level of transitional or regulatory risk associated with the asset, (eg. By using EPC levels as a proxy for risk, where available)
- Physical Risk, reviewing the estimated level of physical risk associated with natural catastrophe and climate change,
- Independent certification, reviewing the appropriate level and type of certification for a relevant market, and providing a view on the relative level of asset quality,
- Counterparty Risk, which reviews appropriate counterparty governance risk, including checks against our Anti-money laundering and KYC reviews in addition to AXA IM exclusion policies, and,
- ESG rating score, (as described above) reviewing the estimated performance of the asset relative to the AXA IM Real Assets portfolio at a sector and country level, assessed using AXA IM's proprietary ESG rating tool and addressing both sustainability risk and principal adverse impacts and setting up the basis for active management of the asset.

- **AXA IM Alts: Building tomorrow**

Our approach to sustainability allows us to identify and manage risks while capturing opportunities to add value. ESG factors are incorporated at every point of the investment cycle, from origination and investment to active ownership. Our strategy is defined by three pillars:

- **“Decarbonisation”**

The built environment contributes significantly to the world’s annual carbon emissions, giving us the opportunity to make an important contribution to decarbonisation. We are actively investing towards a low carbon future, be it through the creation of infrastructure for renewable energy, developing best-in-class real estate, or regenerating and transforming existing building stock worthy of a place in the low carbon future.

At AXA IM Alts we see growing interest in solutions which invest in innovation. From natural capital and nature-based solutions, to clean energy generation and usage, to reducing reliance on carbon intensive sources of energy that are damaging to the environment.

- **“Resilience”**

The impacts of climate change represent a number of new risks to our investments. For AXA IM Alts, the most material are physical risks, (such as from increasing extreme weather events,) and transitional risks, (such as from changes to regulations as major economies work toward a low carbon future). These changes also bring new opportunities to add value. We are rapidly building our ability to identify and act on these risks and opportunities, improving the resilience of our investments and strengthening their ability to withstand some of the impacts of climate change.

- **“Building Tomorrow”**

By investing in the ingenuity and innovation of our people, we are helping them to identify and capture new opportunities to create value while minimising risk. We choose carefully where to focus our creativity and capital to achieve the most impact, and we engage with a broad set of stakeholders in our efforts to embed sustainability throughout our investments. Together, we are investing in and creating a future that our people and future generations can thrive in.

In 2020, AXA IM Real Assets completed the acquisition of one of London’s largest private rented residential complex’. Originally constructed in 1937, the asset is comprised of 1,233 units (795,990 sq ft) on a 7.5-acre site. The asset features a 3.6 acre internal publicly accessible garden, overlooks the River Thames and benefits from excellent transport links to London’s major activity hubs. In addition, the asset has a comprehensive level of amenity including tennis courts, a gym and fitness center and integrated retail. Given the asset’s history, age and location, it provides an exciting opportunity to undertake a comprehensive refurbishment, breathing new life into the asset for the long term.



A comprehensive energy strategy has been developed in order to align the asset with future expectations of energy performance and sustainability considerations, to address the evolution of the market and legal framework in terms of energy performance and thermal comfort, targeting standards similar to new developments.

Works target an >75% improvement in energy use intensity (EUI), the metric used to express a building's

energy use as a function of its size, by driving energy performance of the building through better building insulation, transformation of the heat distribution network, integration of more efficient equipment and the introduction of on site solar renewable energy supply. The effect of these initiatives will be to reduce the asset's carbon footprint to close to zero, remove dependency on fossil fuels, and provide more substantial operational energy savings.

2.2 Climate Strategy

The challenge of reaching 1.5°C for Assets Managers

Olivier Eugène, AXA IM Head of Climate Research

“Global GHG²¹ emissions are projected to peak between 2020 and at the latest before 2025 in global modelled pathways that limit warming to 1.5°C (>50%) with no or limited overshoot and in those that limit warming to 2°C (>67%) and assume immediate action. In both types of modelled pathways, rapid and deep GHG emissions reductions follow throughout 2030, 2040 and 2050 (high confidence). Without a strengthening of policies beyond those that are implemented by the end of 2020, GHG emissions are projected to rise beyond 2025, leading to a median global warming of 3.2°C by 2100”²².

Our apologies as we start with a long and maybe obscure quote from the latest International Panel on Climate Change (IPCC) report, but it sets the scene. In particular, it highlights the rising gap between what the scientific consensus says and what human societies do when it comes to climate change and its impacts.

What the IPCC is really pointing at is that GHG emissions are not expected to decline at a pace consistent with a 1.5°C scenario, and possibly even not 2°C. Indeed, GHG emissions have continued to increase over the past decade and CO₂ emissions were most likely at an historical record high in 2021²³

At AXA IM, we are engaged to be a net zero asset manager and to align our investments with the goal of the Paris agreement. However, achieving any temperature outcome is a binary situation: it succeeds, or it does not, and it can only be a collective endeavour. Any climate stakeholder – be it a corporation, an investor, a citizen, or a country - cannot on its own be aligned to, for instance, a 1.5°C pathway, but it can contribute to it.

As such, the IPCC warning that the world is not on track with a pathway where the increase in temperature is limited to 1.5°C – and that the window to achieve this goal is closing fast – is also a warning to investors. Building investment strategies around 1.5°C may unfortunately become increasingly challenging. While it is essential to maintain a strong level of ambition, a reckoning could be unavoidable if and when the cold reality clashes with stated objectives.

Following its decision to join the Net Zero Asset Managers initiative²⁴ in December 2020, AXA IM worked over the year on the reinforcement of its Climate Strategy to set its Net Zero targets and drive meaningful environment and social change.

- **Net Zero targets:**
 - AXA IM published its first Net Zero target in October 2021, as part of the first NZAM progress report, committing to apply Net Zero approaches on 15% of its AUMs²⁵. This target was subsequently revised in April 2022²⁶, to cover 65% of the AUMs.

²¹ Greenhouse gas

²² [IPCC AR6 WGIII SummaryForPolicymakers.pdf](#)

²³ [Global Energy Review: CO₂ Emissions in 2021](#)

²⁴ [AXA IM to join the Net Zero Asset Managers initiative and to commit to net zero emissions goal | AXA IM Corporate \(axa-im.com\)](#)

²⁵ [NZAM-Progress-Report.pdf \(netzeroassetmanagers.org\)](#)

²⁶ [NZAM-Initial-Target-Disclosure-Report-May-2022-1.pdf \(netzeroassetmanagers.org\)](#)

- Development of a Net Zero Framework on Corporates and Sovereigns which follows industry standards²⁷ considering internal and external information to determine the Net Zero Profile of Companies.
- **Policies:**
 - Since 2017 our Climate Risks policy²⁸ is made up of Coal and Tar Sands-related exclusions, reinforced since then. In 2021, AXA IM decided to expand its exclusion criteria to Unconventional Oil & Gas by integrating Shale, Fracking and Arctic extraction in addition to existing oil sands production – for which we reinforced the exclusion criteria;
 - Reinforcement of our Engagement policy²⁹ with a specific “Three Strikes and You’re Out” engagement policy focused on companies which are laggards from a climate perspective and exposed to a risk of divestment if they don’t not progress on specific engagement objectives, applicable from 2022;
 - Active approach to voting, paying particular attention on addressing our Climate Strategy objectives through careful review of climate focused shareholder or management resolutions.
- **Net Zero Targets**

Following our decision to join the NZAM in December 2020, AXA IM published its first Net Zero target in October 2021, committing to manage 15% of its AUMs in line with Net Zero by 2050. Following this first submission, we further intensified our efforts across the whole business to develop an approach which is robust and can be implemented in an effective manner by investment teams, leading to a revised submission in April 2022, with a more ambitious target covering 65% of total assets managed in line with net zero by 2050.

Announcements and decisions made by policymakers in different locations to encourage the financial sector to continue to play a leading role in the transition, for instance Article 29 of the Law Energy-Climate in France, gave us more comfort on some of our points of attention in relation to assets outside of what we first deemed as eligible. We also moved from a bottom-up approach at fund level to a top-down approach at asset class level, specifically in relation to third party assets. Going forward, our aim is to continue to grow the proportion of net zero-aligned AUM as reliable methodologies become available for all asset classes.

²⁷ The [Task Force on Climate-related Financial Disclosures](#), the [IIGCC](#), the [CREEM](#) and the [GermanWatch Climate Change Performance Index](#)

^{28,28} [Our Policies | AXA IM Corporate \(axa-im.com\)](#)

²⁹ [AXA IM intensifies pressure on companies to take meaningful action on sustainability issues with enhanced stewardship focus | AXA IM Corporate \(axa-im.com\)](#)

The detail of our April 2022 submission³⁰ is as follows:

April 2022 revised target

- **\$650Bn AUM to be managed in line with Net Zero** (65% of total scope, 75% of total scope excl. JVs)
- **Asset classes out of commitment**
 - **Infrastructure:** data collection on-going, targets to be set end of 2022 / early 2023
 - **Private Equity:** pending methodology
 - **Other:** no methodologies defined as of today

We face a number of challenges in the development of our Net Zero strategy. It includes the access to reliable and tangible raw data and metrics. Although initiatives to encourage issuers to report in a more homogeneous, transparent and usable manner are multiplying, ESG Data remains heterogeneous and therefore complicated to use when investing and reporting. We are dependent on the ways companies report on environmental data, methodologies developed by external data providers and the frequency of data refresh. Therefore, as interest in ESG grows among clients and regulators in many geographies, the need for common, clear and usable standards is a top priority for the financial industry. This forms an important area for our public policy engagement, and we actively participate in industry bodies and interact with regulators. The convergence of standards between sustainable finance and companies' extra-financial reporting is in line with the "double materiality" concept.

In addition, industry frameworks must be adjusted to the characteristics of our portfolios, including geographies, asset classes and sectors. At the definition stage, we also consider the operational implementation of the strategy to make sure our commitments are monitored in a robust and efficient manner.

	Targets	Baseline	Comments
Corporates (Fixed Income and Listed Equity)			
Carbon Intensity Reduction	-25% carbon intensity reduction³¹ by 2025 and -50% by 2030	116.3298 tCO ₂ e/\$m revenue (end 2019 data)	<ul style="list-style-type: none"> • Scope 1 and 2 only as data quality and coverage for Scope 3 is too low. • We have set an objective to increase capture of Scope 3 data in coming years
Share of AUM net zero, aligned or aligning by 2040	100% AUM in material sectors net zero, aligned or aligning by 2040	36% of corporate AUM in material sectors is considered net zero, aligned or aligning (end 2021 data)	<ul style="list-style-type: none"> • This means we aim to have only issuers categorised as dark blue, blue and light blue according to AXA IM Coloring framework described below³²

³⁰ As reported in the NZAM second progress report: [NZAM-Initial-Target-Disclosure-Report-May-2022-1.pdf](#) ([netzeroassetmanagers.org](#))

³¹ Weighted average of carbon intensity on revenue for all corporates, regardless of their asset class or fund/SMA

³² AXA IM Climate Coloring framework is based on the Net Zero Investment Framework developed by the [Paris Aligned Investment Initiative](#)

Share of AUM dedicated to climate solutions	6% by 2025	2,1% of AUM dedicated to climate solutions (end 2019 data)	<ul style="list-style-type: none"> Based on AXA IM's Green Investments definition as described in this report. Definition may evolve as EU Taxonomy is implemented, and Net Zero Investment Framework clarify their definition. This would lead us to revise our target.
Share of financed emissions net zero or aligned	50% by 2025	46% of financed emissions in material sectors are already net zero or aligned (end 2021 data)	<ul style="list-style-type: none"> This corresponds to issuers categorised as Dark Blue or Blue in AXA IM coloring framework described below.
Share of financed emissions under engagement	70% by 2025 90% by 2030	52% of financed emissions in material sectors are subject to direct or collective Engagement and stewardship actions (collaborative for 42% and/or individual for 38%) (end 2021 data)	<ul style="list-style-type: none"> Engagement activities conducted directly by AXA IM are accounted, along with emissions subject to collaborative engagement even if AXA IM does not systematically participate, in line with Paris Aligned Investment Initiative Net Zero Investment Framework.
<u>Sovereigns</u>			
	Beat the CCPI benchmark ³³	Already compliant with NZIF recommended target setting guidance based on CCPI score (end 2021 data)	
<u>Real Estate</u>			
Carbon Intensity Reduction	Reduction of WACI (tCO ₂ e / USD mn EV) of 20% by 2025 and	8.5 tCO ₂ e / USD mn EV (end 2019 data)	
CRREM pathway	50% of real estate AUMs under CRREM pathway ³⁴ by 2025	Baseline for percentage of assets under CRREM pathway currently under development, anticipated Q3 2022	

We intend to report on an annual basis on progress vs these targets in our TCFD / Article 29 report.

AXA Investment Managers also continues to work closely with its parent company in the Net Zero Asset Owner Alliance with the aim of defining how investment strategies will support the shift of the economy to a 1.5°C pathway.

³³ [Climate Change Performance Index](#)

³⁴ [Decarbonisation Pathways - CRREM Global](#)

- **Exclusions**

As part of our ESG integration process, we exclude firms which fail to meet certain climate change criteria. Most of our investment portfolios exclude electric power generating utilities and mining companies that are not credibly demonstrating a commitment to energy transition, as part of our climate risks exclusion policy (see 3.1).

In 2021, AXA IM strengthened its climate risks policy³⁵, adding exclusions in the unconventional oil & gas sector. These new criteria have been implemented in February 2022:

- A new ban on companies deriving more than 10% of their oil & gas production from the Arctic, as defined by the Arctic Monitoring and Assessment Programme (AMAP), or representing more than 5% of the global production from the region;
- A new ban on companies deriving more than 30% of their oil & gas production from fracking and producing less than 100 000 barrels of oil equivalent per day;
- The oil sands exclusion was reinforced by adding an exclusion for companies producing more than 5% of the global oil sands production.

Our exclusion policy which applies to 89 % of AXA IM AUMs³⁶ enables us to grant exemptions to issuers which are close to the exclusion thresholds, and where a robust transition plan is being implemented successfully. This exemption process is overseen by a RI governance committee, with each exemption request reviewed on a case-by-case basis³⁷.

To build our coal exclusion list, we use the Global Coal Exit List (GCEL) produced by German NGO Urgewald. The GCEL includes companies that generate more than 20% of their revenues from coal, or utilities where the share of coal power generation is 20% or more, or companies producing more than 10 million tons of coal, or companies with more than 5GW of installed coal-fired power capacity generation. Urgewald also includes companies with coal expansion projects in mining, power generation and infrastructure. AXA IM has established its own thresholds, as described in our Climate Policy, and overlays them on the GCEL.

To build our oil & gas exclusion list, applicable from February 2022, we use the Global Oil & Gas Exit List (GOGEL), also produced by Urgewald. The GOGEL provides information on companies operating in the oil & gas industry. It notably provides the names of companies involved in the upstream part of the value chain, i.e. the production of oil & gas, without a size threshold. A detailed breakdown of unconventional oil & gas is also provided. In the GOGEL, unconventional oil & gas are classified as such: fracking (in practice, oil & gas from shale and tight reservoirs), tar sands, coalbed methane, extra heavy oil, ultra deepwater, and Arctic. As described in our Climate Risks Policy, AXA IM has chosen to focus on fracking, tar sands, and the Arctic categories. We believe they present specific features that warrant a greater attention. We have established our own thresholds for those three categories to build our oil & gas exclusion.

³⁵ [AXA IM further strengthens its climate actions to accelerate its contribution to a low-carbon world | AXA IM Corporate \(axa-im.com\)](#)

³⁶ AXA IM, as of 31/12/2021. The remaining 11% comprise strategies which are out of scope of the policy for technical reasons (e.g. index funds, Funds of Hedge Funds) and Client Opt-Out. JVs are excluded from this figure.

³⁷ As of 31/12/2021, AXA IM exempted 7 companies. Their financial affiliates are exempted as well, meaning that 13 entities are exempted in total.

For reference, the scientific committee of the Observatoire de la Finance Durable, in its September 2021 report, proposes a list of unconventional oil & gas that comprises the categories contained in the GOGEL, with the addition of methane hydrates³⁸.

- **Stewardship**
 - **Coal – focus on Engagement**

To support our commitment to exit coal, an engagement initiative was launched targeting a selection of issuers that are exposed to coal but lie below our exclusion thresholds. This allowed us to inform them of our decisions, and to request robust transition plans with science-based carbon reduction targets including for the short and mid-term, including plans to close coal plans by 2030 in OECD and 2040 in the rest of the world and transition pathways in line with the Paris Agreement ambitions.

- **Oil & Gas – continuing to detail our engagement asks**

We have significantly enhanced our Climate risks policy at the beginning of 2022 in order to provide further details on our engagement asks with regards to the Oil & Gas sector, aiming to cover their strategy and target setting, transparency including on CapEx as well as Governance and lobbying.

- **Implementing our Net Zero targets thanks to a combination of quantitative and qualitative analysis**

Recent years have seen growing interest in Paris-Aligned investing. New initiatives and frameworks have emerged to provide a foundation for new climate-aware investment approaches, and the industry has voiced greater commitment to incorporating these objectives into their processes. We are optimistic in the ability of our industry to benefit from the abundance of tools and data. We are committed to assessing and integrating climate models but also in engaging with data providers and industry groups to refine these methodologies. Investors are beginning to move from commitment to action and they must make important decisions about what tools to use and how to deploy them. At AXA Investment Managers, we propose to start from a set of principles guiding our decision-making and framing the selection of tools and KPIs to achieve portfolio alignment. We believe that by following these principles we can most effectively navigate the evolving landscape and constructively tackle the challenge of aligning our strategies with the Paris Agreement.

AXA IM Climate coloring system

Corporates that are engaged in a robust decarbonization pathway are positively contributing to environmental sustainability in a way that is consistent with a Net Zero emissions future. In that perspective and to support the implementation of its Net Zero commitment, AXA IM has developed in 2021 a “climate coloring” framework inspired by the Paris Aligned Investment Initiative Net Zero Investment Framework³⁹. This framework will be progressively ramped-up over 2022 for a future implementation, and will be used to inform portfolio managers’ investment managers, with binding criteria for Net Zero strategies (see below). It is also a key pillar of our Net Zero targets.

Our approach aims at assessing the maturity of the climate strategies of corporates, using quantitative information on issuers’ climate strategy (incl. SBTi, TPI, CI trend, etc.) combined with qualitative analysis

³⁸ [Avis et recommandations - Finance durable \(observatoiredefinancedurable.com\)](https://www.observatoiredefinancedurable.com/avis-et-recommandations)

³⁹ [Paris Aligned Investment Initiative – Investing for a net zero future](#)

to confirm the credibility of the strategies in particular. Based on this analysis, issuers are categorized in the following “colors”:

- Corporates that are already well positioned to reach carbon neutrality with carbon intensity currently consistent with their 2050 sector target are “Dark Blue”;
- Corporates that are on track compared to their sector. They have either carbon targets approved by Science Based Target Initiative (SBTi) or are well rated per Transition Pathway Initiative (TPI) or attaining carbon intensity close to sector’s decarbonization pathway, or their carbon intensity is reducing in line with Net Zero pace. They are categorized as “Blue”;
- Corporates that have credible decarbonization targets and/ or are SBTi committed are categorized as “Light Blue”. Climate Solutions providers are also categorized as “Light Blue”;
- Corporates which have set an explicit Net Zero intention but have not provided sufficient and credible information on trajectory are categorized as “Orange”;
- Corporates which have not set targets are categorized at “Red”.



Source: AXA IM Climate coloring system, based on PAI Net Zero Investment Framework, 2021. For illustrative purpose only.

Developing our Net Zero range

Fund in our Net Zero range, which is being developed in 2022, will rely on the climate coloring system with the objective of investing mostly in issuers which belong to the different shades of blue. In addition, they will use a “carbon intensity budget” approach meaning that the portfolio’s WACI will be expected to remain at all times below this budget, defined as a starting point -30% below its benchmark and decreasing by 7% every year. The Carbon intensity is computed as WACI (AuM Weighted Average of Carbon Intensities of held issuers) over scope 1 & 2 GHG emissions on data available with no imputation for missing carbon intensity values (which implicitly assumes that unreported carbon intensities are similar to rest of portfolio, resp. rest of benchmark). Relevant/total scope 3 will be monitored and reported for information.

2.3 Biodiversity Strategy

Over the past years, at AXA IM we reinforced our efforts to better integrate biodiversity considerations in our research, engagement and investment processes with the conviction that:

- Biodiversity loss represents a risk to investment returns
 - All economic activity ultimately depends on Nature: Biodiversity loss affects the businesses we invest in, and hence represent a risk to our investment returns

- A 1.5 times global GDP risk: estimated to be worth \$150 trillion annually⁴⁰, ecosystem goods and services loss represents an understated risk for both investors and companies
- Fighting biodiversity loss represents one of the biggest transition challenges and opportunities
 - To save biodiversity, around US\$200-300 billion per year should be allocated to biodiversity solutions⁴¹
- Beyond financial considerations, biodiversity is at the basis of sustainable development
 - Biodiversity ensures functioning of ecosystem services, which underpin human well-being and livelihoods vital to the achievement of most SDG.

Provided its fundamental importance for human society and economies, biodiversity is linked directly or indirectly to all the 2030 Sustainable Development Goals (SDGs), and more particularly to:

SDG 14 and **SDG 15** but also, **SDG 12**
as well as **SDG 13; SDG 6; SDG 3; SDG 2**, etc.

In 2021, we signed the Finance for Biodiversity Pledge signed by AXA IM in June 2021^{42,43} which steers our Biodiversity strategy. We consider investors have a role to play to:

- Better understand drivers of biodiversity loss and impacts on biodiversity by different sectors
- Engage with companies to reduce their negative impacts on biodiversity and increase their positive contribution
- Incorporate biodiversity criteria in risks and opportunities assessment as part of investment analysis
- Set targets and direct capital to resolve biodiversity loss.

A key challenge we face is that we currently miss commonly accepted and well-developed tools and metrics to measure biodiversity performance. However, this does not prevent us from accelerating our efforts in the field of biodiversity since 2020, which is why we are adding a new section to this report.

In 2021, in light of this commitment, we focused our efforts on:

1. Pursuing our **research efforts and engagement activities** to identify drivers of biodiversity loss and how sectors are impacted.
2. Supporting the **development of metrics** to measure the impact of issuers on biodiversity and identify key pressures, as described in the section 4- Metrics, understand associated risks and opportunities to direct our investments.
3. Implementing an **enhanced policy on deforestation & ecosystems conversion**

⁴⁰ [The Biodiversity Crisis Is a Business Crisis | BCG](#)

⁴¹ Crédit Suisse and WWF Switzerland, "Conservation Finance Moving beyond Donor Funding toward an Investor-Driven Approach", 2014, <https://www.cbd.int/financial/privatesector/g-private-wwf.pdf>

⁴² [Signatories – Finance for Biodiversity Pledge](#)

⁴³ [Stewardship & Engagement | Responsible Investing | AXA IM Corporate \(axa-im.com\)](#)

1. Research and Engagement

2021 progress on Biodiversity	
Engagement	Research and Expertise
<p>In 2021, a specific engagement program was launched targeting a selection of companies identified under the criteria of the AXA IM new Deforestation and Ecosystems Protection Policy. The companies selected develop activities related to key raw materials associated with the risk of deforestation and ecosystems conversion (soy, timber, palm oil and cattle). A special engagement questionnaire has been developed informed by our knowledge sharing with CDP and WWF. The program will be pursued during 2022.</p>	<p>In 2021, AXA IM has signed the Finance for Biodiversity (FfB) Pledge. As part of FfB Foundation, supporting organisation under the Pledge, AXA IM chairs the investors' working group on biodiversity impact metrics and actively participates in the working groups on corporate engagement and advocacy.</p> <p>During 2021, under the leadership of AXA IM the working group on impact assessment launched a public consultation on biodiversity approaches by financial institutions⁴⁴. In 2022, the results of the consultation will be used to design a first investor guide on biodiversity integration. In parallel, AXA IM has also been contributing to development of the FfB engagement guide published in April 2022⁴⁵.</p>
<p>Throughout 2021, we have been working together with 11 other investors on a setting up of a new biodiversity - focused global collaborative engagement initiative to drive nature action expected to be launched in 2022.⁴⁶</p>	

These actions are all part of AXA IM work to align with the long-term goals on biodiversity of the Convention on Biological Diversity (CBD)⁴⁷, the overall objective of which is to encourage actions, which will lead to a sustainable future. To protect biodiversity, we need to measure and identify the causes or drivers of biodiversity loss to be able to act on them. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) identifies **5 direct drivers of biodiversity loss** linked to human socio-economic activities, among them: **land use and sea use change, direct overexploitation of natural resources, climate change, pollution, and spread of invasive species**.

The degradation of natural ecosystems causes important environmental and social risks across the world as well as significant economic risks related to potential strong fluctuations in raw material costs, disruptions in operations and supply chains, etc. All this in the context of transition risks related to increasing regulation on biodiversity restoration around the world. Those who will seize this transition opportunity first will win economically while bringing real solutions to preserve our living conditions.

Such industry initiatives as SBTN (Science-Based Targets Network)⁴⁸ or TNFD⁴⁹ (Taskforce on Nature-Related Disclosure) have started to gather evidence on the capacities of businesses and investors to act on biodiversity and to reach the UN CBD global goals. The purpose of the new post-2020 Global Biodiversity Framework (GBF)⁵⁰ being developed today, namely via the COP15 taking place in 2022, is

⁴⁴ [Consultation outcomes on finance sector biodiversity measurement – Finance for Biodiversity Pledge](#)

⁴⁵ [Guide on engagement with companies – Finance for Biodiversity Pledge](#)

⁴⁶ [Global investors developing new collaborative engagement initiative to drive nature action – Finance for Biodiversity Pledge](#)

⁴⁷ [Convention on Biodiversity | United Nations](#)

⁴⁸ [The Science Based Targets Network \(SBTN\) - Science Based Targets](#)

⁴⁹ [TNFD – Taskforce on Nature-related Financial Disclosures](#)

⁵⁰ [First draft of the post-2020 global biodiversity framework \(cbd.int\)](#)

to propose concrete targets and mechanisms guiding private sector contribution to reverse biodiversity loss.

To be able to fully contribute to global biodiversity protection goals financial institutions clearly need tools and data adapted to track drivers of biodiversity degradation and, thus, to measure contribution of each issuer or sector to biodiversity loss - biodiversity footprint.

2. Exclusion

AXA IM has been sensitive to the topic of deforestation for a number of years and implemented an exclusion policy for investments related to palm oil production in 2014. In 2021, AXA IM decided to extend its palm oil policy to a more comprehensive deforestation and ecosystem protection policy⁵¹. AXA IM considers that investment in companies which have a critical impact on forests according to the Carbon Disclosure Project (palm oil, timber products, cattle products, soy and rubber) and are involved in controversial practices should be avoided. Beyond this targeted exclusion AXA IM continues to encourage and promote the dialogue with companies involved in deforestation issues, in order to change practices⁵².

Moreover, AXA IM values forestry and natural capital as an asset class and is likely to pursue investments **into this sector in** the future, through its **Alternatives investment** expertise.

AXA IM is committed to sustainable forest management practices and pursues a rigorous policy as part of its forest investments in selecting its assets and its forest management partners, and in adapting management practices to meet these global challenges.

Specifically, investments in private assets catalyse solutions that promote mitigation, adaptation and resilience in relation to climate and biodiversity. Strategies such as the “Climate & Biodiversity” strategy focuses on solutions that promote: Conservation of Natural Capital; Resource Efficiency; and Resilience of Vulnerable Communities to the effects of climate change and biodiversity loss. Our mission has been translated into real world activities that lead to the conservation of natural capital, protection of critical habitats, and climate mitigation globally.

In our existing assets, AXA IM is committed to Improved Forest management (IFM) and Biodiversity improvement.

Improved Forest Management (IFM) of natural forests can result in greater levels of storage of carbon while maintaining wood production over the long term. Some of IFM techniques adopted by AXA IM include:

- Extending harvest cycles to allow trees to grow larger before they’re felled, increasing the average carbon stock across a working forest
- Thinning of competing trees and vegetation to allow trees to grow faster and bigger
- Managing conservation zones within forests to support ecosystems
- Keeping the healthiest, most diverse trees of all size classes and harvesting the rest
- Properly identifying commercial species prior to cutting so that non-commercial trees are not cut down and abandoned

⁵¹ [AXA IM expands its palm oil policy to protect ecosystems and fight deforestation | AXA IM Corporate \(axa-im.com\)](#)

⁵² [Stewardship & Engagement | Responsible Investing | AXA IM Corporate \(axa-im.com\)](#)

Our approach to biodiversity management reinforces our leadership in experimenting with new ways of maintaining forests for better resiliency, further explore the biodiversity conservancy role of the forests and educate the wider public on the many roles of the forest, specifically:

- Find the best silvicultural scheme for long lasting reconstitution and biodiversity preservation
- Measure reconstitution and biodiversity

In 2021, AXA IM reinforced its commitment to the forestry and natural capital asset class achieving a record level of investment and growing the underlying portfolio by over 30%. In addition, we delivered 100% certification of all forest assets under either PEFC or FSC certification in 2021, with all Irish forests certified by the end of 2021

It is our conviction that the forestry and natural capital asset classes are material to future value, and this is reflected in our ongoing investment into these sectors. 2021 saw AXA IM responsible for approximately 13% of annual worldwide transactions, diversifying our portfolio into new forest species, new continents and new locations, including the acquisition of over 25,000 Hectares, (from c.59 000 ha to c. 84 000 ha) and, though our policy of targeting lower harvesting than natural growth, it is estimated that the standing stock of our forests, excluding new acquisitions, is estimated to have sequestered approximately 188 840 tons of carbon dioxide, net annual harvesting.

► Vision for 2022

Starting in the second half of 2022, AXA IM will progressively publish a new version of its ESG/Impact report on an individual fund level, which will include a biodiversity footprint at fund level based on the methodology described above. We will publish this new and innovative metric for each of our funds (AXA IM Core perimeter) as soon as coverage of at least 10% in CBF data is reached. As regards those funds where the coverage threshold has not been reached this is mostly explained by the specificities of asset classes, instruments or issuers invested in. This new metric is used for reporting purpose only.

AXA IM sees supporting development of biodiversity-specific metrics and tools as important to allow progress on biodiversity impacts measurement.

CBF may help to track negative contribution of our investment activities to biodiversity conservation. The latter represents the key long-term goal set by the Convention on Biological Diversity (CBD). With the use of CBF metric we may identify risks of biodiversity degradation and by encouraging issuers exposed to these risks to make a transition towards a more sustainable economic activities respectful of human life and nature. Thus, at this stage, we see the following possible applications for IDL biodiversity data as part of our AXA IM natural capital protection approach:

- Identify potentially most impactful sectors / issuers and inform our shareholder engagement practices on the matter of biodiversity
- Continue to test biodiversity data and develop internal biodiversity research

Now at experimental phase, we will continue to work with IDL in 2022-2023 on:

- Methodological solutions to integrate biodiversity loss drivers not yet included: invasive species, sea use change, ocean pollution, overconsumption of natural resources, etc.
- Methodological solutions on estimation of biodiversity dependencies and positive impacts

In 2022, we also expect to develop our knowledge in the field of social issues associated with biodiversity loss. Clearly, the loss of biodiversity may accentuate such social issues as the ones related to Human Rights, responsible consumption, as well as access to water and food (both variety and quality), proper hygiene and sanitation, security and health risks, population movements due to

ecosystems degradation and climate modifications, etc. We are working to progressively include social aspects related to biodiversity loss and deforestation into our research and engagement activities.

Moreover, we see the mobilisation of investors on the matter of biodiversity to continue. AXA IM conducts constructive discussions on biodiversity topics with CDP, Ceres, Global Canopy, and other external experts and works in collaboration with WWF on specific cases with regards to engagement on biodiversity-related topics as well as with regards to analysis and interpretation of the IDL corporate biodiversity footprint. We participate actively in the industry-leading initiatives like the Finance for Biodiversity Foundation, organisation supporting the FfB Pledge, by driving discussions on such topics as biodiversity impact metrics. We expect to continue these activities further.

2.4 Just Transition

“Just Transition” getting very real

Gilles Moëc, AXA Group Chief Economist and AXA IM Core Head of Research

The ongoing decline in real income triggered by the spike energy prices would be particularly acute for the poorest members of society were it not for the government fiscal response. We may see this as a “dress rehearsal” for a more permanent tension between the necessary fight against climate change, which may well come with a rise in the overall level of consumer prices on trend, and social fairness. The “just transition” issue – i.e. the need to preserve social cohesion as the economy moves towards net zero – is no longer theoretical. Hard choices are ahead.

Fundamentally, climate change is a negative externality. In clear, it means that, if kept unchecked, it will ultimately come with a cost to collective welfare which is not “chargeable” to anyone in particular (and that’s precisely why GHGs emissions would continue in an uncontrolled manner). Fighting global warming entails “internalising the externality” or, translated into less pompous words, it means revealing the future cost in today’s prices so that behaviours can change in time. The European Union has taken the lead on this by putting together the largest and most efficient carbon trading system in the world, the ETS. The EU sets an overall limit to the carbon issuance of key sectors, and businesses are then free to trade those “carbon credits”, generating a market price. Reflecting the policy push towards decarbonisation, the price of carbon has increased over the last 2 years and the EU is working on an extension to more sectors of the economy. Still, using the latest academic estimates of the price of carbon consistent with a trajectory to net zero by 2050, the market price needs to rise further, to probably exceed 100 euros par ton.

If we put a price on carbon someone must pay for it, and there is every chance that the final consumer will be the payer, as carbon prices work their way through producers’ input prices. Another way to “internalise the externality” is to directly add a premium on heavily carbonated retail prices to fund the emergence of decarbonized options. The bill can be hefty. In Germany, at the peak of the shift to renewable energy – which is still incomplete given the country’s continued reliance on coal – households were paying a premium on their electricity bill equivalent to a full percentage point of their disposable income.

Ultimately, the transition will work if consumption and investment shift from heavily carbonated options to better ones. An issue is that the decarbonized solutions are often more expensive – at least transitorily. To take a concrete example, at the point of purchase, the price of an electric car before tax and subsidy is higher than the price of a traditional combustion engine car. Governments

can incentivize consumers to shift to the green option by levelling its price, in practice by levying a tax on the combustion engine cars to fund a subsidy for the electric ones. The problem is that dynamically, this can't be neutral for public finances: as people start buying more green cars, there are less traditional cars to tax.

Down the road, a net zero trajectory can work in a way which does not elevate the global price level only if the price of green options before tax subsidy falls quickly enough. In theory this will be case, and examples abound – e.g. the steep decline in the price of solar panels as the technology went mainstream and economies of scale kicked in – but bottlenecks may appear. For instance, an acute issue now is that some green solutions are dependent on “rare earth” materials which prices have shot up.

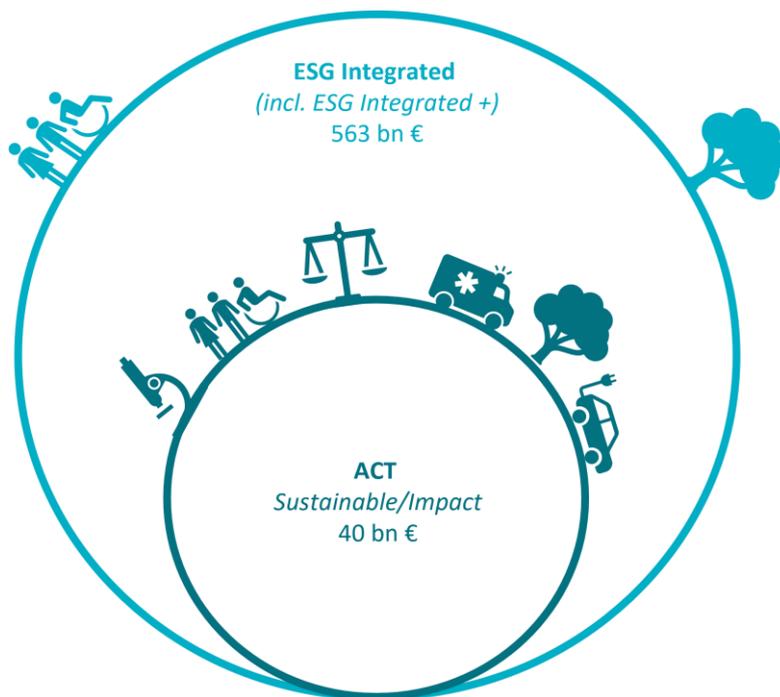
Still, the “Just Transition” issue cannot be ignored since a fair distribution of the cost of the transition is crucial to its success. The conversion of public opinion to the decarbonization of our economies is very new, incomplete in many countries and fragile everywhere. Sustained political support to the net zero trajectory is needed, and glaring inequalities in how the shock is apportioned could stop the process in its tracks. When it comes to ESG, the “E” pillar cannot leave the “S” one on the sidelines. At the business level, this means a properly integrated strategy mixing environmental and social goals is necessary.

2.5 Responsible Investment Offering

In an environment where EU and national regulators are putting in place new standards and requirements notably to address greenwashing concerns, AXA IM continually improve its RI categories to ensure they follow regulatory requirements and are clear and understandable by clients. These categories consider the EU Sustainable Finance Disclosure Regulation (“SFDR”), and state of knowledge at the time of enforcement of SFDR regulation on March 2021, as well as the AMF Doctrine⁵³ and sustainability-related labels.

This classification system will evolve in 2022 to integrate new requirements of existing and upcoming sustainable-related regulations.

⁵³ “Autorité des Marchés Financiers”, the French regulator, which issued its 2020-03 position-recommandation in March 2020 [Informations à fournir par les placements collectifs intégrant des approches extra-financières | AMF \(amf-france.org\)](https://www.amf-france.org/fr/actualites/actualites/2020-03-positions-recommandations)



Source: AXA IM as of 31/12/2021. Non audited figures. Inclusive figures with a cumulative approach. More information on our 2021 key figures in our Full-year 2021 earnings press release⁵⁴.

1. ESG Integrated Family of Funds:

These funds use data and research, exclusions and proactive stewardship to help build ESG into the investment process, and promote environmental and social characteristics in our approach. To do so we draw even more attention to sustainability risks for these funds, excluding issuers that have the lowest ESG scores as well as those which do not follow what we consider good governance practices. We believe that this level of ESG integration can potentially reduce risk to help us achieve better risk-adjusted returns.

Within this group, funds in the **ESG Integrated+** category go a step further by aiming at outperforming their ESG Score compared to their benchmark or universe⁵⁵.

2. ACT Family of Funds:

Going even further, our ACT range is designed to help clients target specific ESG goals around issues such as climate change and inequality while continuing to adopt the reinforced approach to sustainability risks and good governance practices as described above. Alongside financial returns, these funds target positive outcomes related to ESG criteria and/or to the United Nations Sustainable Development Goals (UN SDGs). Investment decisions are guided by both the financial and impact goals. Within this family are two categories:

- **Sustainable funds** (€ 40bn at end 2021) aim to embed ESG into the portfolio construction process, in an even more material and intentional manner. Every fund in this group targets one or more specific objectives related to the ESG pillars (for example, carbon footprint) to further refine the investment universe.
- **Impact funds** (€ 3.7bn at end 2021) incorporate the demands of the Sustainable category but will seek out businesses and projects that can potentially have an intentional, positive,

⁵⁴ [Full-year 2021 earnings | AXA IM Corporate \(axa-im.com\)](#)

⁵⁵ When in scope of the AMF Doctrine 2020-03, those funds belong to the second category (“not significantly engaging”)

measurable and sustainable impact on society and/or the environment. These funds will also report against impact criteria aligned to specific UN SDGs.

Focus on AXA IM SFDR categorisation as of 31/12/2021

(for strategies in scope of the regulation):

Classification approach for Level 1:

In March 2021, at the time of entry into force of the new European regulation on “sustainability - related disclosures in the financial services sector” (Regulation (EU) 2019/2088 or “SFDR”), we classified our financial products based on the state of the knowledge of the requirements of SFDR with the objective of ensuring transparency on the way our financial products integrate, promote and/or contribute to environmental and/or social characteristics while such requirements were unclear as the regulatory technical standards (SFDR Level 2) were not yet stabilized and published and could potentially impact the SFDR classification of our products. Ever since then, in an effort to be as transparent and clear as possible with our clients, we are informing our investors that SFDR classification is based on our interpretation of this “level 1” of SFDR and may evolve over time to reflect regulatory guidance and/or market views.

Implementation challenges

SFDR’s categories for financial products (Articles 6, 8 and 9) were designed to specify the scope, content and details of disclosure requirements applicable to financial products depending on the extent to which sustainability considerations are part of their investment process. They do not technically provide clear definitions for SFDR product categories.

The scope of the product categories set forth by SFDR is broad]. Such categories rely on concepts which are not defined in a detailed manner in the regulation at this stage, such as the “promotion of environmental and social characteristics” for Article 8 products and an approach to “sustainable investment objective” for Article 9. This lack of precision results in differences in interpretation across the markets

SFDR categories for AXA IM Core (data as of 31/12/2021 – in terms of AUMs):

- **12%** (€55bn of assets under management) of AXA IM Core’s financial products integrate and assess sustainability risks only without promoting environmental or social characteristics or having a sustainable investment objective and are therefore categorised as Article 6
- **88%** (€406bn of assets under management) of AXA IM Core’s financial products either promote environmental or social characteristics and are ESG integrated or demonstrate a sustainable objective and are therefore categorised as respectively Article 8 or Article 9.
-

SFDR categories for AXA IM Alts (data as of 31/12/2021 – in terms of AUMs):

- For AXA IM Alts, due to the nature of the Alts assets and the lack of or inconsistency of available data, Alts financial products are mainly classified as Article 6 integrating and assessing sustainability risks only without promoting environmental or social characteristics or having a sustainable investment objective. Implementation of SFDR level one resulted in 13% of eligible financial products being classified as article 8 or 9 within AXA IM Alts.
- AXA IM Alts’ Articles 8 and Articles 9 funds focused on:
 - **22%** (€17bn of assets under management) of AXA IM Real Assets financial products are categorised as Article 8 or 9.
 - **1%** (<€500M) of Structured Finance financial products are categorised as Article 8 or 9.

To the extent SFDR has been applicable for a relatively short period of time, the classification under SFDR is subject to adjustments and amendments, as certain aspects of SFDR may be subject to new and/or different interpretations than those

existing at the date of this Report. As part of the ongoing assessment and current process of classifying its financial products under SFDR, AXA IM reserves the right, in accordance with and within the limits of applicable regulations and legal documentation applicable to its financial products, to amend the classification of a particular fund to reflect changes in market practice, in its own interpretations, in SFDR-related laws or regulations or in currently-applicable delegated regulations, in communications from national or European authorities or court decisions clarifying SFDR interpretations. Investors are reminded that they should not base their investment decisions on the classification presented pursuant to SFDR.

As part of the application of the Article 29 of the Law No. 2019-1147 of 8 November 2019 relating to the Energy and the Climate, assets managers are required to publish on their website the list of financial products Article 8 and Article 9 funds under the Regulation (EU) 2019/2088 of the European Parliament and of the Council of 27 November 2019 on sustainability - related disclosures in the financial services sector. This list is available on our [website](#).

Sustainability-related Labels

Several funds managed by AXA IM have been awarded sustainability-related labels. They follow the requirements defined by each of the label rulebooks and are subject to an annual audit by external auditors. Transparency codes available on AXA IM Fund Center⁵⁶ provide more information on the processes in place for these funds.

Sustainable Labels	As of 31/12/2021		As of 31/12/2020	
	Number of labelled funds	Net AUM (M€) managed by Labelled funds	Number of labelled funds	Net AUM (M€) managed by Labelled funds
Label ISR ⁵⁷	53	30 078 €	36	13 598 €
Greenfin ⁵⁸	1	1 331 €	1	658 €
Towards Sustainability ⁵⁹	16	8 355 €	11	3 841 €
FNG ⁶⁰	1	1 102 €	1	852 €

Focus on Impact Funds – Private Markets

AXA IM has a long history in investing for impact in private markets, with a first fund launched in 2013. These are investment strategies that aim to generate objectively measurable and intentional environmental and social impacts alongside financial returns, both integrated into investment management incentives. These strategies continued to gain momentum in 2020.

Our first strategy, with AUM of €200m, focused on Financial Inclusion, Access to Healthcare and Education. In 2016, our clients allocated €150m to a new fund, to invest in both environmental and social impact generation.

In 2019, we launched our third impact investing strategy focusing on Climate & Biodiversity, with AUM of \$175m, seeking solutions to climate change and loss of biodiversity (see spotlight). In 2020 and our

⁵⁶ [Funds - AXA IM Global \(axa-im.com\)](#)

⁵⁷ [Label ISR - Pour des placements durables et responsables \(lelabelisr.fr\)](#)

⁵⁸ [Le label Greenfin | Ministères Écologie Énergie Territoires \(ecologie.gouv.fr\)](#)

⁵⁹ [Towards Sustainability Initiative | Towards Sustainability](#)

⁶⁰ [Application – FNG-Siegel](#)

clients committed an additional \$175m to the Climate & Biodiversity strategy and \$50m to a fund promoting financial inclusion and access to healthcare for underserved beneficiaries in Low-and-Middle Income countries.

- **Healthcare strategy**

In 2021, we launched a Global Health strategy⁶¹, which has a mission to ensure healthy lives, promote well-being and address inequalities in access to quality healthcare. The strategy will contribute tangibly to SDG 3 Goals and Targets by increasing the availability of innovative products and services targeting global disease burdens; and delivering solutions at accessible price points by addressing high volume, mass markets, serving the healthcare needs of the many and not the few.

The strategy will achieve its objective by investing in companies focusing on clinical development or early commercialization of: Medical Devices, Biopharmaceuticals, Vaccines, and Diagnostics delivering intentional, measurable, and positive health outcomes relative to the strategy’s priority healthcare pillars: Women, Maternal & Child; Vision; Infectious diseases; Diabetes/Obesity; and other health conditions with prevalence in high volume markets.

Our strategy demonstrate the tangible role clients are playing in the achievement of the UN Sustainable Development Goals (SDGs) through the allocation of much needed capital to underserved social and environmental challenges. Our preliminary review of our impact strategy SDG alignment yielded positive results, demonstrating that our clients are providing capital to businesses that directly address the SDGs highlighted below.

- **Deep and credible alignment to the UN SDGs⁶²**



- **Impact Performance**

Our impact management and measurement framework covers initial assessment, evaluation, due diligence, investment, monitoring and exit. The objective is to ensure that the generation of impact is intentional, focused, and a key driver for investment decisions and managing investments over the investment period.

⁶¹ [AXA IM Alts launches \\$500 million private equity healthcare strategy alongside two senior appointments - AXA IM - Real Assets \(axa-im.com\)](https://www.axa-im.com/axa-im-launches-500-million-private-equity-healthcare-strategy-alongside-two-senior-appointments)

⁶² *The targeting of specific SDG does not imply the endorsement of the United Nations of AXA Investment Managers, its products or services, or of its planned activities and does not constitute, explicitly or implicitly, a recommendation for an investment strategy.*

The table below shows the contributions of our platform to key environmental and social challenges aligned with the mission of our strategies:

Theme	Deal Type	Geographic Focus	KPI
Climate and Biodiversity	Equity shares, project financing, primary funds	Global	Avoided emissions (tCO2e) Land under sustainable management (hectares) Critical habitats protected (hectares) Avoided waste (tonnes)
Financial Inclusion	Equity shares	Global	Lives Improved Lives Saved Lives Empowered Product Reach (#LMICs)
Quality Healthcare	Equity shares	Global*	Number of lives improved Number of lives saved Product reach (# countries reached)

▪ **Spotlight – Natural Capital Investments**

The Climate & Biodiversity strategy was developed in response to increasing concerns about climate change, its impact on nature and the increasing and resulting loss of biodiversity.

Emissions from deforestation and land degradation are cumulatively responsible for around 20% of GHG emissions. Beyond the critical contribution to climate mitigation and adaption, forests play a fundamental role in water provision, biodiversity conservation and community livelihood.

Developing a solution to these challenges requires an intentional approach to allocating capital to companies and projects that conserve, protect, and restore natural capital - forests, preserving nature’s ability to act as a natural climate solution, and high value habitats necessary for conservation and biodiversity. Our investments have tackled these challenges by

- financing the direct protection of primary natural capital - e.g. forested land, peatland etc, mangroves.
- implementing sustainable land use programmes which alleviate incursion into protected primary natural capital and providing enhanced livelihood for stakeholder communities e.g. smallholder farmers
- contributing to climate change mitigation, evidenced by the issuance of verified emissions reductions credits and other ecosystems service credits. These credits provide a sustainable means for landowners to monetise the environmental benefits provided by their forests while preserving the significant environmental, biodiversity and social outcomes provided by standing forests.

We have translated our mission into real world activities that lead to the conservation of natural capital, protection of critical habitats, and climate mitigation globally. These include:

- Reforestation of degraded lands in Kenya, providing climate mitigation benefits and improved income resilience for smallholder farmers
- Protecting and restoring degraded peatland in Indonesia, preventing the release of CO2 stored in peatland

- Conserving family-owned forests in the United States
- Preventing the deforestation of Forest Protected Areas in Guatemala, protecting the MesoAmerican biodiversity corridor
- Promoting sustainable agroforestry practices in Madagascar, thereby protecting the rich and unique biodiversity of Madagascar including four lemur species listed on the IUCN Redlist of Threatened Species.
- 69,000 hectares of Land under Sustainable Management; 55,000 hectares of Critical Habitats protected globally⁶³.

Our strategy with its intentional focus on natural capital is contributing to the significant environmental, biodiversity and social outcomes provided by nature.

The Climate and Biodiversity strategy is making good on its promise to fund credible, investable solutions that deliver positive outcomes. To date the strategy has made a number of investments that align with its Climate and Biodiversity mission. Examples of our investments include:

Investments	Activity description	Expected Impact/ Illustrated Investments
Komaza	A microforestry-to-wood products company with ambitions to become the largest sustainable forestry company in Africa. Our investment will contribute to reforestation of degraded lands; mitigate climate change using trees as a natural carbon sequestration solution; and build climate-resilience, through aligning the financial interest of local communities with conservation.	Impact targets: <ul style="list-style-type: none"> • 37,000 hectares under improved management • 17.5m tons of Carbon Emissions Sequestered • 50,000 farmers with improved income
Forest Carbon Indonesia	Project developer specialized in the conservation and restoration of degraded tropical forests, peatland and wetland ecosystems in Indonesia, Malaysia and Cambodia. The company has operated for more than ten years with its most notable project to date being the Sumatra Merang Peatland Project in Indonesia. This project led to the restoration of over 22,000 hectares of peatland forest, the delivery of close to 7m tons of CO2 emissions reduction (as evidenced by the generation and sale of verified voluntary carbon credits), and the strengthening and conservation of over 20 species.	Impact targets: <ul style="list-style-type: none"> • 74,000 hectares of peatland, mangrove and tropical forests conserved/restored • 26m tonnes of Carbon Emissions reductions • 22m verified carbon credits generated and • A minimum of 10 IUCN Red List endangered species protected, including the Bornean Orangutan, Proboscis Monkey, Sumatran Tiger, and the Irrawaddy Dolphin
Sanergy	Sanergy was founded in 2011 with the objective of improving waste management systems in Kenya, Sanergy adopts a circular economy approach, collecting and transforming sanitation and organic waste and into sustainable, environmentally-aligned products such as insect protein for animal feed, organic fertilizer, and biomass briquettes	Impact targets: <ul style="list-style-type: none"> • 1.2m tons of waste processed • 50,000 tons of bio-fertilizer produced
Madecasse	Madecasse is a cocoa bean-to-bar chocolate company working with smallholder farmers primarily in Madagascar to implement sustainable agroforestry practices that enables the conservation of habitats to support Madagascar's unique biodiversity, where 85% of the country's plant and animal species are found nowhere in the world. The company	Impact targets: <ul style="list-style-type: none"> • 528 hectares of critical habitats for biodiversity conserved

⁶³ This figure represents aggregate impact numbers as disclosed by investee companies and projects.

Fundaeco	Fundaeco's operations focus on the creation, management and conservation of Forest Protected Areas in Guatemala. These Protected Areas are of significant global ecological importance, acting as habitats for critical species and providing a natural carbon sequestration solution, evidenced by the issuance of verified carbon credits.	Impact targets: <ul style="list-style-type: none"> • 60,500 hectares of land under sustainable management • 4.6m Tonnes of carbon emissions avoided • 4.1m verified carbon credits generated
Sistema Bio	Sistema works with small-holder farmers in Latin America, India and East Africa to tackle methane emissions from waste within their operations. Sistema's biodigesters provide a sustainable solution to the treatment of organic waste, sequester methane from manure that would otherwise be emitted into the atmosphere; and the resulting biogas and biofertilisers provides low-carbon alternative to fossil-fuel derived products for the farmers.	Impact targets <ul style="list-style-type: none"> • 5m tonnes of waste treated • 200m cubic metres of biogas produced • 16m tonnes of biofertiliser produced • 1.8m tonnes of carbon emissions avoided

AXA Investment Managers is a founding Signatory to the Operating Principles for Impact Management (Impact Principles). AXA IM publishes an annual Disclosure Statement affirming the alignment of the impact measurement and management system of AXA IM Alts Impact Investing Strategy with the Impact Principles. An independent verification of our impact management systems was conducted by EY Associes in 2020 and confirmed to be aligned with the Principles.

Focus on Impact in Listed Markets

5 strategies were part of the Listed Impact category at end 2021.

Strategy ⁶⁴	Underlying investment theme	Labels ⁶⁵	KPIs ⁶⁶	SDGs ⁶⁷
Human Capital (equity)	Promoting Human capital as a key asset of small and mid-cap European companies	 	- Carbon Intensity - Women on Board	 
Social Progress (equity)	The strategy seeks to invest in developed and emerging markets publicly listed companies that offer growth potential as they focus on providing services across a range of social needs including education, healthcare/wellbeing, infrastructure	 	- Carbon Intensity - Water Intensity	         

⁶⁴ The products above may not be registered nor available in your country.

⁶⁵ As of 31/12/2021

⁶⁶ As of 31/12/2021. In line with the Label ISR rulebook V2, funds selected their first KPI on the 31/12/2020 and their second KPI on the 31/12/2021.

⁶⁷ Disclaimer: The targeting of specific SDG does not imply the endorsement of the United Nations of AXA Investment Managers, its products or services, or of its planned activities and does not constitute, explicitly or implicitly, a recommendation for an investment strategy.

<p>Clean Economy (equity)</p>	<p>Population growth and rising wealth continue to increase demand for energy, transportation, food and water.</p> <p>Growing social awareness of the pressure on scarce natural resources and greenhouse gas emission reduction is influencing state policies (ie Paris Agreement to keep the temperature rise below 2°C) and infrastructure investments, ultimately encouraging corporates to act rapidly</p>		<ul style="list-style-type: none"> - Carbon Delta Technology Opportunities 1.5°C - % of companies in the GSS Watchlist & Non-compliant 	
<p>Global Green Bonds (bonds)</p>	<p>Investing in green bonds supporting the development of environmental projects with a proprietary analytical framework</p>			
<p>Multi Asset Optimal Impact (Multi Asset)</p>	<p>Combining our two impact proprietary approaches on listed assets to select equities and Green, Social and Sustainability bonds providing positive and measurable impact addressing societal challenges around “prosperity for people” and the “prosperity for the planet”</p>		<ul style="list-style-type: none"> - Carbon Delta Technology Opportunities 1.5°C - Carbon Intensity 	

Impact Philanthropy Mechanism

In 2020, to further deliver a positive impact on society in the long-term, AXA IM implemented an innovative philanthropic mechanism for its impact fund range, across listed and private markets.

5% of this range’s management fees are now used to fund additional projects aimed at developing solutions with a societal impact. These projects are focused on the themes which are at the heart of AXA IM’s Corporate Responsibility and Responsible Investment strategies, and aligned with selected UN SDGs, such as:

- SDG 3 – Good Health and Well-Being
- SDG 4 – Quality Education
- SDG 13 – Climate Action
- SDG 15 – Life on Land

Partnerships with four charities have been put in place thanks to the mechanism:

Charity	Missions	SDGs ⁶⁸
<p>EPIC</p> 	<p>Epic aims at supporting the development of a world A world in which every child and youth has access to safety, empowerment and equal opportunity. To do so, it finds, selects, backs and monitors high impact organizations in order to catalyze their impact on underserved children and youth and the systems affecting their lives. It relies on a thorough and cutting-edge sourcing, vetting and monitoring process, bringing trust, transparency and accountability.</p>	
<p>World Land Trust</p> 	<p>World Land Trust is an international conservation charity that protects the world’s most biologically significant and threatened habitats. Through a network of partner organisations around the world, WLT funds the creation of reserves and provides permanent protection for habitats and wildlife. Partnerships are developed with established and highly respected local organisations who engage support and commitment among the local community. In 2019, WLT supported the restoration and conservation of 38,000 acres, across 22 countries and 82 reserves, also planting 39,000 trees.</p>	 
<p>Ligue pour la Protection des Oiseaux</p> 	<p>LPO is one of the oldest nature conservation association in France and is affiliated with the BirdLife International network, LPO implements national restoration projects for some of France’s most threatened birds, coordinates European species conservation programmes and manages the reintroduction of endangered birds.</p> <p>LPO manages over 24,000 hectares of natural capital spread over 27 nature reserves in France.</p>	
<p>Doctors with Africa</p> 	<p>Doctors with Africa CUAMM cooperates with local hospitals, health centers, villages and universities, to improve the health conditions of the most vulnerable communities of Sub-Saharan Africa. The organization designs and implements healthcare cooperation projects, also carrying out capacity-</p>	

⁶⁸ Disclaimer: The targeting of specific SDG does not imply the endorsement of the United Nations of AXA Investment Managers, its products or services, or of its planned activities and does not constitute, explicitly or implicitly, a recommendation for an investment strategy.

2.6 CSR Strategy

At AXA IM our purpose, to ‘act for human progress by investing for what matters’, is central to every action we take as an investor - but equally as an organization and employer. As an organisation, we believe we have a powerful role to play in finding solutions for the most pressing current and future societal challenges - and by collaborating with others, build a fairer, more environmentally sustainable and resilient world for our clients, employees and broader society. Just as we are an active player in responsible investment, we equally recognise our role as a business and employer to hold ourselves to the same high standards that we ask of others. Our framework is aligned with the United Nations’ Sustainable Development Goals (UN SDG) and based on the same ESG framework that we adopt as an investor.

- **Environmental**

Our transition to Net Zero – measuring and reducing our impact

As a leading responsible asset manager, we recognise our role in leading the transition to a low carbon economy, as both an investor and organisation. As a business, we have committed to become net zero by 2050 at the very latest. To achieve this, we are working on a programme to measure and reduce our footprint across all key emissions, with an initial milestone of 25% reduction by 2025 compared to 2019.

To provide transparency and accountability on our net zero journey, we now measure our global footprint annually across our 23 offices in 18 countries and will communicate annually on our progress. This measurement study is managed and verified by offsetting provider ClimateSeed, to ensure the accuracy and integrity of the data collection. With our footprint calculated at a global and country level, we are currently working with each of our country management teams, to build a CO2 reduction roadmap per region – setting goals that are fair but ambitious across key emissions of energy, water, waste, paper and business travel.

Incorporating Scope 3 emissions into our reduction targets

We have been measuring Scopes 1 & 2, and business travel as a business for almost ten years now. However, we recognise the increasing need to account for the emissions incurred across our entire value chain, known as Scope 3 emissions. We can also see that the shift in working patterns post pandemic requires us to account for an increasing number of hybrid or digital only activities and events, many of which take place outside the scope of our own office emissions measurement. In 2021, we have therefore included into our measurement study all Scope 3 emissions beyond business travel – including our supplier chain, home working, digital tools, client and corporate events and our own office refurbishment programmes.

Our ‘Smart Working’ framework enables our teams to work both from home or the office and benefit from increased flexibility and greater work/life balance. In parallel however, we recognise that this is an additional source of emissions, beyond our traditional offices. We have therefore worked with our employees globally to estimate the emissions incurred through their home operations in 2021 and included this in our measurement. We have also taken steps through our digital strategy, to reduce email consumption through the introduction of the collaborative tool MS Teams and are working on further activities to reduce our digital footprint through the lifecycle management of our devices.

Our scope 3 emissions also include the footprint generated by the activities of AXA IM providers and suppliers. We now measure this footprint and will continue to find ways to encourage all those who work with us to manage their own operations for us as sustainably as possible.

On business travel, we are currently working to an initial 25% reduction milestone (vs 2019) on all business travel globally. In context, our footprint on travel was far lower in 2020 and 2021 due specifically to the pandemic, but we are keen to leverage the subsequent evolution in our digital tools and increased home working, to prioritise critical travel only and see if we can reduce further on our initial target. We are currently working with our management teams across AXA IM to define targets and refine our travel policy, to favour less CO2 intense forms of travel and less travel overall, leveraging instead digital solutions to replace some of the face-to-face meetings.

Office emissions

As part of the ongoing management of our environmental impact, we continually seek further ways to implement recycling and energy saving schemes across our offices, in order to achieve a reduction in energy, paper consumption, waste and water. We are currently working to a minimum 25% reduction across our largest offices (vs. 2019). In parallel to our efforts to reduce our impact, we want to lead the transition to more renewable energy. AXA IM is aligned with RE100, which brings together influential businesses committed to renewable energy and we are currently 100% renewable energy across our three largest offices. We are now exploring with AXA Group how we can achieve 100% renewable energy in our European offices by 2025.

Offsetting only as a final step in our roadmap

Our goal is to reduce our emissions to the absolute minimum required and achieve Net Zero by 2050 at the very latest. However, whilst we do so, we must continue to account for the emissions we continue to incur across our Scope 1, 2 and 3 operations. We do not believe that offsetting is a solution to the climate crisis but we equally recognise that we will never be able to run our business with zero emissions. We will therefore offset any emissions that cannot be removed each year, while our commitment is primarily to first reduce our footprint to the absolute minimum. In 2021, we offset an initial 15,000 tCO2e - based on the data collected at that time - into carbon credits, via our offsetting provider ClimateSeed - supporting a large conservation project in Guatemala. Recognising however that we need to go further and account for all emissions across scopes 1, 2, and 3, we will work closely with our partner ClimateSeed following the results of our CO2 measurement to ensure we account for our emissions year on year.

Key to reaching net zero by 2050 is employee awareness of the climate and the impact we collectively have on the planet. Recognising this, one of the objectives of our parent AXA Group is to train 100% of our employees on climate by 2023 through the launch of the AXA Climate Academy, which AXA IM is fully aligned with.

- **Social**

Our people are our most valuable asset. We thrive to nurture the progress of our employees by developing a work environment in which they can realise their potential to drive progress and bring our purpose to life every day.

Empowerment and inclusion are central to the culture we want to create at AXA IM

We want to provide our talented employees with the opportunity they need to grow their potential, shape the way they work through flexibility/hybrid working and thrive within a diverse community where differing ideas, backgrounds and viewpoints are encouraged. We actively listen to our employees, to understand how they feel about the work that we do and their role in driving our organisational purpose. We conduct two to three engagement surveys per year, in which we measure the eNPs (Employee Net Promoter Score) and have seen a year-on-year score increase since 2017. We support a culture of open feedback on topics such as gender, disability and ethnicity and conducted our first 'Inclusion Survey' in 2021.

On Inclusion and Diversity, we also use our voice as a leading asset manager, to push for progress on key topics, such as gender equality, disability, LGBT, to name a few. On gender, we publish our own pay gap reports annually in France and the UK and we are members of the 30% Club Investor Groups in France and the UK, which look to increase the representation of women in executive management. We have also signed the Women in Finance charter and are EDGE (Economic Dividends for Gender Equality) certified. We have also begun the process of Edge re-certification in 2022, in recognition of our global commitment to gender equality in the workplace.

Protecting the rights of all those who work with us

We are committed to disclosure as required through regulation, in all geographies in which we operate. This includes the Modern Slavery Act (UK) and any others pertaining to Inclusion & Diversity or human rights. Whilst already considering ourselves compliant, we are currently assessing in particular the scope and implementation of the incoming 'Loi Rixain' ('Rixain Law') in France, which addresses the need for increased transparency on D&I metrics in the workplace.

Our role to support and protect those who work alongside us also extends to our supply chain. We have a procurement process in place to ensure that our partners and suppliers act with the same integrity, responsibility and sustainability towards their own employees and suppliers, as we expect of our ourselves as a business.

Extending our purpose into our communities

Just as we are committed to 'invest for what matters' for our clients and employees, this equally extends to our local communities – supporting them to similarly grow and prosper alongside us. We focus on projects with a tangible societal impact, across climate change/biodiversity, education and health.

AXA IM donates 5% of the fees from a number of our Impact Funds to a number of organisations that are aligned to our corporate priorities. Within these charities, we are supporting several UN Sustainable Development Goals.

Our volunteer community 'AXA Hearts in Action' also enables our employees to dedicate their time and expertise to local charities focused on supporting climate-related and other projects with a positive societal impact. Our calendar of activity runs all year but culminates with a week (AXA Week for Good) for our employees, which is dedicated to increasing awareness, engagement and involvement in climate change and biodiversity related activities.

We are also committed to the topic of financial education and continue to partner on a number of school outreach programmes. Together, our goal is to support school children and young people in developing their financial literacy skills and to understand the value of savings.

Finally, we recently announced our partnership with the CFA Institute's 'Young Women in Investment programme' – designed to support increased gender diversity and female talent in our industry.

- **Governance**

Maintaining a strong, resilient and sustainable business for the long term

We believe that a responsible resilient business is in the optimal position to perform in the long term, supporting our clients, employees and communities to grow alongside us. As a responsible investor, we actively use company engagement and voting to positively influence the corporate behaviours needed to drive long term sustainable growth. As a business, we similarly work to nurture a relationship of accountability, security, transparency and trust with our clients, employees and all those who engage and partner with us.

Holding ourselves to the highest standards of behaviour and conduct

Earning and retaining the trust of our clients and stakeholders is key. Our AXA IM Standards framework details the policies and processes followed by everyone across AXA IM, to ensure that we manage risk robustly and run our business ethically and transparently for all our stakeholders. The AXA IM standards are reviewed and each year, to ensure compliance across all teams.

Our code of conduct includes processes on topics such as anti-bribery, whistleblowing and handling of data, with topics reinforced by regular communication and employee training. Our staff are all required to undertake regular training to ensure they understand their responsibilities for the security, privacy and transparency of our organisational operations.

Understanding, assessing and mitigating risks

As a firm with a long-term outlook, we also recognise our responsibility to grow and adapt to new challenges as they arise, by continually exploring emerging risks and key topics. We operate under a global risk management framework, which assesses and addresses all key risks as an investor and business. Cyber security is recognised as a key risk and our staff undertake regular training and checks, to ensure that everyone understands their own responsibility for the safekeeping and security of any information and intelligence entrusted to us. We have business recovery plans, which are reviewed and updated regularly, to ensure that our service to our stakeholders can continue in any unforeseen scenario.

We finally have processes in place to protect the confidentiality and privacy of all data selected, handled or communicated by us – with adherence to all data laws and regulation.

3- Risk Management

3.1 Mitigation of key Sustainability Risks

AXA Investment Managers uses an approach to sustainability risks that is derived from the integration of ESG (environment, social and governance) criteria in its research and investment processes. It has implemented a framework to integrate sustainability risks in investment decisions based on sustainability factors which relies on:

- Sectorial and normative exclusions policies:** aim to systematically address the most severe sustainability risks into the investment decision-making process. For certain alternative asset classes, exclusion policies are applied to direct investments and covers Controversial Weapons, Soft Commodities, Ecosystem Protection and Climate Risks. In addition to this first set of policies which are applied to all our assets under management, ESG integrated funds and ACT funds apply our ESG Standards. These policies are regularly discussed within our RI governance, and in particular in our ESG Monitoring & Engagement committee where new policies as well as updates of exclusion lists are discussed. The Management Board validates any new policy, as well as any change in criteria or scope of application. Our sectorial and normative exclusions policies cover:

Set of Policies	AXA IM RI Sectorial Policies	AXA IM ESG Standards
Environmental	Climate (coal mining and coal-based energy production; oil sands production and oil sands-related pipelines; shale and tight oil and gas; arctic oil and gas) Biodiversity (ecosystem protection and deforestation) Soft commodities (food commodities derivatives)	
Social	Human Rights (Controversial Weapons)	Health (Tobacco producers) Labor, society and human rights (violations of international norms and standards; white phosphorus weapons producer; exclusion of investments in securities issued by countries where serious violations of Human rights are observed)
Governance		Business ethics (severe controversies, violations of international norms and standards) Corruption (severe controversies, violations of international norms and standards)

- ESG scoring methodologies for Corporate, Sovereigns and on Green, Social and Sustainability bonds:** the use of ESG scores in the investment process enables us to focus on assets with an overall better ESG performance and therefore likely lower sustainability risks. Previously, we combined data from three providers, but we now strongly rely on a single-provider ESG scoring model which is coupled with an instrument-level differentiation and an overlay of AXA IM's own analysis. Entitled Q², this new and enhanced qualitative and quantitative approach offers increased coverage as well as fine-tuned fundamental analysis. We monitor carefully

companies with the lowest scores as they may represent a risk. Our objective is to consider and address most significant ESG risks protecting client returns into the future⁶⁹.

This framework helps us to ensure we consider how sustainability impacts on the development, performance or position of a company, as well as having material effects on the financial value in a broad sense (financial materiality). It also helps us to assess the external impacts of an asset's activities on ESG factors (ESG materiality).

This framework is complemented with:

- In-house ESG research on key themes including Climate Change, Biodiversity, Gender diversity and Human capital, Cyber security and Data privacy as well as on Health and Nutrition, supported by broker research as well as regular meetings with companies, participation to conferences and industry events. This research helps us to better understand the materiality of these ESG challenges on sectors, companies and countries.
- Internal qualitative ESG and Impact analysis at companies and countries level.
- ESG KPIs: Investment teams have access to a wide range of extra-financial data and analysis on environmental, social and governance, 'ESG' factors, across asset classes. More specifically, a package of Environmental KPIs is available in the Front Office tool to allow the full understanding and analysis at issuer level.
- Stewardship strategy: We adopt an active and impactful approach to stewardship (engagement and voting) by using our scale as a global investment manager to influence company and market practices. In doing so, we strive to reduce investment risk and enhance returns as well as drive positive impacts for our society and the environment.

In **2021**, we conducted a study on the **impacts of ESG factors on returns**.

We found that in a volatile year impacted by the global coronavirus pandemic, the AXA IM Exclusion policies (including RI Sectorial policies and ESG Standards) added 3.71 ppt to the benchmark return⁷⁰ and did not negatively impact the returns of the opportunity set which has been proxied by the MSCI ACWI. Higher-ranked names in terms of ESG outperformed both the universe and the lower ranked names.

While this analysis cannot be taken as indicative of future performance, it does reinforce our belief that good ESG scores can be a sign of quality and resilience, and not just during periods of volatility, as witnessed in 2020, but more broadly overall.

Fundamentally, we believe ESG analysis – and using this analysis in our investment process and decisions – can potentially lead to more effective investment solutions which not only address global challenges but also create sustainable value for investors. Ultimately, given where society and the planet are now, we anticipate that the popularity of ESG investing is only set to soar.

To go into details our this study, please read the research paper [Did 2020 deliver a premium for the top ESG equities? | AXA IM Corporate \(axa-im.com\)](#)

⁶⁹ More details available in our study "How responsible investing standards and policies affect returns"

⁷⁰ This document is for informational purposes only and does not constitute investment research or financial analysis relating to transactions in financial instruments as per MIF Directive (2014/65/EU), nor does it constitute on the part of AXA Investment Managers or its affiliated companies an offer to buy or sell any investments, products or services, and should not be considered as solicitation or investment, legal or tax advice, a recommendation for an investment strategy or a personalized recommendation to buy or sell securities. It has been established on the basis of data, projections, forecasts, anticipations and hypothesis which are subjective. Its analysis and conclusions are the expression of an opinion, based on available data at a specific date. All information in this document is established on data made public by official providers of economic and market statistics. AXA Investment Managers disclaims any and all liability relating to a decision based on or for reliance on this document. All exhibits included in this document, unless stated otherwise, are as of the publication date of this document.

AXA IM Alts approach to sustainability risks

Sustainability risks in relation to the investments may arise in the social, environmental or governance areas.

In order to identify and manage these risks, AXA IM Alts uses an integrated approach to Sustainability risks based on a global set of policies and processes. Such framework is implemented to integrate the most material Sustainability risks in investment decisions based on sustainability factors and relies notably on the following:

- **Sectorial and normative exclusions policies:** Alts follows the general approach on policies mentioned above.
- This exclusion policies are complemented with a specific approach with the integration of ESG factors in the investment decision process. Proprietary methodologies are implemented to conduct specific Sustainability risk assessments based on ESG factors, notably during the investment due diligence phase for a contemplated investment. Depending on the type of investment and strategy, the assessment can be carried out on any or a combination of the following items, without limitation: the underlying asset (including the issuer), the sector, the counterparty of the trade, the originator, servicer, or manager of underlying portfolio. For indirect investment, the due diligence covers, among ESG factors, the assessment of the exclusion policies implemented by the relevant counterparty, originator, servicer, or manager of underlying portfolio.

AXA IM Alts does not guarantee that the investments are not subject to Sustainability risks to any extent and there is no assurance that the Sustainability risks assessment will be successful at capturing all Sustainability risks at any point in time. Investors should be aware that the assessment of the impact of Sustainability risks on the performance is difficult to predict and is subject to inherent limitations such as the availability and quality of the data.

If such Sustainability risks materialize in respect of any investment, they may have a negative impact on the financial performance of the relevant investment.

3.2 Factoring Climate Risk in Real Estate Management

Extreme Weather events costs and Physical Risks

Physical risks are those that are already arising as a result of the rise in temperatures and of the increase in extreme weather events occurrence and magnitude. Potential costs of climate change damages could equate up to 10% of the global current GDP value in a world at 1.5°C and up to 23% in a world at 3°C, which represent what current countries' commitments support⁷¹. Last IPCC report on the impacts of a global warming of 1.5°C⁷² showed that such temperature rise above historical levels would lead to unprecedented impacts for the nature and human beings.

Our work on physical risks is exploratory and can be categorized in three parts:

- Assessment of Real Assets portfolio exposure to climate risks across AXA Group's investments using insurance risk management natural catastrophe models;

⁷¹ CRO Forum, 2019

⁷² See "Global warming of 1.5°C", IPCC, 2019.

https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Full_Report_High_Res.pdf

- AXA IM Real Assets Australia partnering with Deloitte on physical risk assessments of cities in Australia and Asia;
- Assessment of listed assets physical risks exposure using Carbon Delta extreme weather events costs.

Focus on AXA IM Real Assets: resilience tests on property portfolio

At AXA IM Real Assets, we take a comprehensive approach to considering the physical and transitional impacts of climate change. Focusing on the physical risks and the resilience of the real estate portfolios, in 2019, AXA IM Real Assets built on current engagement with the NatCat teams within the AXA Group for a better understanding of physical risk exposure. Utilising these tools, the Real Assets team now has visibility on the level of risk exposure in relation to natural hazards across the global real estate portfolio and CRE Debt portfolios.

With this level of understanding of physical risk exposure at both the asset and portfolio level to flood, earthquake, hail and windstorm, we have begun to identify assets with higher levels of climate risk exposure to set in place adaptation plans in order to mitigate risk from a physical perspective. The risk level identified is driven by three components: the hazard (defined by severity and frequency), the exposure (characterized by the building's physical properties) and the vulnerability (defined by destruction rates, function of the hazard and the exposure).

We also monitor the international and local transitional regulatory landscapes to anticipate market legislations that will influence the liquidity of assets and act upon such notions in order to avoid the risk of stranded assets.

In 2020, by formally integrating this analysis within AXA group tools into the investment process for real estate and CRE debt, we intend to not only understand risk based on historical events, but to better understand future risk associated with climate change for a clearer view on the climate value-at-risk of the portfolio.

In addition to the above climate impact assessment conducted for corporate and sovereign assets, climate change, and in particular extreme weather events, may impact "Real Assets", such as real estate, which are subject to both physical and transition risks in TCFD terminology.

In 2021, AXA IM Alts Real Estate teams worked in collaboration with AXA, focusing on their investments, on Climate Risks in Real Estate management.

- **Physical Risk – Clymene Analysis**

Since its first Climate Report (2016), AXA conducted an analysis on a selection of property assets. In 2021, this analysis covers a scope of more than €43 billion⁷³ of direct property investments. AXA's Investment and Risk Management teams evaluated the financial impact of floods, windstorms and hail on these properties in a selection of 20 countries representing close to 90% of the portfolio.

Consistent with previous studies using the Clymene platform, both average annual losses and losses generated by one in a 50 years flood, windstorm and hail events remain limited compared to the total asset value. Results of the assessment based on the average annual loss are detailed on a country-level in the figures below.

⁷³ Representing AXA's ownership in real estate assets managed by AXA IM Alts as at 31/12/2021

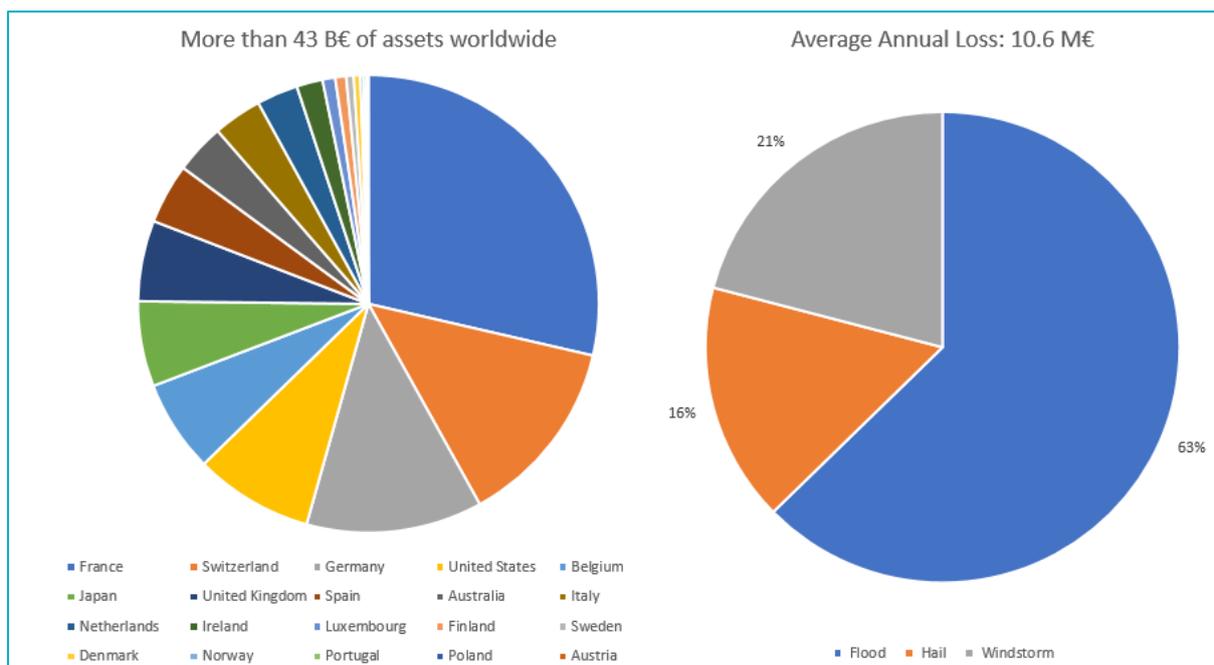


FIGURE 1: AXA'S REAL ESTATE PORTFOLIO SPLIT BY COUNTRY ON THE LEFT PANEL, CONTRIBUTION OF WIND, FLOOD AND HAIL PERILS TO THE ANNUAL AVERAGE LOSS

Source: AXA, AXA IM, 2021.

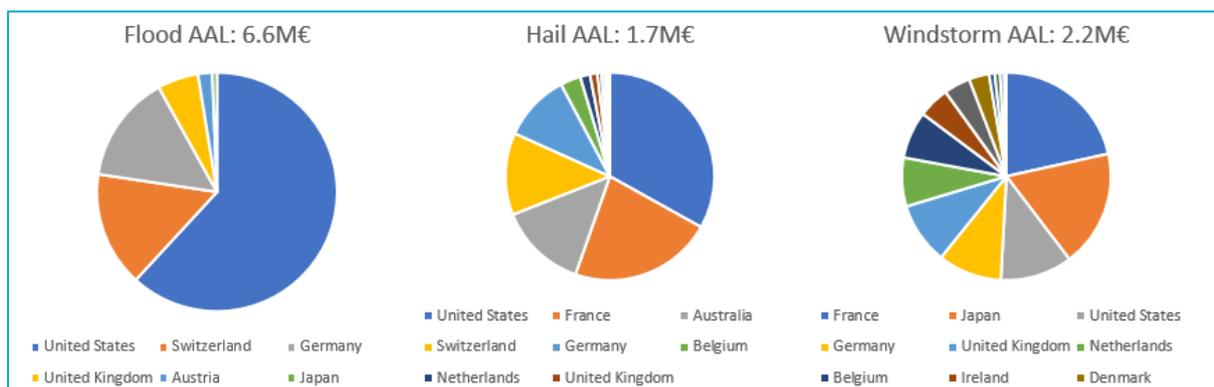


FIGURE 2: FLOOD AAL (LEFT) AND WINDSTORM AAL (MIDDLE) AND HAIL (RIGHT) SPLIT BY COUNTRY

Source: AXA, AXA IM, 2021.

Natural hazard risk is driven by three components:

1. The hazard, defined by its severity and frequency,
2. the exposure, characterized by the building's physical properties, and
3. the vulnerability, defined by destruction rates and function of the hazard and the exposure.

AXA's real estate exposure is global with most of the portfolio located in Europe (82%). The portfolio's highest risk exposure is to flood (63% of AAL), followed by windstorm and hail, as shown in **Erreur ! Source du renvoi introuvable.** Currently, asset-level data utilised to run the analysis relies on the geolocation of buildings as well as their main occupancy. However, models used to assess the risk exposure to natural hazards have the potential to integrate a more granular level of information in relation to physical components of a building, such as the structure, the year of construction, the height of the building, etc, which can contribute to more refined and asset specific results in the analysis. Such detailed information is currently not systematically available in real estate portfolios but there is on-

going work to collect this data more systematically in order to increase the precision of the output result.

Based on the internal risk assessment, the United States drive the AAL for both flood (62%) and hail (33%) perils. For windstorm peril, the US, France, the UK, Japan and Germany contribute 62% of the annual average loss. For flood peril, Germany and Switzerland contribute 30% of the AAL. For hail peril, France, Australia, Switzerland and Germany contribute 59% of the AAL.

Upon analysing the Clymene results, the AAL has increased compared to the analysis in 2021 due to the addition of new assets.

- **Physical Risk – Integrating Physical Risk Analyses in the Investment Decision**

Through the use of internal AXA tools such as the underwriting Aegis tool and the Clymene platform, AXA's investment team has been able to identify buildings with higher levels of historical physical risk, addressed by the asset management teams tasked to develop subsequent adaptation responses as a result. Some projects were undertaken in 2020 to obtain a proof of concept and advance to a portfolio wide analysis of future scenarios, including models from MSCI Carbon Delta and AXA Climate.

For a pan-european real estate portfolio, MSCI Carbon Delta modelled resilience to transitional and physical risks in relation to climate change, a holistic approach that enabled the investment team to identify the value-at-risk of assets in the fund and the tail-risk buildings which need additional attention to develop a subsequent adaptation strategy.

As another proof of concept, our investment teams engaged with AXA Climate to focus on physical risk using RCP 4.5 and 8.5 scenarios, to capture the normalized risk score of a representative global portfolio of 90 assets, with a deep dive into 3 assets for which they developed a detailed adaptation report to guide the asset management teams. These pilot tests enable the team to better understand the market of climate risk service providers and to develop a strategy to increase the resilience of AXA's real estate assets.

In addition, AXA IM Real Assets is increasingly utilising the Aegis underwriting tool to strengthen the analysis of physical resilience in relation to climate change during the acquisition process. The responsible investment team supports local acquisition teams by underwriting a climate physical risk analysis of the buildings in question and incorporating the results in the technical due diligence phase. This has enabled acquisition teams to engage with their technical partners to reinforce their climate-related ambitions and include a specific adaptation strategy for those assets where required.

In conclusion, according to in-house risk modelling, the financial impacts of climate-related "physical risks" on real estate assets is currently limited. The teams at AXA IM Real Assets continue to collaborate with the AXA Group Natural Catastrophe (Nat Cat) teams to better understand physical risk levels and determine appropriate adaptation efforts to limit such exposures to climatic event.

In addition to the physical risks of climate change our teams increasingly consider the risks of transition to a low carbon economy, with specific consideration of liquidity and regulatory risk.

- **Transition Risk – A Holistic Approach to Resilience**

Physical risks are not the only Climate-related risks considered by financial institutions. Risks related to the transition to a low-carbon economy allow financial institutions to increase their resilience to new regulatory frameworks introduced in order to mitigate further financial or performance related risks.

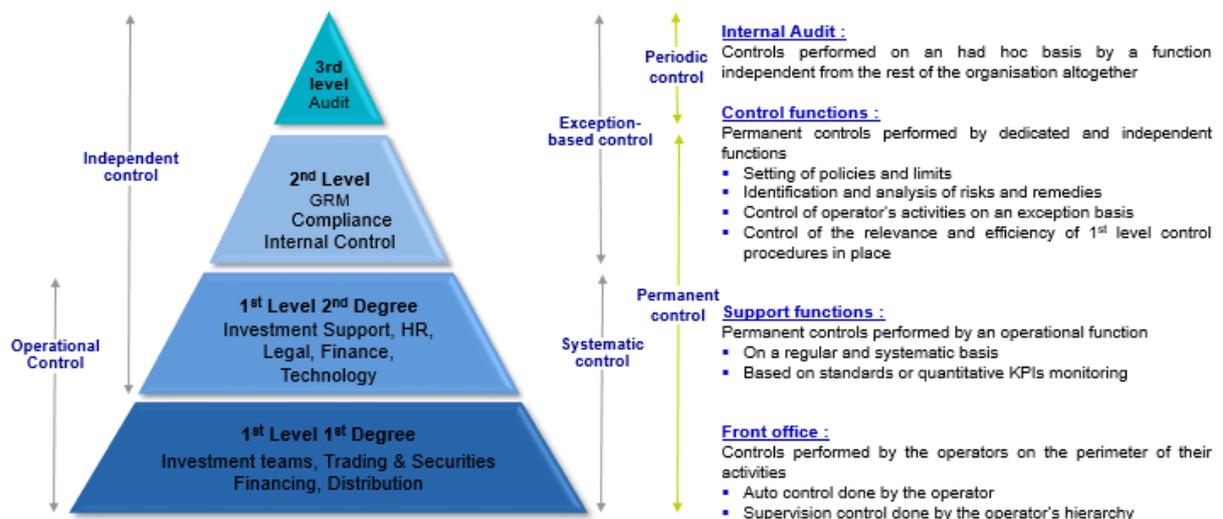
Among these efforts to identify and mitigate transitional risks, AXA's investment teams have relied on different market-standard tools, such as the Energy Performance Certificate (EU EPC) and the Carbon Risk Real Estate Monitor (CRREM) model.

Aligned with the EU Taxonomy on Sustainable Finance and with the MEES (Minimum Energy Efficiency Standard) regulation in the UK, the EU EPC is becoming a useful tool to determine the stock of buildings on which to concentrate the efforts to improve energy efficiency and thus reduce the carbon footprint. In addition to an EU EPC being required in order to sell or trade an asset, our conviction is that this regulatory standard will continue to be used to define minimum energy performance standards, as it is currently in the UK and Netherlands. This is now used as internal guidance by AXA's investment teams in order to limit the transitional liquidity risk of its buildings, with the goal to have at least 75% of its European portfolio with an EPC of C or better by 2025, from 45% as at 2021.

The CRREM model is another tool available to benchmark buildings' energy performance against Paris Agreement targets. Importantly this tool provides science based intensity targets for different building types, in different countries, which provide, for the first time, consistent asset level performance targets in both kWh and GHG emissions which need to be met in order for the underlying asset to align with global targets. This tool more accurately reflects the complex reality of delivering a meaningful roadmap towards net carbon neutrality.

This tool provides critical insight into measuring the performance of the delivery of our ambition to deliver net zero investment portfolios by 2050 or before. An ambition which AXA has made clear with its participation in both the Net Zero Asset Owner Alliance and the Net Zero Asset Managers Initiative. As at 2021, 25% of AXA's building stock is aligned with the 1.5°C warming scenario, a percentage that is set to increase with the new decarbonization targets set by the organisation.

3.3 Internal Controls



The ESG and Climate topics are covered by AXA IM's control framework, with responsibilities spread between the first level of controls performed by the business and second level of controls performed by dedicated teams.

ESG-related investment guidelines consist of our exclusion policies, as well as of eligibility criteria and rules specific to funds which have been awarded sustainability-related labels. They are monitored by:

- The portfolio management teams;
- A dedicated Investment Guidelines team with independent and systematic pre and post-trade controls;
- The Compliance department with ad hoc controls on the work performed by the Investment Guidelines team;
- The Audit department which performs periodic controls.

Regularly, through the integration of a wide range of ESG KPIs into our Front Office tools, investment teams are able to analyze and monitor each individual holding and the portfolio positioning on ESG factors and ESG related metrics.

Pre-trade controls are performed by the business teams themselves. The COO ensures that fund managers divest all investments in restricted companies and do not invest in restricted companies as long as there are restricted or absent new instruction.

Our Investment Guidelines team (“IG”) is monitoring the correct application of the exclusion list with pre-trade and post-trade monitoring systems. Following the update of the eligible universe, the portfolio manager divests from stocks taking into account both a client’s as well as fund’s best interest. These ban lists are integrated into our Front Office tools.

The Compliance and Risk Management teams are part of the RI governance committees. They oversee the adherence to regulatory requirements and management of risks related to these topics, through control plans which covers RI-related processes. At AXA IM, the Compliance department is in charge of monitoring regulatory changes and works closely with investment teams as well as responsible investment professionals and Risk Management department.

Moreover, as part of the sustainability-related regulatory changes, AXA IM has launched several working groups that are in charge to monitor regulatory changes related to responsible investment, to define our position, set up action plans and to adapt our commercial offer. In addition, we participate and share our views with industry bodies such as the EFAMA and regulators.

4- Metrics

We show in this section the ESG, Climate and Biodiversity footprint of AXA IM investments and provide details on methodologies used mostly for reporting purpose.

4.1 ESG Dashboard

- 2021 ESG Footprint Dashboard on listed assets

We produce on an annual basis an ESG Dashboard at AXA IM level aiming to summarize asset classes' contributions to the global ESG score. The dashboard below is based on AXA IM worldwide holdings' but specifically focuses on mainstream asset classes – equities, sovereign bonds and corporate bonds – at the end of year 2021⁷⁴.

As mentioned above in the section 2 – Strategy, in November 2021, AXA IM moved from a “blended score” to a structured score called Q². Figures in the table below for the 2020 are calculated through previous AXA IM proprietary scoring methodology while 2021 figures are built on Q² methodology. In addition, we refined the ESG Score calculation perimeter in 2021, compared to 2020. It is based on all eligible assets managed by AXA Investment Managers (i.e. direct corporates and sovereigns), excluding assets delegated to external entity and joint ventures. 2020 and 2021 results are therefore not comparable.

		Methodology	Scores				AUM	coverage
			Score ESG	Score E	Score S	Score G		
			[0-10]	[0-10]	[0-10]	[0-10]		
AXA IM	2020	AXA IM Proprietary ESG Scoring	5,90	6,10	5,20	6,00	535 968 €	95%
	2021	Q ²	5,97	5,78	6,37	6,07	479 491 €	94%
Equities	2020	AXA IM Proprietary ESG Scoring	6,20	6,20	5,50	5,50	81 415 €	93%
	2021	Q ²	5,55	6,69	5,43	5,38	87 153 €	95%
Corporate Bonds	2020	AXA IM Proprietary ESG Scoring	6,10	6,60	5,70	5,20	213 169 €	95%
	2021	Q ²	5,43	6,88	5,15	5,25	186 862 €	89%
Sovereign Bonds	2020	AXA IM Proprietary ESG Scoring	5,80	5,60	4,70	5,80	227 899 €	99%
	2021	Q ²	6,57	4,54	7,74	7,01	205 476 €	100%

⁷⁴ Worldwide holdings include the assets managed by AXA IM Paris.

Benchmarks	2020						
	2021	Q ²	5,64	6,10	5,98	5,51	98%
--- MSCI World ACWI	2020						
	2021	Q ²	5,13	6,50	5,06	4,83	100%
--- BofAML Global Aggregate Corporate	2020						
	2021	Q ²	5,16	6,85	4,87	4,97	95%
--- JPM GBI Global	2020						
	2021	Q ²	6,60	5,00	7,97	6,72	100%

2020 to 2021

If we compare to last year's dashboard, despite a change in ESG Scoring methodology, the overall general feeling is positive with stability of ESG Score coverage. The ESG Rating coverage on listed assets is now at 94%. ESG Scores of corporates remains above the benchmark, for equities and bonds.

Due to methodological changes, we nevertheless note a significant change, between 2020 and 2021, of the S score of Sovereign bonds. MSCI methodology on Sovereigns is more granular on Assimilated Sovereigns meaning that they now have their own ESG Score (e.g., whereas with the previous scoring methodology regions inherited the score of their sovereign parent, they now have their own score). Furthermore, MSCI combines two types of scores: a management score and an exposure score while the previous AXA IM scoring methodology classified countries in two groups depending on their level of development and for which the aggregation method for raw data was different. Finally, early 2021, we deployed the qualitative assessment bonus system to social and sustainability bonds, which had a positive impact on sovereign S scores if qualitative analyst had not expressed a negative view.

- **2021 ESG Footprint Dashboard on alternative assets**

In 2015, AXA IM Alts has developed ESG Scoring methodologies for alternative asset classes has described above. The table below shows the results of the implementation of these methodologies.

2021	E	S	G	ESG	Coverage	AUM
	[0-10]	[0-10]	[0-10]	[0-10]	[%]	[in M€]
Alternatives	5,39	5,78	6,35	5,60	87%	134 180 €
Structured Finance	4,84	5,17	6,10	5,21	81%	53 501 €
Real Assets	5,72	6,13	6,50	5,83	90%	80 679 €
Real Estate	5,11	6,37	6,47	5,64	94%	57 920 €
CRE Debt	6,19	5,43	6,27	6,08	63%	10 670 €
Infrastructure	9,22	7,3	9,15	8,63	100%	2 839 €
Debt – Infrastructure	7,9	4,9	6	5,9	100%	9 250 €

The ESG rating for Direct Real Estate significantly evolved during the 2020 -2021 period, five years after its initial inception. Reflecting the rapid change in the market, the refinement of the rating tool was undertaken to ensure closer alignment with new and evolving regulations, and to directly incorporate new and emerging risk indicators, such as climate impacts and biodiversity considerations. While many

of these aspects have been considered as part of investment decisions over the past years, they had not formally been integrated into the rating tool.

As a result of change in granularity of data and an increasing breadth of data, scores are largely incomparable across the period.

Similar work is underway for all Real Assets sectors including real estate debt and infrastructure.

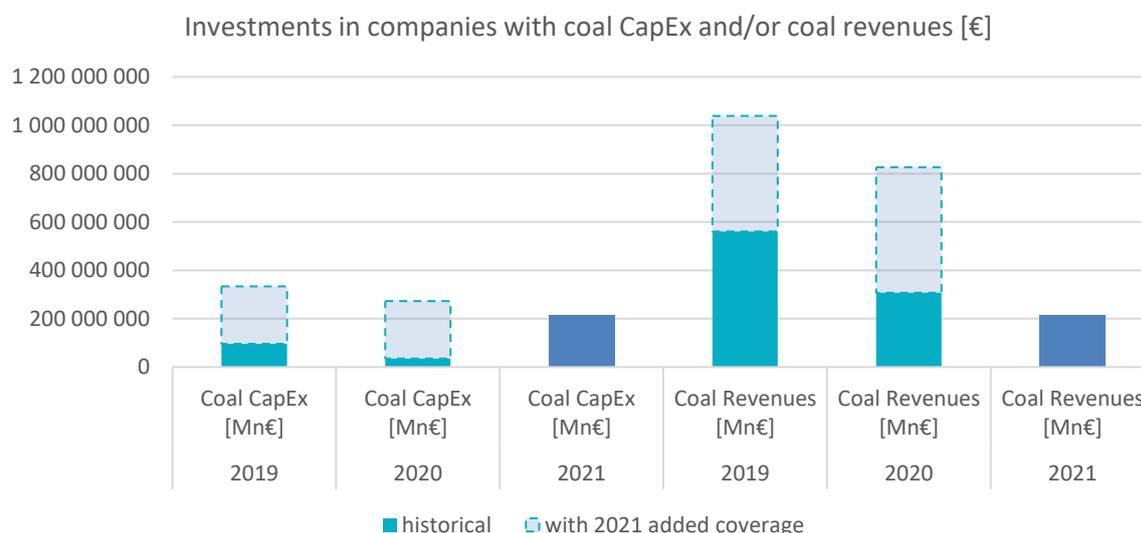
4.2 Environmental dashboard

- **Our remaining Coal exposure**

Our exposure to coal mining activities has been decreasing regularly since 2018 both in absolute amount invested and in share of total investments, following the implementation of our climate risks exclusion policy and its regular reinforcements. We also monitor coal capex plans and therefore, the amounts invested in growing coal companies have been decreasing as well.

In the chart below, we note the impact of 2019 Climate Risks policy reinforcements, as the application of our Climate Risks policy has been extended to all our assets under management which resulted in a decrease of our investments in companies having coal mining revenues.

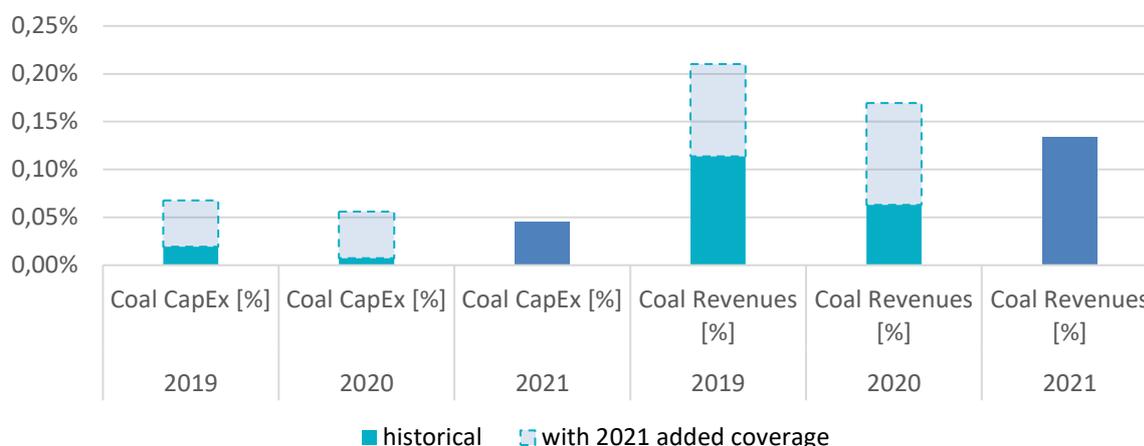
These results are in line with our objectives and our overall climate strategy to progressively reduce our exposure to coal and to exit all coal investments in OECD countries by the end of this decade, and throughout the rest of the world by 2040. This progress is the result of strengthening our exclusion criteria and of our efforts, through engagement and voting, to encourage companies to implement transition strategies. This consistency between our commitments in the fight against climate change and our investment practices allow AXA IM to be ranked first in the Reclaim Finance’s Asset Managers Climate scorecard⁷⁵ for the second consecutive year.



Sources: AXA IM, Urgewald, Trucost-S&P, as of 31/12/2021.

⁷⁵ See “The Asset Managers fueling climate chaos”, Reclaim Finance, 2022. [Asset Manager Climate Scorecard 2022.pdf \(reclaimfinance.org\)](https://reclaimfinance.org/Asset_Manager_Climate_Scorecard_2022.pdf)

Share of investments in companies with coal CapEx and/or coal revenues



Sources: AXA IM, Urgewald, Trucost-S&P, as of 31/12/2021.

AXA IM calculates its coal exposure using S&P Trucost and Urgewald GCEL databases. AXA IM chose to keep the most conservative approach by not setting any threshold for considering an asset as coal exposed. Therefore, if a company has 1\$ revenue or CapEx in coal activities, AXA IM accounts for all (100%) investments in this company for calculating its global coal exposure. We also restated our coal exposure for 2019 and 2020 to include newly added coverage and therefore perform a consistent comparison year-over-year.

As a result, this approach does not measure or report on company improvements, but it does report on the evolution of the impacts of AXA IM's investment choices. The calculation of exposure to fossil fuels, non-conventional oil and gas and coal is based on all assets managed by AXA Investment Managers, excluding assets delegated to an external entity and joint ventures.

Company	Sector	Coal exposure – No mining, only power generation	Rational / Company's commitments
Engie	Electric utilities	Coal capacity : 2.1GW ⁷⁷ , 3% of total capacity 1% of revenues ⁷⁶	Engie committed in May 2021 to exit coal generation by 2025 in Europe and by 2027 for the rest of the world. For its 10 existing coal power plants, the group intends to close 4 of them and convert 4 others, while selling is seen as a last resort option (considered for 2 as of May 2021) ⁷⁷
Enel	Electric utilities	Coal capacity : 6.9GW ⁷⁸ , 8% of total capacity 2.5% of revenues ⁷⁶	Enel accelerated in 2021 its commitment to phase out coal by 2027 (vs 2030 targeted as previously announced in 2020). The intention is to close some plants and to convert others to natural gas. ⁷⁸
NextEra Energy	Electric utilities	Coal capacity : 1.3GW ⁷⁹ , 3% of total capacity 1% of revenues ⁷⁶	NextEra has already closed its coal plants in Florida and will retire the others elsewhere in the US by 2028 ⁷⁹

Disclaimer: this analysis and figures in relation to issuers are past and are based on public information provided for illustrative purpose only and do not constitute a recommendation.

⁷⁶ Sustainalytics data as of 2021

⁷⁷ ["Putting strategy into action", May 2021, Engie](#)

⁷⁸ [Executive Summary Capital Markets Day 2021 | Enel Group](#)

⁷⁹ [Investor Conference 2022, NextEra Energy](#)

- **Our remaining exposure on Fossil Fuels**

As mentioned above, at the COP26, AXA IM announced the extension of its existing Climate Risks policy to Oil & Gas. This new policy has been implemented in February 2022, therefore, AXA IM's fossil fuels and unconventional oil & gas figures does not take into account the impacts of the implementation of the Climate Risks policy new criteria. As of 31/12/2021, AXA Investment Managers invests c.€4 billion in fossil fuels, representing 1,37% of the assets under management. 0,79% of AXA IM's assets under management are invested in unconventional fossil fuels, representing c.€3 billion.

To calculate the exposition, we rely on the Urgewald GOGEL database. AXA IM chose to keep the most conservative approach by not setting any threshold for considering an asset as fossil fuels or unconventional fossil fuels exposed. Therefore, if a company has 1\$ revenue in fossil fuels or unconventional fossil fuels, AXA IM accounts for all investments in this company for calculating its fossil fuels exposure and unconventional oil & gas exposure. As a result, this approach does not measure or report on company improvements, but it does report on the evolution of the impacts of AXA IM's investment choices. The calculation of exposure to fossil fuels, non-conventional oil and gas and coal is based on all assets managed by AXA Investment Managers, excluding assets delegated to an external entity and joint ventures.

4.3 Scenario analysis: Global warming scenarios or possible climate futures

On August 9, 2021, the IPCC released the first instalment of its Sixth Assessment Report on the physical science basis of climate change. One statement is stark and clear: "It is unequivocal that human influence has warmed the atmosphere, ocean and land⁸⁰. The report precises that the best estimate for of human-induced warming is 1.07°C above pre-industrial levels, with greater warming on land than in the oceans. The IPCC also adds that "global surface temperature will continue to increase until at least mid-century" and that "global warming of 1.5°C and 2°C will be exceeded during the 21st century unless deep reductions in CO₂ and the other greenhouse gas emissions occur in the coming decades". To maintain the increase in temperature to below 2°C, the world's emissions need to decline at a rapid pace and attain net zero between 2050 and 2070. Achieving Carbon neutrality or "net zero" emissions requires to strike a balance between anthropogenic emissions by sources and removals by sinks. To reach this stage, the world will have phased out most CO₂ emissions and will be employing methods that capture and store the remaining low levels of emissions ("offsetting") as well as the CO₂ in the atmosphere from the build-up of historical emissions. Green technologies are instrumental in achieving this decarbonization pathway.

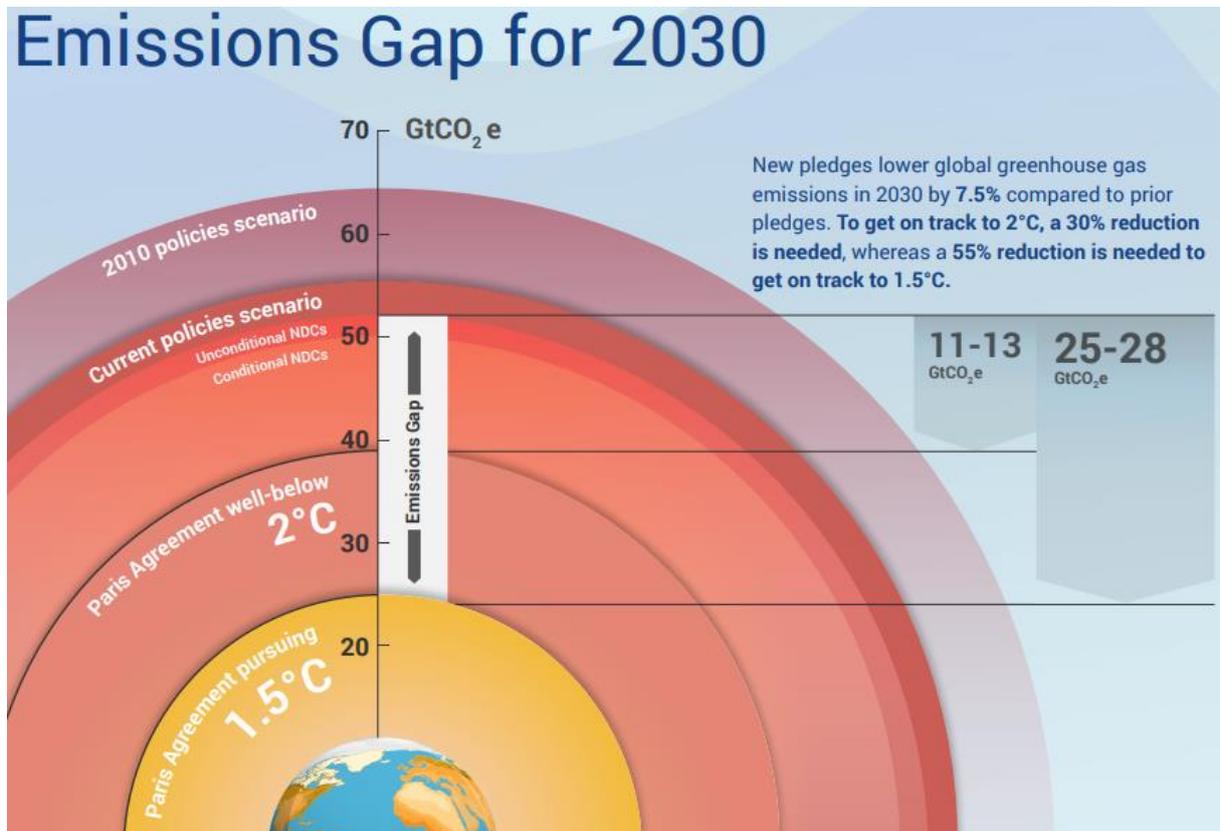
The Paris Agreement binds parties to limit warming well below 2°C compared to pre-industrial levels by 2100. Most of the current Intended National Determined Contributions ("NDCs") have 2020 to 2030 as their stated compliance period. NDCs expressed to 2050 are scaled back to 2030 in our modelling. The 2021 UNEP Gap Report, published ahead of the COP26 held in Glasgow in November 2021, estimates that implementing the updated unconditional NDCs would lead to a mean global temperature of around 2.7°C. If emissions continue to rise as they have in the past, the IPCC expects temperatures to increase by at least 3°C by 2100, and possibly by more than 4°C.

The TCFD recommendations specifically state that organizations consider a set of scenarios, including a "2°C or lower" scenario, in reference to the 2015 Paris Agreement since they will have different implications on investments.

⁸⁰ [IPCC 6th Assessment Report](#)

While countries need to raise the bar of their current carbon pledges, the IPCC 1.5°C report published in 2018 also highlighted nations would have to target a 1.5°C scenario rather than a 2°C scenario to avoid unprecedented damages for biodiversity, human beings and the economy⁸¹. This requires reducing carbon emissions by 45% by 2030 compared to 2010 levels and achieving carbon neutrality by 2050.

Gap between Paris agreement country pledges, 2° and 1.5°c scenarios



Sources: UNEP Emissions Gap Report 2021, AXA IM.

- Climate scenario, test for the sensitivity of business models to various warming trajectories

A climate scenario is a forecast of the future based on projecting several variables. These variables include greenhouse gas emissions, cost and assimilation of technology, economic growth, demographics, development and use of CCS (Carbon Capture & Storage). They could lead to certain predicted outcomes such as how much temperatures will rise and what this level of global warming will result in for the environment, society and the economy.

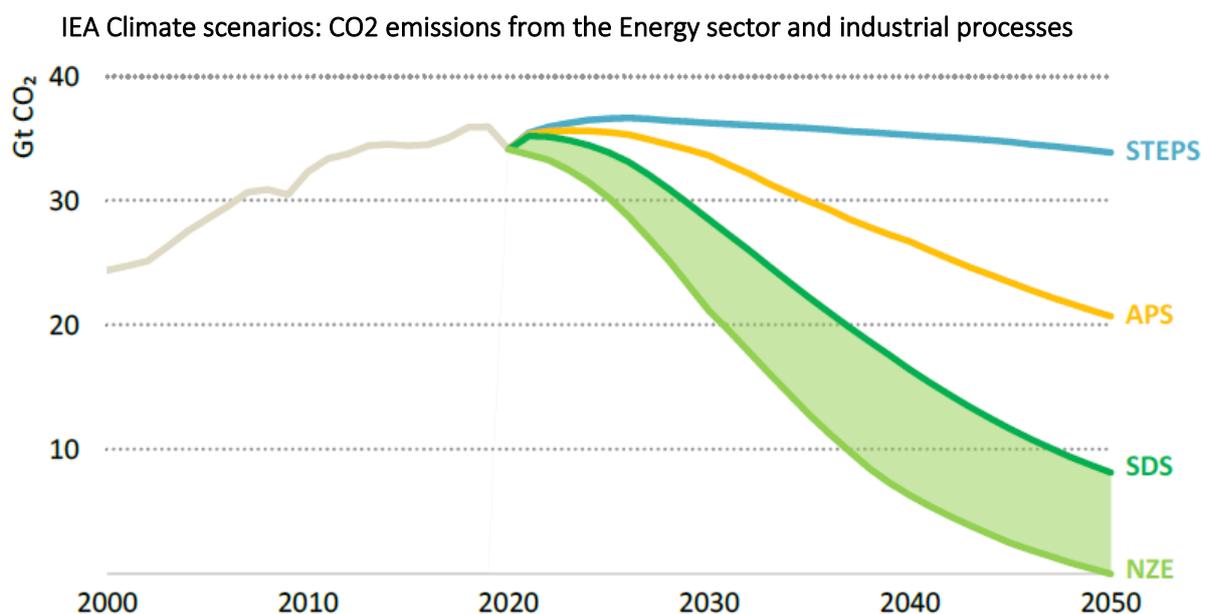
Most “below 2°C” scenarios are based on a rapid and radical shift in the energy supply and demand picture. On the supply side, scenarios are based on a decrease in fossil fuels, with coal and oil being squeezed out while gas remains in use. Renewable energy sources such as wind, solar and biomass, increase significantly, and nuclear remains a part of the future energy mix.

In well-known scenarios such as the International Energy Agency (IEA) ones, efforts to limit greenhouse gas emissions are derived mainly from technical and technological energy efficiency measures. While they say little on social conditions, relative costs and technological developments to achieve such

⁸¹ This was reiterated in the report “Climate Change 2022: Impacts, Adaptation and Vulnerability” published in February 2022 by the IPCC

energy mix shift, IEAs scenarios are well recognized and widely used especially by companies in most sectors at stake with a strong climate impact.

The IEA broke new ground by releasing its Net Zero by 2050 scenario in May 2021. This report presents a path to reduce to net zero emissions from the energy sector while limiting the increase in temperature to 1.5°C. This scenario has been integrated in the IEA's latest World Energy Outlook. The IEA reaches conclusions very similar to the ones the IPCC reached in its 2018 1.5°C report, with a required reduction of CO₂ emissions from energy and industrial processes of nearly 40% between 2020 and 2030. In addition, the IEA calls for a 75% reduction in methane emissions from fossil fuel use over the same time frame. The IEA is very precise and highlights the different pathways for advanced and emerging economies, the investments needed, and the overall necessity of global coordination and social acceptance.



STEPS: Stated Policy Scenario; APS: Announced Pledged Scenario; SDS: Sustainable Development Scenario; NZE: Net Zero Emissions by 2050 Scenario

Source: IEA World Energy Outlook, 2021.

4.4 Climate scenario, test for the sensitivity of business models to various warming trajectories

AXA IM relies on three Integrated Assessment Models (AIM/CGE) for investment-related analysis: AIM CGE Advance (1.5°C scenario), AIM CGE Advance Late Action (2°C scenario) and AIM CGE Advance (3°C scenario). This AIM/CGE model has been developed by the Japanese National Institute for Environmental Studies which features detailed data regarding technology factors, a key component of Carbon Delta's work. These are close to the International Panel on Climate Change (IPCC) "Shared Socio-Economic Pathways» (SSPs) scenarios.

IAMs models provide a framework for understanding the climate change problem and for informing judgments about the relative value of options for dealing with climate change. The links between the various climate and non-climate modules that are inherently built into complex IAMs allow them to explore cascading effects, how decisions in one area of the economy affect all the other areas. This allows, for example, to see how population and GDP growth could impact the demand for electricity

and how that demand could be met in an optimal way by either maximizing the social impact or by minimizing costs to meet the new demand.

To run its scenario analysis, AXA IM focused on two warming IAMs scenarios and tested their respective impacts in terms of value of investments:

- The 3°C scenario (AIM/CGE 3°C)
- The 2°C scenario (AIM/CGE 2°C)
- The 1.5°C scenario (AIM/CGE 1.5°C)

A narrative behind each of these scenarios is formed. It includes indicators on population, economic growth, low carbon technology use, energy system information, land cover, etc. These indicators are hence used in the IAMs scenarios and modify the outputs of these models. Below we present some of the indicators that enter the IAMs scenarios and their future trends from now to the end of the century

▪ Demographics

The three IAMs scenarios used in the VaR calculations project population levels under the UN median projection, with a deviation starting between 2030 and 2040. The bulk of the scenarios project a stabilization of the population growth around the middle of the century.

Most of the scenarios project a world population at the end of the century of about 9 billion against more than 10 billion as of UN median projections.

▪ GDP Growth

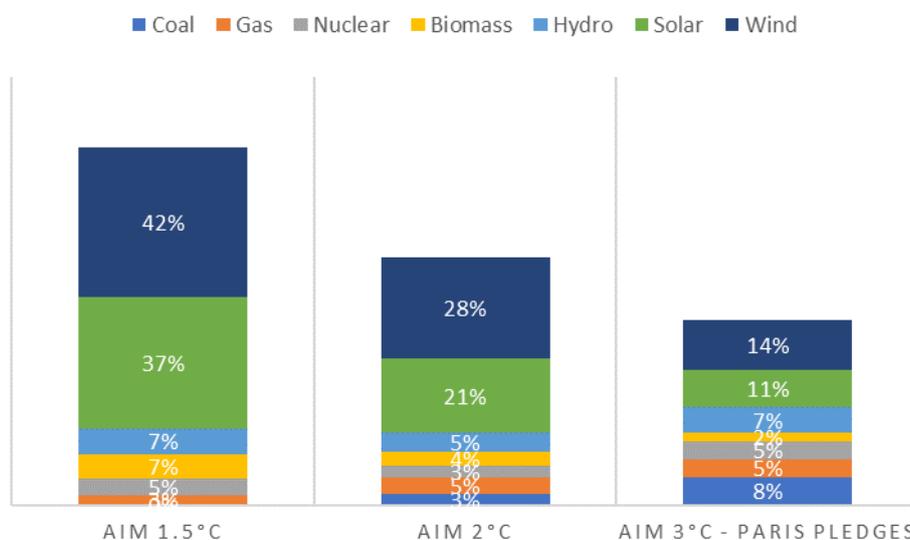
For the first decade, the three scenarios project about the same GDP growth with a divergence starting around 2030. All the scenarios are forecasted to grow at a constant yet lesser rate during the same time period.

Most of the scenarios project less growth and lower end of century GDP levels than the OECD GDP forecast for the world.

▪ Energy Mix

All scenarios project a major increase in installed renewable capacity by 2050.

Forecasted Energy Installed Capacity by 2050 in climate scenarios used for AXA IM Climate Value at Risk calculations



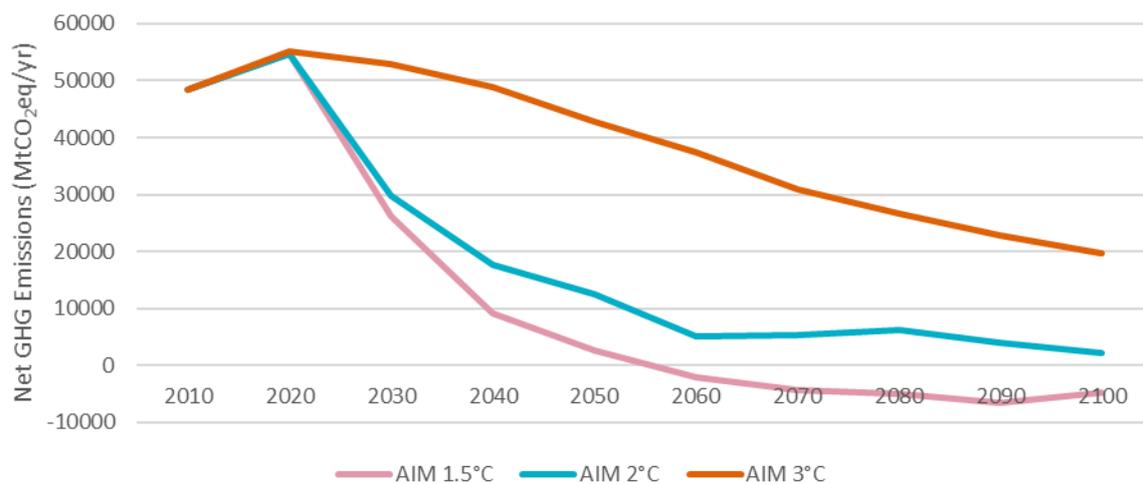
Sources: Carbon Delta, AXA IM, 2020

- **Future Green House Gas emissions⁸²**

The AIM 1.5°C and 2°C scenarios project a peak in emissions in 2020 and then a sharp decrease between 2020 and 2050. The 2°C scenario then levels off between 2050 and 2060 with close to zero emissions by 2100. The 1.5°C scenario projects a continuous decarbonization and becomes emission neutral around 2055 and goes further negative until the end of the century.

The AIM 3°C scenario, which is not considered ambitious enough, projects an emission peak in 2020 and is followed by a slow but constant decrease of emissions until the end of the century.

Forecasted Green House Gas emissions by 2100 in climate scenarios used for AXA IM Climate Value at Risk calculations



Source: Carbon Delta, 2020.

4.5 Forward-Looking metrics and climate-related impacts for the business

Over the past few years, the financial industry has made further progress in illustrating materiality of climate change and measuring alignment of investments. Recently, some emblematic initiatives have come up with concrete frameworks. These included the publication of the Paris Aligned Investment Initiative Net Zero Investment Framework⁸³, the United Nations convened Net-Zero Asset Owner Alliance and the Science Based Targets initiative (SBTi)’s framework for financial institutions.

Investors are now turning towards new types of analyses and corresponding metrics which present a more insightful response into what it means to be a “Paris-aligned” investor.

In that context, AXA IM has explored forward-looking metrics over the past years. In 2021, and through its collaboration with MSCI and Beyond Ratings, AXA IM has continued to investigate innovative forward-looking metrics to measure exposure of investments to transition and physical risks.

⁸² These emissions are net emissions (sequestered emissions are considered) and include the following gases: carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O). The CH₄ and N₂O emissions were converted into CO₂ equivalent (eq) numbers using the IPCC AR5 global warming potentials (GWP) relative to CO₂. These gases account for most global emissions (around 80% of the emissions) and are the main drivers of global warming.

⁸³ See “Net Zero Investment Framework 1.5°C Implementation Guide”, Paris Aligned Investment, 2021.

<https://www.parisalignedinvestment.org/media/2021/03/PAIL-Net-Zero-Investment-Framework-Implementation-Guide.pdf>

- **“Warming Potential” methodologies**

AXA IM has been working on the concept of investments’ temperature or “warming potential” with MSCI (Corporate investments) and Beyond Ratings (Sovereign investments) since 2018. The “temperature” concept provides a measure of the gap between future carbon pledges and science-based emissions budget still available before global warming increases.

This is a powerful tool that can provide an overall assessment of how companies and issuers can contribute to the convergence to a low sustainable carbon world. Climate model providers offer data and methodologies by which investors can calculate company or portfolio-level temperatures which can be compared to the 1.5°C target. Such a temperature is also a good way to incentivise dialogue and action by all agents involved such as companies and investors.

It relies on a top-down approach by combining country-level, sector-agnostic and sector-specific warming potential functions (translating tons of GHG emissions into potential global warming) with company-specific decarbonation capacities and targets. Notably, this model relies on:

- Country-level projecting carbon intensities to 2030 which corresponds to the horizon of the Nationally Determined Contributions (NDCs) presented to the COP26;
- Gaps between NDCs and carbon emissions budget associated to various temperature scenarios (according to the UNEP Gap report);
- Company-level business mix structures by sectors and countries ;
- Company-level current carbon intensities;
- R&D in green technologies/products highlighting “transition” opportunities.

From our last climate report, the MSCI Warming Potential model have known slightly updates mainly due to integrating latest scientific knowledges and up-to-date remaining 2°C carbon budget.

As the number of signatories to "net zero" initiatives increases, Implied temperature rise models (“ITR”) are gaining traction as the need to monitor the portfolio performance against these commitments, several new methodologies have come to the market. Therefore, MSCI is currently developing and progressively replacing the Warming Potential metric with an Implied Temperature Rise model which is more aligned with TCFD recommendations.

The ITR considers the remaining carbon budget left for the world if the global warming by 2100 is to be kept well below 2°C and by extension, how much a company can emit (across Scopes 1, 2 and 3) and can remain within the limitations.

The ITR of a specific company is computed in 4 steps:

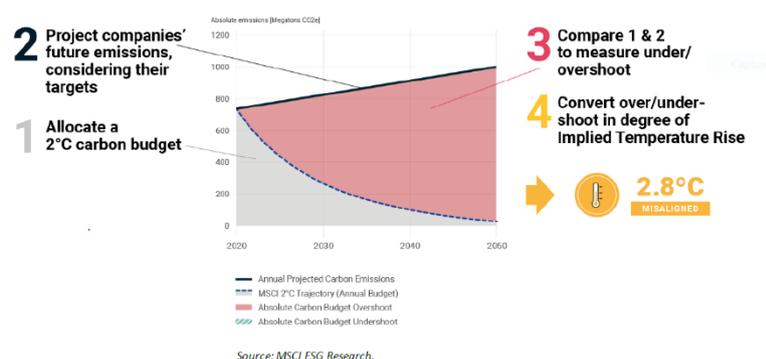
1. Allocate a carbon budget to the company:
The budget at global level is derived from IPCC scenario and is attributed to a specific company based on its sector and country revenues mix.
2. Compute projected company emissions:
Considering the company current reported or estimated GHG emissions and the targets set to reduce its emissions, the timeseries of the projected absolute emissions until 2070 are generated for Scopes 1, 2 and 3.
3. Calculate the company over/undershoot of its carbon budget:
The carbon budget over/undershoot is the difference between the company projected emissions and its allocated 2°C carbon budget. Then, the relative under/overshoot of companies are computed by dividing their under/overshoot with their respective 2°C carbon budget.
A company projected to emit carbon below budget can be said to “undershoot” the budget; a company projected to exceed the budget “overshoots” it.

4. Convert the relative over/undershoot to a degree of temperature rise:

The Transient Climate Response to Cumulative Emissions (TCRE) factor allows to apply a linear formula to convert over/undershoot into degrees of temperature rise.

$$\text{Temperature Rise} = 2^{\circ}\text{C} + \text{company level relative over/undershoot} \times \text{Global } 2^{\circ}\text{C Budget} \times \text{TCRE Factor}$$

The TCRE was established by the IPCC and provides a relationship that links each additional unit of emissions emitted beyond the available remaining global 2°C carbon budget to degrees of additional warming. The TCRE factor is set at 0.000545°C warming per Gt CO₂.



Source: MSCI ESG Research, 2021.

At portfolio level, the sum of finance budget overshoot is compared to finance carbon budgets for the portfolio holdings. Using the TCRE factor, the total overshoot is converted to a degree of temperature rise.

The Implied Temperature Rise metric estimates the global implied temperature rise (in the year 2100 or later) if the whole economy had the same carbon budget over-/undershoot level as the company (or portfolio) in question.

▪ Sovereign Investments' temperature

AXA IM leverages the CLAIM model developed by Beyond Ratings to assess the temperature of AXA IM's investment portfolios on sovereign assets. Both this model and the MSCI Warming Potential (for corporates) detailed above rely on a similar approach. This model uses the national carbon pledges made by Governments towards the Paris Agreement's "carbon budget" to express theoretical temperature of sovereign assets. Beyond Ratings has developed this approach inferring 2°C compliant national carbon budgets by relying on the so-called "Kaya relationship" between GHG emissions, GDP growth, demography, energy efficiency and carbon intensity.

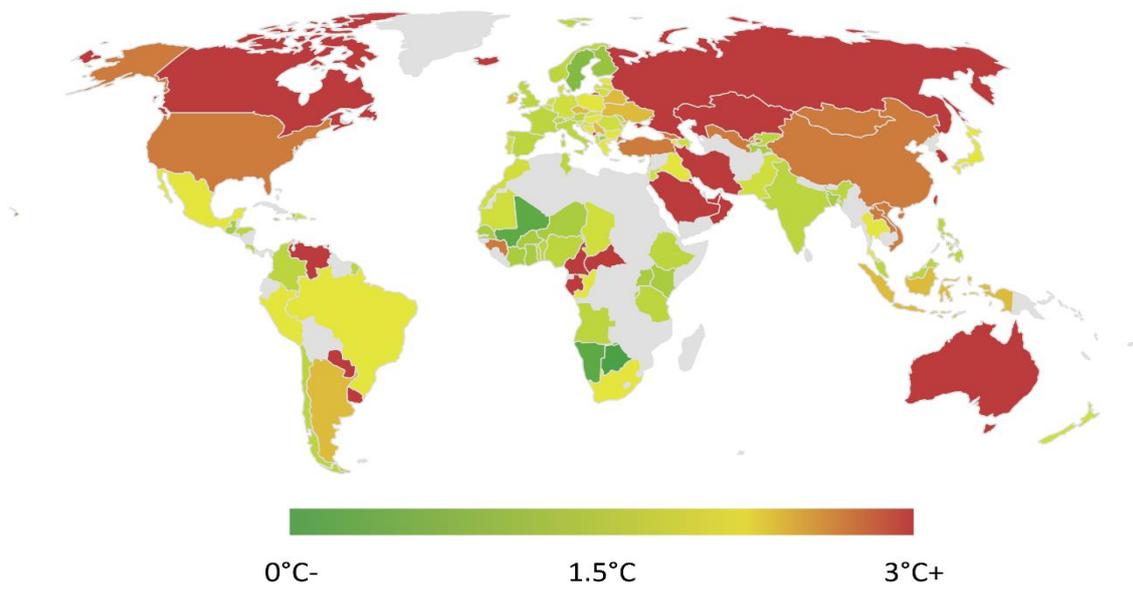
The Kaya equation

National Determined Contributions (NDCs) that have been expressed in the Paris Agreement and updated during the COP26 are used to build a homogeneous allocation of GHG emissions reduction commitments by countries by 2030. Using theoretical linear relationship between carbon emissions and temperature rise, Beyond Ratings translate national carbon commitment intensities by 2030 into theoretical temperature rise.

During the COP26, NDCs have been released and updated by the participants (112 updated NDCs including: Australia, Japan, United States, France, Germany, China...). This model assesses sovereign

temperatures by considering these new commitments. The following map shows the temperatures associated with the current countries' NDCs.

Diagram: Temperature of NDCs



Source: *Beyond Ratings, 2021.*

- **Quantifying Climate risks: Climate Value at Risk model (Climate VaR)**

Besides the “Warming Potential” approach, which embodies the impact that our investments may have on the climate, climate risk analysis can also be undertaken from a business/investment risk perspective to assess how climate change may impact investment returns.

Here as well, AXA IM leverages a Climate Value-at-Risk (Climate VaR) model developed by MSCI. This model represents an estimation of how the value of AXA IM’s investment portfolios – on corporate bonds and listed equities - could be impacted (up or down) by climate policy risk, technology transition opportunities and extreme weather events on a 15-year time horizon. This model is currently applicable only to corporate assets (not to sovereign assets) and it is in continuous development. Yearly updates on this model allow us to expand the range of measured climate-related financial risks of AXA IM’s investments and to assess them more precisely.

Policy Risk Climate VaR (transition costs)

The transition to a low-carbon economy through market and regulations changes may significantly negatively impact businesses and their investors. Policy Risk Climate VaR metric assesses how regulations stemming from countries’ Nationally Determined Contributions (NDCs) affect a company whose activities are directly (Scope 1) and indirectly (Scope 2 and Scope 3) producing greenhouse gases (GHG).

Therefore, this metric evaluates the potential economic losses for companies if they fail to adapt their activities accordingly to a given climate scenario (1.5°C, 2°C or 3°C scenario) and derived transition pathways.

The scenario used by MSCI for the estimation are provided by three Integrated Assessment Models (AIM/CGE) for investment-related analysis; AIM CGE Advance (1.5°C scenario), AIM CGE Advance Late Action (2°C scenario) and AIM CGE Advance (3°C scenario). This AIM/CGE model has been developed

by the Japanese National Institute for Environmental Studies which features detailed data regarding technology factors, a key component of Carbon Delta's work. These are close to the International Panel on Climate Change (IPCC) "Shared Socio-Economic Pathways» (SSPs) scenarios.

From last year, MSCI has recently modified the scenarios by integrating REMIND NGFS prices and cost modelling.

Technology Opportunity Climate VaR (green opportunities)

The transition to a low-carbon economy may also lead to new opportunities for businesses and their investors especially through the development of green technologies. Technology Opportunity Climate VaR metric assesses the future potential revenues of companies coming from these green opportunities. While it is certainly not the only factors to be considered to estimate future green revenues, this analysis notably relies on companies' green patents and current low-carbon revenues.

Therefore, this metric evaluates the potential economic revenues for companies taking the right decarbonation path accordingly to a given climate scenario (1.5°C, 2°C or 3°C scenario) and derived transition pathways.

Physical Risk Climate VaR

Physical climate risk scenarios define possible climatic consequences resulting from increased levels of GHG emissions, and the ensuing financial burden (or opportunity) borne by businesses and their investors. Physical Risk Climate VaR metric assesses how much companies are exposed (notably via their geographical location, the size and value of their assets, ...) and vulnerable (notably via their capacity to adapt) to increasingly frequent and severe extreme weather events. Using physical climate scenarios and projections, MSCI developed a Physical Risk Climate analysis up to 2100 combining

- Chronic climate risks referring to long-term shifts in climate patterns (extreme heat, extreme cold, heavy precipitation, heavy snowfall, wind gust). These risks are based on statistical extrapolation of a historical dataset and projections into the future.
- Acute climate risks - which refer to event-driven physical risks (coastal flooding, fluvial flooding, tropical cyclones, river low flow and wildfire). The use of scenario is an important component of climate risk analysis, especially for extreme weather modelling. The Relative Concentration Pathways (RCP) scenarios prescribe specific trajectories of future greenhouse gas emissions and diverge slowly over time generating quite similar climate projections. MSCI uses mainly RCP 8.5 scenario and a combination of short-term projections of historical climate data.

Therefore, this metric evaluates the potential economic losses for companies in a changing climate environment accordingly to a given climate scenario, average and aggressive physical scenarios. The average scenario represents the most likely Physical Risk Climate costs to occur, meaning between 1.5°C and 2°C scenario. While the aggressive scenario embodies the tail risk of the physical risk cost distribution (95% percentile scenario), meaning over 2°C.

From 2021, the MSCI Climate VaR model have known several updates. Main changes are related to physical risks assessment as two acute risks have been added to the MSCI model: river low flow and wildfire. This addition enables this model to better assess economic impacts of respectively water scarcity on the power production sector (especially on thermal and hydro power plants) and of wildfires (driven by droughts, high temperatures, evaporation, and strong winds). More globally on physical risks assessment, updates have been made to integrate latest scientific knowledge on climate changes especially. Also, adjustments have been made to the policy risks methodology to update latest transition scenarios, carbon prices and integrate up-to-date remaining 2°C carbon budget.

4.6 Climate Dashboard: A combination of historical and forward-looking metrics

- Cost of climate in different scenarios:

Climate VaR (1.5°C scenario)

		AUM [€]	Climate VaR (1,5°C scenario)				coverage [%]
			Total (Average)	Transition Cost	Technology Opportunities	Physical Cost (Average)	
			[%]	[%]	[%]	[%]	
AXA IM	2020		-7,80	-9,70	4,60	-2,50	
	2021	479 490 953 121,58 €	-9,18	-8,42	4,82	-5,77	43%
Equities	2020		-4,40	-6,10	4,10	-2,30	
	2021	87 152 952 606,22 €	-5,19	-4,93	4,01	-4,33	89%
Corporate Bonds	2020		-8,80	-10,40	4,30	-2,60	
	2021	186 861 716 353,53 €	-11,60	-10,57	5,32	-6,64	69%
Sovereign Bonds	2020						
	2021	205 476 284 161,83 €					
Benchmarks	2020		-8,00	-9,40	3,70	-2,30	
	2021		-10,41	-9,36	4,23	-5,56	62%
MSCI World ACWI	2020		-5,90	-7,60	3,70	-2,00	
	2021		-7,63	-6,46	3,32	-4,68	98%
BofAML Global Aggregate Corporate	2020		-8,90	-10,10	3,70	-2,50	
	2021		-13,59	-12,66	5,26	-6,57	86%
JPM GBI Global	2020						
	2021						

Source: AXA IM, MSCI, 2021

Climate VaR (2°C scenario)

		AUM [€]	Climate VaR (2°C scenario)						coverage [%]
			Total (Average)	Total (Aggressive)	Transition Cost	Technology Opportunities	Physical Cost (Average)	Physical Cost (Aggressive)	
			[%]	[%]	[%]	[%]	[%]	[%]	
AXA IM	2020						-2,50		
	2021	479 490 953 121,58 €	-9,35	-11,06	-5,95	2,19	-5,77	-7,66	43%
Equities	2020						-2,30		
	2021	87 152 952 606,22 €	-5,52	-6,83	-3,28	1,98	-4,33	-5,66	89%
Corporate Bonds	2020						-2,60		
	2021	186 861 716 353,53 €	-11,67	-13,62	-7,60	2,31	-6,64	-8,87	69%
Sovereign Bonds	2020								
	2021	205 476 284 161,83 €							

Benchmarks	2020									
	2021		-10,07	-11,76	-6,66	1,93	-2,30	-5,56	-7,50	62%
MSCI World	2020						-2,00			
ACWI	2021		-7,28	-8,76	-4,42	1,65	-4,68	-6,25		98%
BofAML Global	2020						-2,50			
Aggregate	2021		-13,24	-15,18	-9,21	2,25	-6,57	-8,93		86%
Corporate	2020									
JPM GBI Global	2021									

Source: AXA IM, MSCI, 2021.

Climate VaR (3°C scenario)

		AUM	Climate VaR (3°C scenario)				coverage
		[€]	Total (Aggressive)	Transition Cost	Technology Opportunities	Physical Cost (Aggressive)	[%]
			[%]	[%]	[%]	[%]	
AXA IM	2020						
	2021	479 490 953 121,58 €	-8,34	-0,93	0,24	-7,66	43%
Equities	2020						
	2021	87 152 952 606,22 €	-5,89	-0,48	0,23	-5,66	89%
Corporate	2020						
Bonds	2021	186 861 716 353,53 €	-9,81	-1,20	0,25	-8,87	69%
Sovereign	2020						
Bonds	2021	205 476 284 161,83 €					
Benchmarks	2020						
	2021		-8,41	-1,15	0,20	-7,50	62%
MSCI World	2020						
ACWI	2021		-6,81	-0,80	0,18	-6,25	98%
BofAML Global	2020						
Aggregate	2021		-10,23	-1,56	0,22	-8,93	86%
Corporate	2020						
JPM GBI Global	2021						

Source: AXA IM, MSCI, 2021.

We applied this Climate Value-at-Risk model to all AXA IM's investment portfolios - on corporate bonds and listed equities - under 1.5°C, 2°C and 3°C scenarios deriving with an average and an aggressive physical scenario. Compared to the average physical scenario, the aggressive scenario explores the most serious downside physical risks. As detailed in the table above, the results of this model show that aggregated climate-risks represent a potential future risk of -9,35% (-5,77% for physical risks ; -5,95% for transition risks; and +2,19% for green opportunities) of AXA IM's total investments market value – on corporate bonds and listed equities – in the best scenario (1.5°C scenario combined with an average physical scenario) and -7,66% (-8,34% for physical risks ; -0,93% for transition risks ; and +0.24% for green opportunities) the worst scenario (3°C scenario combined with an aggressive physical scenario).

This analysis using the MSCI Climate VaR model gives us a global insight of how climate change may impact AXA IM's total investment portfolios market value - on corporate bonds and listed equities. However, this aggregated analysis obviously smoothes out heterogenous impacts amongst market players: some will likely be far more impacted than others. According to MSCI CVaR model, following a 3°C scenario can be less impacting than a 1.5°C scenario as a rapid decarbonization scenario requires a

quick and strong response in terms of carbon price increase, incurring a negative impact on transition costs partially offset by the bold green technologies' deployment in a lower climatic risks' environment. While a 3°C scenario is linked mainly to longer terms impacts on asset valuations with higher discounting costs. Bear also in mind that the physical risk is modelled as the cost linked to the occurrence of a set of, not exhaustive extreme weather events susceptible to cause business interruption and asset damages within a company and don't reflect these extreme weather events impacts at macro level. As a result, AXA IM does not leverage this complex and evolving metric in its day-to-day investment, but it provides insights of the assets most at risk from climate change effects and how AXA IM manages these risks year-over-year.

		AUM	Warming Potential	coverage
		[€]	[°C]	[%]
AXA IM	2020		2,90	
	2021	479 490 953 121,57 €	2,71	87%
--- Equities	2020		3,30	
	2021	87 152 952 606,22 €	3,10	93%
--- Corporate Bonds	2020		3,80	
	2021	186 861 716 353,53 €	3,58	78%
--- Sovereign Bonds	2020		2,30	
	2021	205 476 284 161,83 €	1,89	93%
Benchmarks	2020		3,30	
	2021		3,11	97%
--- MSCI World ACWI	2020		3,40	
	2021		3,23	99%
--- BofAML Global Aggregate Corporate	2020		3,70	
	2021		3,70	92%
--- JPM GBI Global	2020		3,00	
	2021		2,44	100%

Sources: AXA IM, MSCI, 2021.

In 2021, global "Warming Potential" of AXA IM's investments slightly decreased (from 2.9°C to 2,71°C) while the global macro economy rebounded.

Based on MSCI's model, the "Warming Potential" of AXA IM's Corporate investments in 2021 reached 3.10°C for equities and 3,6°C for corporate bonds with both a decrease of 0.2°C compared to 2020. Notably, we observe that corporates' Net Zero targets are more and more ambitious which tend to lower the "Warming Potential" of corporates based on their commitments. But countries' NDC commitments are also becoming more and more ambitious which tend to reduce global and sectoral remaining carbon budgets and therefore make more difficult for companies to value their decarbonation efforts. This analysis partly explains why the global "Warming Potential" of AXA IM corporate investments slightly decreased.

Based on Beyond Ratings' model, the "Warming Potential" of AXA IM's Sovereign investments in 2021 reached 1,89°C which represents an important decrease of 0.4°C compared to 2020.

Focus on Government bonds

In 2021, government bonds Warming Potential remain well below the benchmark. This is due to our significant exposure to French Government debt which has a low temperature score (1.6°C), mainly due to the country's low- carbon energy mix (essentially nuclear and hydro power) ; and to our

investments in the European Union countries in general which has lower temperatures than the United States which is overweighted in the benchmark.

- Carbon performance

		AUM	Carbon Footprint	coverage
		[€]	[tCO2e / Mn\$ revenues or GDP]	[%]
AXA IM	2020		171	
	2021	479 490 953 121,58 €	153	88%
--- Equities	2020		152	
	2021	87 152 952 606,22 €	137	95%
--- Corporate Bonds	2020		209	
	2021	186 861 716 353,53 €	166	81%
--- Sovereign Bonds	2020		145	
	2021	205 476 284 161,83 €	149	92%
Benchmarks <i>(Equally weighted result on the 3 benchmarks below)</i>	2020		256	
	2021		241	97%
--- MSCI World ACWI	2020		205	
	2021		204	99%
--- BofAML Global Aggregate Corporate	2020		319	
	2021		303	91%
--- JPM GBI Global	2020		217	
	2021		222	100%

Source: AXA IM, Trucost-S&P, Beyond Ratings, World Bank, 2021.

The carbon intensity of AXA IM investments is of 153 tonnes of CO2 per millions of dollars of revenue as compared to 241 tonnes for a reference similar benchmark. If Corporate Bonds are more carbon intensive than both Sovereign Debt and Equities, each asset class will “save” carbon emissions as compared to a similar market index.

Compared to 2020, we reduced the Carbon Intensity of our investments, which was equal to 171 tonnes of CO2 per millions of dollars of revenues.

Although there is a link between Carbon Intensity and Warming Potential metrics because carbon intensity is included in the warming potential calculation, the temperature metric takes into account other factors such as cooling and forward-looking metrics. For these two metrics, we use different data providers and thus different methodologies: MSCI and Beyond Ratings for the Warming Potential, Trucost-S&P for the Carbon Intensity.

- Green Share / Contribution to the Energy transition

In addition to “temperature-type” metrics, portfolio alignment can be measured as the contribution to the energy transition considering two angles:

i) Green investments (project-led green share): € 35bn AUMs⁸⁴

AXA IM has been an active investor in green bonds, green buildings and green infrastructure and is playing a key role in implementing the €24bn 2023⁸⁵ Green Investment initiative, announced by AXA Group in November 2019. There are three categories of Green investments: Real Assets Green buildings and Infrastructure, Green bonds and Green thematic equities. See more details below.

ii) Listed - Green Share: 15.6% average share of revenues holdings in portfolio is green activities

		AUM	Green Share	coverage
		[€]	[%]	[%]
AXA IM	2020		15,60%	
	2021	479 490 953 121,58 €	12,05%	41%
Equities	2020		14,80%	
	2021	87 152 952 606,22 €	15,51%	23%
Corporate Bonds	2020		13,10%	
	2021	186 861 716 353,53 €	10,33%	18%
Sovereign Bonds	2020		26,50%	
	2021	205 476 284 161,83 €	12,14%	69%
Benchmarks	2020		12,40%	
	2021		11,16%	45%
MSCI World ACWI	2020			
	2021		11,04%	21%
BofAML Global Aggregate Corporate	2020			
	2021		10,70%	22%
JPM GBI Global	2020			
	2021		11,75%	93%

Sources: AXA IM, Trucost-S&P, Beyond Ratings, 2021.

The green share for listed investments is the value-weighted average share of green revenues of issuers in portfolio. These metric measures – all things equal – the level of greenness of investments and constitutes AXA IM's current interpretation of the Green Taxonomy. It will evolve over time as the regulatory requirements are clarified.

For corporate investments, we rely on Trucost S&P Green Share. Trucost S&P decomposes revenue mix of companies according to a proprietary taxonomy close to the French Label GreenFin grid. We focus on an extended version of the Trucost S&P Green share ("dark green" activities and "green candidates") – which will evolve over time.

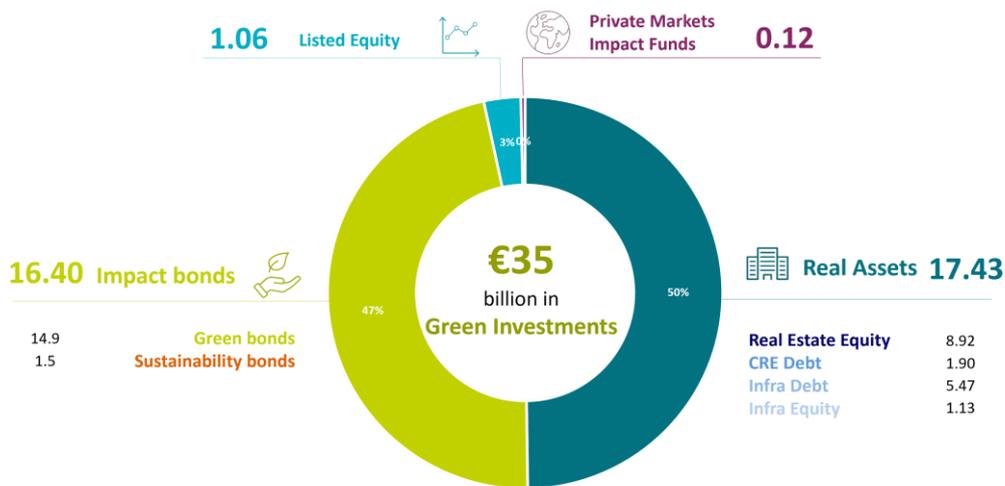
For sovereign investments, the green share is based on the share of low carbon sources of energy (nuclear + renewables) in the total energy supply of one country provided by Beyond Ratings.

Due to the implementation of the EU Taxonomy Regulation in 2022⁸⁶, the calculation methodology of the "Green Share" will evolve to be aligned with the eligible activities and environmental objectives. This new metric will be reported next year in 2023 in this report.

⁸⁴ Source: AXA IM as of 31/12/2021

⁸⁵ See "AXA launches a new phase in its climate strategy to accelerate its contribution to a low-carbon and more resilient economy", AXA, 2019. [AXA launches a new phase in its climate strategy to accelerate...](#)

⁸⁶ [EUR-Lex - 32020R0852 - EN - EUR-Lex \(europa.eu\)](#)



Source: AXA IM, as of 31/12/2021.

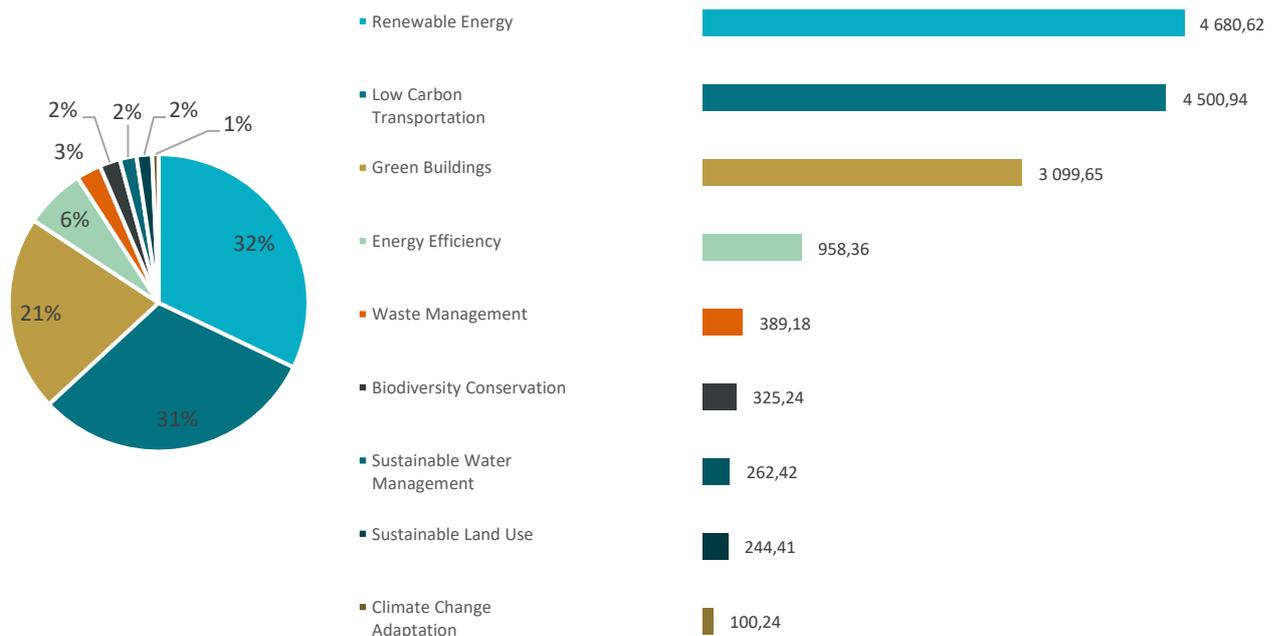
NB: the Listed Equity figure comprises the two “green” equity funds managed by AXA IM. Refer to the section on green share for a more detailed assessment of the greenness of our investments.

Green Bonds

Our dedicated RI analysts within RI Research team defines the Green eligible universe as described in RI offering section above.

At end 2021, AXA IM managed **c. €15bn** of green bonds selected according to our rigorous internal green bond filtering process, an increase of **58.76%** vs 2020. In addition, we invested c. **€1.5bn** in Sustainability bonds.

Green Bonds Investments per project category



Source: AXA IM, as of 31/12/2021.

Real Assets Green Investments

Real assets represent a significant portion to the AXA's Green Investment initiative. In order to define assets as "Green", specific criteria must be met for an individual asset as follows:

- Real Estate: for property assets, our definition is limited to assets with a high level of third party independent environmental certification (minimum level "Excellent" or "Gold") and a minimum Energy Performance Certificate (EPC) rating of "B" or equivalent for non-European assets.
- Forestry: Sustainably managed forests as demonstrated by an FSC or PEFC certification
- Commercial Real Estate Debt: for CRE Debt, similar to real estate, we consider loans securitized by single assets with a certification (minimum level "Excellent" or "Gold") to be green.
- Infrastructure Debt & Equity: The definition for infrastructure is derived from accepted and demanding market-based approaches. We rely on the taxonomy of the Climate Bond Initiative to classify the infrastructure as green.

Some examples of green investments in the real asset portfolio include:

Asset Class	Example of investment
Real Estate	AXA IM Real Assets completed the development of a 62-storey, 278-metre skyscraper in the City of London. The flagship development was completed with an EPC rating of A+ and obtained BREEAM Excellent and WiredScore Platinum labels. In operations, the building utilises 100% of electricity generated from renewable sources and offsets 100% of natural gas usage. Adding to the positive environmental impact of the asset, 98% of construction waste was diverted from landfill. 10% of floor space is dedicated to tenant amenity and wellbeing.
Forest	In December 2021, AXA IM Real Assets acquired a 24,800 ha PEFC-certified Forestry portfolio in Australia in an area known as the Green Triangle that spans the southern border of Victoria and South Australia. An estimated 8MtCO ₂ is stored in the forest. Considering the change in soil carbon storage, natural forest growth, and harvested volume of timber, we estimate a cumulative net carbon sequestration over 25 years of MtCO ₂ (excluding carbon lock-up in wood and avoided emissions).
Infrastructure	AXA IM Real Assets completed the acquisition of a 49% share in a European rolling stock company. The company, headquartered in Austria, leases its growing fleet of over 150 siemens electric Vectron locomotives to rail operators across central Europe. Aligned with EU policy of transferring freight from road to rail and energy-source from fossil fuels to a decarbonizing electricity grid, each locomotive can pull a train carrying the equivalent of over 70 heavy vehicles. These locomotives deliver an 80% reduction in carbon emissions versus traditional road transportation vehicles.

Transition Bonds

In June 2019, AXA IM called for new "Transition Bonds" to help companies go green. While green bonds have become established options for fixed income investors, AXA IM believes the asset class is at a crossroads, with the potential for the bonds to be undermined by a desire for further issuance which the sector cannot currently provide.

As such, AXA IM team called for a new type of bond that is required to help companies which are not yet green - and will therefore struggle to justify high quality and eligible for any "green taxonomy" green bonds - to instead issue debt which is tied to them becoming greener businesses.

The bonds would be used by companies solely to finance transition projects, with a high level of transparency around the bonds and their use to give investors' confidence about how their capital is being deployed. These transition bonds would help investors overcome the major challenge of providing capital not just to companies which are already green, but to those which have ambitions to become so. A dedicated working group was created end 2019 at ICMA to work on this new asset class, and the first Transition Bond was issued in November 2019, and subscribed by our parent company.

In 2020, AXA IM invested €100 million in Transition Bonds issued by BPCE Group, contributing to the financing of energy transition assets⁸⁷. These Transition Bonds' proceeds will refinance Natixis' project and/or corporate loans, which have high emissions reduction potential and contribute to a low-carbon economy, from relevant sectors such as, potentially, transport, power, midstream gas, mining and metals, and building materials.

Since then, the transition bond market did not grow as expected, mainly because the market lacks a clear and common definition of what transition assets are – compared to green assets notably. Sustainability-linked bonds (SLBs) seem to be the preferred type of instrument for climate transition financing. We believe that SBs and transition bonds are complementary tools to achieve transition objectives. Even if SLBs seem to have taken the lead over transition bonds when it comes to transition finance, we still believe that use-of proceeds transition bonds have their place in the broad spectrum of ESG-themed bonds.

AXA IM's Investments in Green, Social and Sustainability Bonds

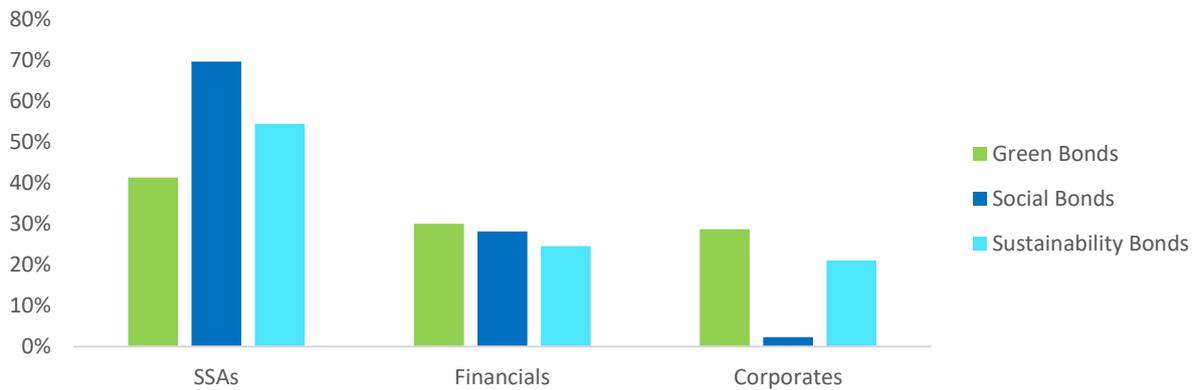


Source: AXA IM, as of 31/12/2021.

We mainly invest in Green, Social and Sustainability bonds issued by Sovereigns, Supranational and Agencies.

⁸⁷ See "BPCE issues €100 million of transition bonds, invested by AXA IM, to finance Natixis' assets contributing to the energy transition", AXA Investment Managers, 2020. [BPCE issues €100 million of transition bonds, invested by AXA IM, to finance Natixis' assets contributing to the energy transition - AXA IM Global \(axa-im.com\)](https://www.axa-im.com/en/press-releases/bpce-issues-100-million-of-transition-bonds-invested-by-axa-im-to-finance-natixis-assets-contributing-to-the-energy-transition)

AXA IM's investment in Green, Social and Sustainability Bonds



Source: AXA IM, as of 31/12/2021.

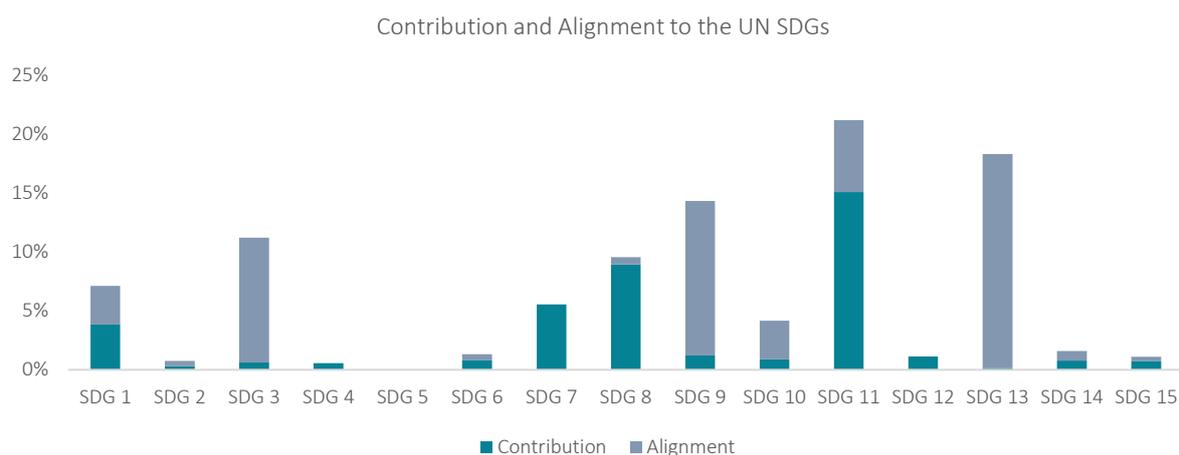
As part of our analysis of GSS bonds, we measure their contribution and their alignment to the SDGs. There is no consensus yet on the way to approach the SDGs in the GSSB market. We therefore built our own methodology and mapped the SDGs against our GSSB taxonomy. By doing this, we made a split between the green and social activities that directly contribute to some of the SDGs, and those that only align with it. Alignment is related to an indirect contribution to the SDG. Indeed, while they are not initially targeted, a project can also provide an indirect positive impact to other SDGs.

For example:

- A renewable energy generation project directly contributes to SDG target 7.2 – “Increase substantially the share of renewable energy in the global energy mix” – and align with SDG target 3.9 – “Substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination”
- A low carbon transportation project directly contributes to SDG target 11.2 – “Provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport” – and align with SDG target 9.1 – “Develop quality, reliable, sustainable and resilient infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all”

The strong contribution to SDGs 7, 8 and 11 is explained by the importance of Renewable energy projects – which directly contribute to SDGs 7 and 8 -, Green buildings and Low-carbon transportation projects – which directly contribute to SDG 11 – within our green bond investments.

The strong alignment with SDGs 3, 9, 11 and 13 is due to the same reasons, with Renewable energy and Low-carbon transportation projects aligning with SDGs 3, 9, 11 and 13.



Source: AXA IM, as of 31/12/2021

Green, Social and Sustainability Bonds eligible universe

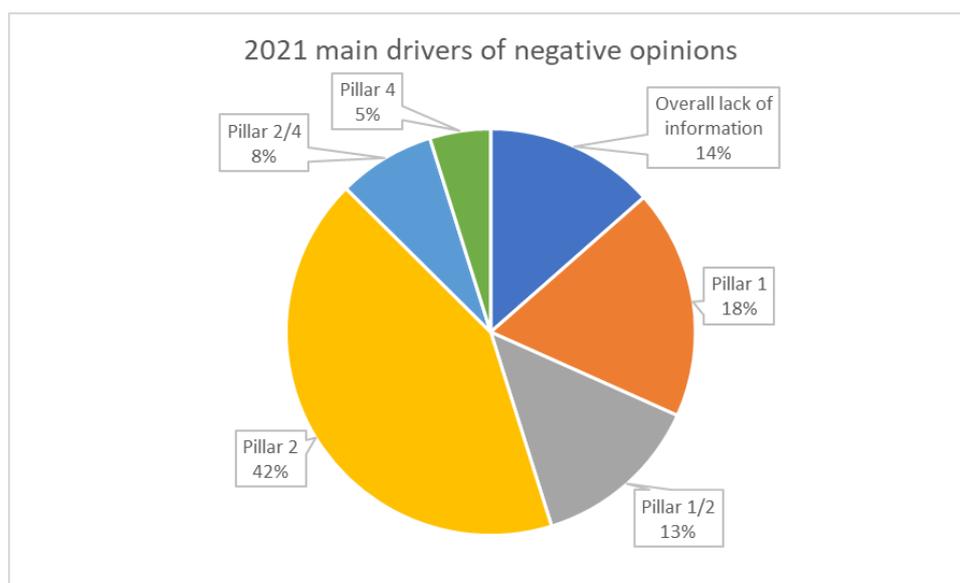
Our Green, Social and Sustainability bonds eligible universe is made of issuances in line with our proprietary framework, on which our dedicated RI Analysts have a “Neutral” or “Positive Opinion”. All GSSB that are not in line with our internal requirements are filtered out our eligible universe⁸⁸.

Sustainable Bonds type	Negative	Neutral	Positive	Total
Green Bonds	20%	41%	39%	100%
Social Bonds	19%	51%	30%	100%
Sustainability Bonds	27%	50%	23%	100%

Source: AXA IM, as of 31/12/2021.

⁸⁸ These frameworks are used in a systematic manner by our Green Bonds and Social Bonds strategies. They are used to inform the decisions of portfolio managers for other strategies without applying in a systematic manner.

Negative Opinions main drivers



Source: AXA IM, as of 31/12/2021

In 2021 the main reasons for which we assigned negative opinions were:

- Use of proceeds that is not in line with our expectations – e.g. lack of transparency, fossil-fuel related projects, development of airports...
- Issuers for which the ESG quality & strategy is not robust enough – e.g. issuers under a severe controversy, banks that big fossil fuel financing providers...

Compared to previous years, we noticed improvements on factors that were drivers of negative opinions in the past, notably on commitment to provide impact reporting.

We assigned more negative opinions to sustainability bonds compared to green and social bonds for two main reasons:

1. We sometimes lack details around the precise allocation of proceeds between green and social projects, making us unable to calculate the green and social shares of sustainability bonds
2. Issuer sometimes fail to identify relevant KPIs linked to the broad range of eligible projects you can find with sustainability bonds

4.7 Introducing biodiversity-specific indicators

One of the key tools helping us to reach our objectives on biodiversity is the one being developed by Iceberg Data Lab⁸⁹ (IDL) and iCare&Consult⁹⁰. IDL develops an innovative biodiversity-specific data used to create a corporate biodiversity footprint (CBF) metric allowing us today to start identifying AXA IM exposure to the risks of biodiversity loss by identifying contribution of issuers or sectors invested in to biodiversity degradation.

The CBF measures impacts in terms of biodiversity loss associated with the pressures on biodiversity generated by investees' economic activities across their value chain. To draw a parallel with biodiversity loss drivers identified by IPBES, CBF allows currently to capture relative loss of biodiversity caused by the change of land use, GHG emissions (climate change contribution), water and air pollution generated by a company's activities throughout their associated value chain.

- *Note that CBF is calculated via science-based models (Globio⁹¹) having their limits: such drivers of biodiversity loss as sea use change, invasive species, natural resources overexploitation identified by IPBES are not yet covered by the IDL CBF solution.*
- *To advance further on the analysis of biodiversity loss drivers IDL, together with other organisations is a member of the [EU Commission Align project](#) the objective of which is to co-develop recommendations for a standard on biodiversity measurements and valuation.*

The value chain approach integrated in the CBF allows to trace for a given company its relative biodiversity footprint as regards the direct pressures generated by a company's activities (GHG emissions coming from the combustion of fossil fuels, surface artificialization coming from surface occupied directly by the company, etc. - Scope 1), the pressures of a company induced by its electricity, heat, and cooling purchase (Scope 2) as well as all indirect pressures induced by company's purchases and supply chain (Scope 3 upstream) and company's products and services at a use stage (Scope 3 downstream)⁹².

More concretely, calculation of the CBF is done **in several steps** (see the graph below):

1. Assess the commodities and products purchased and sold by the company throughout its value chain based on IDL internal physical Input/Output model and allocate the company's product flows by sector (NACE sectorisation)⁹³
2. Calculate the company's environmental pressures (climate change, land use change, air pollution and water pollution) identified by the CBF in relation to its products' flows based on a life-cycle analysis (LCA)
3. Translate the environmental pressures through pressure-impact functions (GLOBIO) **into one and the same biodiversity impact unit,**
4. Aggregate the different impacts into an overall absolute impact on a company level

⁸⁹ [Iceberg Datalab](#)

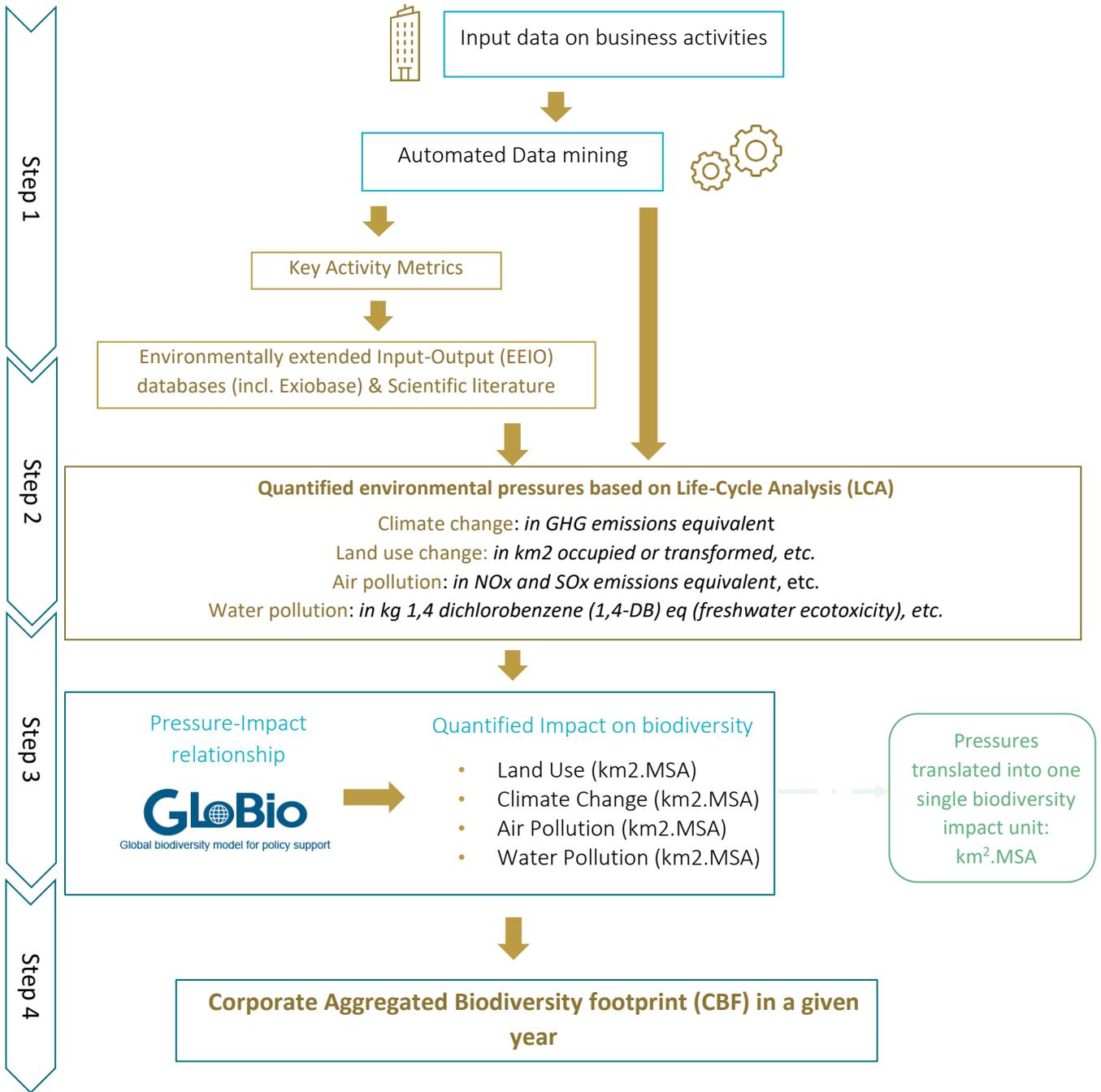
⁹⁰ [iCare - Conseil en stratégie et environnement \(i-care-consult.com\)](#)

⁹¹ [GLOBIO - Global biodiversity model for policy support - homepage](#) | [Global biodiversity model for policy support](#)

⁹² Scope 1, 2 and 3 are defined in line with GHG Protocol, same definitions of Scopes are used by IDL CBF for biodiversity.

⁹³ The European classification system of economic activities

IDL Corporate Biodiversity Footprint Methodology



The single unit of biodiversity impact used to calculate CBF is the Mean Species Abundance (MSA)⁹⁴. Generally, MSA measures the average abundance of native species in a delimited space under the influence of biodiversity loss pressures in comparison to undisturbed ecosystems (in %).

MSA is among most widespread biodiversity metrics today and presents several advantages:

- It is relevant for biodiversity as based on species abundance it allows to quantify global impact of human activities on ecosystems. MSA figures among recognised indicators referenced by IPBES, IPCC, CBD.
- It has already been studied and tested by academics and professional experts
- It offers a holistic approach to the biodiversity impact of corporates adapted to evaluate biodiversity impact at an investment portfolio level allowing for comparison of sectors, companies, and progress tracking

The impact calculated via CBF then results from the level of pressures generated (volumes of pollution emitted, etc.) by a company's activities considering the severity of nature disturbances provoked (level of soil and water toxicity induced, etc.) and the relative surface affected (in km²).

- *The CBF impacts are modelled in a local or global manner, depending on a pressure modelled and respective modelling approach as well as the level of granularity as regards data (commodities / countries). IDL works to localise progressively all modelled impacts.*

Aggregated, CBF provides a negative impact measure, meaning that by using this metric we can calculate volume of biodiversity loss caused by pressures generated by a company's economic activities in equivalent surface of km² of MSA identical to pristine forest lost or, otherwise saying, **in equivalent surface of km² artificialized⁹⁵ in a given year.**

Interpret the CBF metric: What would a km² MSA of -15 mean?

In other words, CBF of for example -15 km² MSA for a given company can be interpreted as an equivalent surface of 15 km² artificialized completely (i.e. 15 km² of pristine forest lost) due to pressures generated on biodiversity by a company's activities across associated value chain (purchases, products and services) in a given year.

IDL calculates a biodiversity footprint on a company level, which can also be tracked at a sectoral level and can then be aggregated at a portfolio level following the same logic as carbon footprint.

CBF at a company level

As presented above, on a company level the calculation of the CBF starts with identifying segments a company is active in by providing a distribution of a company's total sales per business line (product) and country.

⁹⁴ 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)

⁹⁵ 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.

- *Sales data availability and granularity is a well-known challenge among data providers and analysts today, the level of data quality is to be continuously improved.*

Once the sales are mapped, IDL biodiversity tool traces the whole value chain associated to company's business segments based on input and output data from external databases (like Exiobase) as well as IDL proprietary input and output model.

Company level analysis	
Nestlé (Agri-food)	Total Energies SE (Oil & Gas)
<p>The company is active in different segments: cereals, dairy products, cocoa and chocolate, oil & fats, bottled water, other.</p> <p>Company reports well on the sales per segment and per country and considers prices differences between locations - a good disaggregation allows for a high-quality analysis.</p>	<p>The company is active in different segments: Natural gas, crude petroleum, diesel oil, motor gasoline, fuel oils, Kerosene and jet fuel, other fuels, and others (petrochemicals, etc.).</p> <p>Company reports sales and prices data related to upstream and downstream (share of power generation) activities. The difficulty would be to identify midstream (refineries, etc.).</p>

Based on the value-chain mapping of a company's products' flows (Scope 1, 2 and 3), IDL tool uses life-cycle analysis (LCA) to calculate the level of land use change, GHG emissions, air pollution and water pollution associated with a company's activities. Using science-based pressure-impact functions (GLOBIO model⁹⁶), IDL tool then translates all the four modelled pressures into biodiversity impacts calculated in km² MSA in a given year.

- *A company reporting data on biodiversity pressures associated to its activities is still a rare practice, most of the data used is modelled data. IDL publishes a Data Quality level indicator for each company analysed to track reported versus modelled data.*

Impacts are then aggregated into an overall absolute footprint on a company level – CBF.

Nestlé SA (Food company)	Total Energies SE (Oil & Gas company)
<p>CBF: -19 248 km².MSA</p> <p>The biodiversity footprint of Nestlé is specifically driven by the presence of such high-impact commodities in its product mix as chocolate and animal-related products, which require high land use occupation including to breed and feed the dairy cattle (Scope 3 upstream).</p>	<p>CBF: -7 959 km².MSA</p> <p>As a fully integrated oil & gas company, Total Energies' main impact on biodiversity is due to GHG emissions originating from the combustion of sold products in the downstream value chain (>45%), followed by the impact of land use.</p>

CBF at a sectoral level

In the context of rising environmental transition risks, those who seize this transition opportunity first will win economically while bringing real solutions on the ground to protect biodiversity and preserve human living conditions. Most naturally, the high nature dependent activities and sectors, like food industry, represent the biggest challenges (food sector alone is responsible for almost 60% of global

⁹⁶The GLOBIO model calculates only local terrestrial biodiversity intactness via MSA (sea or ocean are not considered): [GLOBIO - Global biodiversity model for policy support - homepage | Global biodiversity model for policy support](#)

biodiversity loss⁹⁷), but also provide the biggest opportunities in terms of transition towards sustainable consumption and development.

Agriculture, cattle breeding, fishery as part of food value chain are traditionally viewed as having important impacts on biodiversity and at the same time being depend heavily on nature. Unsustainable livestock management, forestry, mining, construction, chemicals, infrastructure, energy (incl. fossil fuels and biofuels)⁹⁸ are often associated with land-/sea-use change, natural resources overexploitation, inefficient production, and waste management.

Last findings based on a combination of the three widely used biodiversity-specific tools (Iceberg Data Lab (IDL), CDC Biodiversité⁹⁹ and ENCORE¹⁰⁰)¹⁰¹ have identified **Agrifood, Mining, Manufacturing industries** as both most impactful and most dependent on biodiversity followed by **Construction, Transportation and Energy**. These are the sectors AXA IM would consider focusing on in the next years to accompany those in reduction of their biodiversity footprint.

- *Note that IDL methodology has some sectoral limitations. For instance, IDL informs clearly that energy consumption of very small electrical motors is overestimated due to general methodological assumptions, etc.*

Companies in these sectors putting in place transition solutions will register better results in terms of production processes efficiency (operating cost reduction), will be more open to integrate innovation and new opportunities as well as will have better control over their resources and supply chain, which will make them more resilient in the long run¹⁰².

The implications of biodiversity loss may vary not only from one industry to another, but also across geographies. In its 2021 study¹⁰³, Moody's analysts show that approximately 60% of global biodiversity-related controversies registered in its database originated from four countries: US, Indonesia, Malaysia, and Australia. AXA IM considers using IDL CBF not only to identify most risky sectors and issuers, but also to trace the exposure of those throughout the associated value chains to identify commodities, activities as well as geographies exposed. Surely, this will require the biodiversity data and tools (including CBF) maturing progressively and moving from modelled to reported and much more locally specific data, which we hope to see in the future.

CBF at a portfolio level: AXA IM biodiversity footprint pilot

IDL calculates a biodiversity footprint on a company level, which can then be aggregated at a portfolio level following the same logic and aggregation metrics as for portfolio carbon footprint. Biodiversity footprint on a portfolio level is then estimated in km².MSA / M€ invested. Note that currently, CBF data aggregation on a portfolio level is done without treating double counting, this may change in the future.

AXA IM Biodiversity Dashboard

⁹⁷ [Building sustainable food systems | WWF](#)

⁹⁸ [Global Assessment Report on Biodiversity and Ecosystem Services | IPBES secretariat](#)

⁹⁹ [CDC Biodiversité | Parce que la biodiversité est essentielle \(cdc-biodiversite.fr\)](#)

¹⁰⁰ [ENCORE \(naturalcapital.finance\)](#)

¹⁰¹ https://ec.europa.eu/environment/biodiversity/business/assets/pdf/F@B_Workshop3_Engagement%20with%20companies_Sector%20impacts%20&%20dependencies_22July2021_Slides.pdf

¹⁰² EU: 11/12/20 EU 2030 Biodiversity Strategy (EU Green Deal Long View)

¹⁰³ "Controversy risk assessment: a focus on biodiversity", Moody's, May 2021. Available at:

[60af61a9367371598fa6b807_BX6580_MESG_Biodiversity_Controversies_27.05_\(FINAL\).pdf \(website-files.com\)](#)

Biodiversity footprint
Global Thematics Strategy (Equity)



The sum of four biodiversity impacts (climate change, land use change, water and air pollution), associated with the respective pressures on biodiversity generated by investees' economic activities across their value chain, constitute overall biodiversity footprint.

Biodiversity footprint
Euro Sustainable Credit Strategy (Fixed Income)



The sum of four biodiversity impacts (climate change, land use change, water and air pollution), associated with the respective pressures on biodiversity generated by investees' economic activities across their value chain, constitute overall biodiversity footprint.

Equity Fund - biodiversity footprint

Top sectors contributing to the footprint are Industrials, Utilities and Consumer Non-cyclical. Key issuers contributing to the footprint are Siemens AG and Trimble Inc for Industrials, Kerry Group and Zoetis Inc for Consumer Non-cyclical sector as well as Nextera Energy for Utilities.

This is mostly due to the importance of Scope 3 impacts for the issuers and activities stated above: scope 3 upstream with land use change as well as GHG emissions and water pollution impacts driving the footprint.

Fixed Income – biodiversity footprint

Top sectors contributing to the footprint are Consumer Non-cyclical, Basic Materials and Industrials. Key issuers contributing to the footprint are Coca-Cola HBC and Carrefour for Consumer Non-cyclical sector, Arkema for Basic Materials as well as Amcor Plc and Nidec Corp for Industrial sector. Continental AG can also be highlighted among top contributors to the fund footprint.

This is mostly due to the importance of Scope 3 impacts for the issuers and activities stated above: scope 3 upstream with land use change mostly, but also GHG emissions and Scope 3 air and water pollution impacts driving the footprint.

The CBF model limitations discussed in the previous paragraph must be re-emphasized as the gradual strengthening of the tool through users' feedback, as well as methodology strengthening and reported data enhancements are likely to lead to a high level of volatility in the metric disclosed from one year to another.

The methodological constraints pertaining to the financial sector specifically must be equally highlighted: most of the impact coming from Scope 3 financial activities, the modelling of this impact 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 book, fund management, intermediation, and other financial services, etc.). And if relative transparency on loan books is currently provided by the banks, detailed information on other activities like asset management is almost inexistent. This leads to high level of approximation in calculations impacting the resulting impact data quality.

Generally, CBF provides a relative measure of biodiversity footprint on a company level – a footprint based on scientific proxy estimations of species abundance, making it difficult to establish a link between action on such proxy and an actual positive change in terms of biodiversity restoration on the ground. IDL considers that today the impact data calculated reaches a satisfying level of quality, meaning that in most cases biodiversity impact on a corporate level is modelled based on company's reported sales by segments (with inputs and outputs as well as pressures being then modelled based

on sectoral averages). And if disclosure by companies on some Scope 1 and 2 pressure data (like GHG emissions, etc.) increases progressively, Scope 3 remains totally modelled. CBF is thus not a reality representing impact metric, but a theoretical proxy allowing to identify economic activities most at risk of contributing to biodiversity loss.

Still, with the first data appearing and calculation of footprint having become possible (despite limitations), AXA IM is endeavoring to support development of biodiversity-specific metrics and indicators by integrating, testing those as well as sharing our experience and feedback with broader investor community, our clients and tool developers as Iceberg Data Lab.

Namely, currently, IDL counts around 3 500 values covered in its global universe. The IDL global universe construction is mainly based on such market indices as: MSCI ACWI index, Euro Stoxx 600 index, Bloomberg Barclays Euro Aggregate index, etc., and the coverage may grow over time with the development of IDL biodiversity footprint solution. Small and medium companies are less represented in the IDL global universe, which makes their coverage less extended in comparison to large capitalisations. As of today, IDL solution provides CBF measure for corporate issuers mostly, but IDL works to develop approaches to measure biodiversity footprint for sovereign issuers or private assets (infrastructure and real estate). We will closely follow the evolution of the IDL tool on these matters.

4.8 Disclosure communication

We believe it is vital to communicate with clients in the most transparent and comprehensive way possible, to give them a complete analysis of responsible investment (RI) and help them understand it, and its importance. All the main financial and non-financial information on every fund that has integrated ESG criteria into its investment process is available on our Fund Centre. This is in accordance with European and local regulations.

As described in detail below, we publish RI-related reports at entity and fund levels.

To help our clients measure the integration of ESG criteria into funds and to communicate in a clear and transparent manner AXA IM has, since January 2019, included three ESG indicators - absolute ESG score, relative ESG Score and carbon footprint (CO2 relative intensity) in business-to-business and business-to-consumer reports for all our open-ended funds¹⁰⁴. Our client reporting for institutional mandates also incorporates a range of ESG information tailored to client requests.

In the first half of 2021 we improved our reporting by developing a portfolio level engagement report which provides a sectorial, thematic and SDG breakdown at fund level, as well as detailing the number of entities engaged, and other engagement-related indicators. This report will be strengthened in 2022 with engagement case studies, while production is extended to more funds. Along with this improved engagement report, a voting report will be published for all our ESG-integrated and ACT range funds.

To complement our enhanced RI reporting offering, in 2022, we will roll out a new and upgraded ESG report across our portfolios which will include a range of new metrics, with a particular focus on biodiversity as well as climate and carbon in line with recommendations from the Task Force on Climate-related Disclosure (TCFD), but which will also include voting and engagement metrics. A specific impact

¹⁰⁴ As of 31/12/2021, more than 94% of our open-funds Fund Factsheets include these metrics (excluding funds investing in both Corporates and Sovereigns bonds).

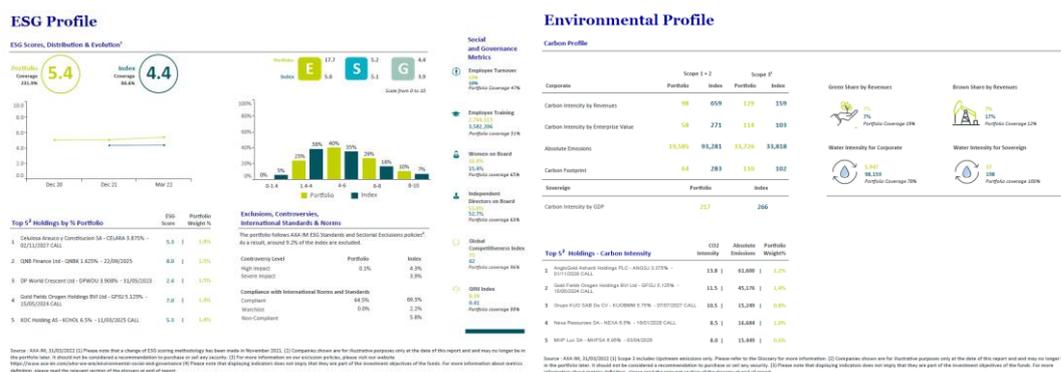
report, a version of our ESG report enriched with quantitative indicators and qualitative impact information, will be also deployed on our growing Listed Impact offering.

ESG Report: Environmental profile

Partnering with Trucost S&P, AXA IM discloses the carbon intensity of portfolios in the climate section of the ESG reporting of its RI funds, and in the standard reporting of all portfolios along with the ESG score. Carbon intensity of portfolio relative to benchmark is analysed by distinguishing between a sector allocation effect and an issuer selection effect. Carbon intensities are performed focusing on both direct emissions (scope 1), emissions from electricity suppliers (scope 2) and from business travel (scope 3).

From 2022, the ESG reporting available for our Article 8 and Article 9 products include an enhanced climate section, combining historic metrics (carbon intensity for scope 1 and 2 as well as upstream scope 3) as well as forward-looking ones (incl. warming potential and proportion of companies with Science-Based Targets in the portfolio). This reporting will also include the Net Zero profile of the portfolio.

AXA IM ESG Impact reporting: ESG Profile and Environmental Profile sections



Client interactions, inputs and expectations

As an active manager, we continuously engage with our clients to understand their needs and understand how we can help them to make informed investment decisions and invest in a sustainable future. We are committed to answering their questions whether this is about market movements, regulatory changes, asset allocation or future trends. We do this via surveys as well as conversations at our own proprietary or industry events, and also regular interactions with our sales teams. This enables us to improve our product offering as well as ensure that we have the right content and communications in place to stay relevant to clients' changing needs and to answer the questions on top of their minds.

We are focused on empowering our clients across the institutional, wholesale and retail segments to be able to confidently invest for a better planet, society and sustainable economy. In this context, providing clients with relevant and timely information is key. We do this by creating thought leadership, market commentary and educational content across multiple formats, such as research papers and articles, webinars, events, videos, and infographics to provide clients access to our investment experts, and at the level of detail they require. This content is then shared through a variety of channels, such as our website, email, social media, and third-party websites for clients to access.

Our RI experts regularly interact with our institutional clients through joint meetings with our investment teams when specific insights are required. Furthermore, our clients regularly send us due diligence questionnaires through which we can identify new trends and requirements.

To support our retail clients with their continued learning, we have launched educational modules, including the AXA IM Academy, an educational platform in the UK providing interactive, CDP-certified, financial learning experiences across several key areas of commercial interest: Investing, asset classes, market factors and ESG/socially responsible investing. These have included our own bespoke AXA IM modules.

At AXA IM we aim to be very attentive to market and client needs, best practices and new expectations and these interactions are one of the ways through which we can identify our areas of potential improvements.

- **Company level disclosure**

The following content is available on our website:

- Annual Active Ownership and Stewardship Report
- Annual Climate Report (aligned with the TCFD recommendation and Article 29 of the French Energy Climate Law)
- Annual Principles for Responsible Investment (PRI) report
- Policies

Going into more detail about our stewardship reports, we are committed to provide transparency and regular reporting on active ownership, both internally and externally.

AXA IM's RI activities are published and available publicly. Our full voting records are accessible publicly and detail how we voted at general meetings of companies held on our clients' behalf. In addition, we publish an annual Active Ownership and Stewardship Report which includes information on RI issues, engagement with companies, and aggregated voting records for the relevant year.

We also provide bespoke and customised reports aligned with specific client requests – the decision whether to make the report public or private is made by the clients. This includes a statistical overview and analysis of engagements conducted including breakdowns by theme and by the UN SDGs. There is also information on progress made through engagement and details of where we consider success has been achieved. We also provide a list of all issuers engaged with and on which specific themes.

- **Fund level disclosure**

We have mentioned broader fund content above. For products classed as sustainable and impact in the AXA IM range, the following content is made available to clients on our Fund Centre:

- Transparency code
- Voting Report (for equity and multi asset funds only) – with the AGMs voted and rationales for any vote against the management
- ESG Report

- Impact Report for our range of Listed Impact funds
- Engagement Report for Sustainable and Impact funds
- Legal documentation (prospectus, Key Investor Information Document, annual reports, semi-annual reports)
- Monthly comments from the portfolio manager

4.9 Industry surveys

Survey	AXA IM ranking / score	Date	Link
PRI annual assessment	Strategy and Governance: A+ Listed Equity – Incorporation: A+ Listed Equity – Active Ownership: A+ Fixed Income – SSA: A+ Fixed Income – Corporate Financial: A+ Fixed Income – Corporate non-financial: A+ Fixed Income – Securitised: A+ Property: A Infrastructure: A	December 2020	2020 PRI Assessment Report
PRI Leaders' Group	Member of the 2020 PRI Leaders' Group	December 2020	The PRI Leaders' Group 2020
ShareAction	BBB – ranked 11th /75	March 2020	ShareAction report
	Ranked 37/65	December 2021	ShareAction Voting Matters Report
H&K Responsible Investment Brand Index	Avant Gardist – Top Category	October 2021	AXA IM – Press Release
Influence Map	A	January 2021	influencemap.org Asset Managers and Climate Change 2021
	A (Stewardship)	March 2022	AXA IM implements AXA's Stewardship strategy Finance and Climate Change March 2022 (3).pdf
Climetrics 2021 rankings	30 out of 98 AXA IM funds ranked have received the best score of 5 leaves (9,9% of total 18,362 funds rated have 5 leaves).	December 2021	Climetrics - CDP

2021 Climetrics Fund Awards	Clean Economy strategy ¹⁰⁵ has been awarded with a Climetrics Fund Award	March 2022	Climetrics - CDP
Reclaim Finance – The Asset Managers fueling climate chaos, 2022	AXA IM is ranked first and is one of the only two asset managers with a score above the average (17.3 out of 30). Analysis of the consistency of asset managers' climate change commitments and investment practices	April 2022	Reclaim Finance, The Asset Managers fueling climate chaos, 2022 (reclaimfinance.org)

4.10 Focus on our commitments

Status update on our progress towards our commitments are provided within this Article 29 – TCFD combined report and in our 2021 Active Ownership and Stewardship report.

Commitments	Links
AXA Investment Managers has reinforced its coal exclusion (30% of revenues) and added a new exclusion on tar sands (20% of revenues). The initial scope of application was for IR funds, and has been extended in 2019 to all assets, excluding client opt-out or GRC exemption	AXA IM Climate Risks Policy
AXA Investment Managers made a commitment in 2020 to phase out coal by 2030 in the OECD and 2040 for the rest of the world	AXA IM Climate Risks Policy
AXA Investment Managers committed in 2015 to reach 75% of certified real estate assets by 2030 (in AUM)	AXA IM Real Assets – Vision 2030
AXA Investment Managers is committed in 2018 to achieving more than >75% AUM assessed with the internal ESG rating tool (direct real estate assets)	AXA IM Real Assets Responsible Investment
In 2020, AXA Investment Managers has integrated gender diversity objectives into its corporate governance and voting policy	AXA IM to expand its gender diversity voting policy for both developed and emerging market economies AXA IM Corporate (axa-im.com)
AXA Investment Managers is committed to including carbon intensity in its standard reporting in 2019	AXA IM Climate Risks Policy
AXA Investment Managers has committed in 2018 to include "forward-looking" indicators in our climate reporting	AXA IM TCFD-Article 23 Report
In 2020, AXA Investment Managers launched an initiative to develop a tool to measure the impact of investments on biodiversity	AXA IM, BNP Paribas AM, Sycomore AM and Mirova launch joint initiative to develop pioneering tool for measuring

¹⁰⁵ The products may not be registered nor available in your country.

	investment impact on biodiversity AXA IM Corporate (axa-im.com)
AXA Investment Managers has committed to a 20% reduction of the operational emissions of its direct real estate assets by 2025 compared to 2019 (and a net zero target by 2050)	AXA IM Real Assets Responsible Investment
Following the initiative launched earlier that year, AXA Investment Managers announced in 2020 a partnership with Iceberg Data Lab and I Care & Consult to develop indicators to measure the impact of investments on biodiversity	ICEBERG DATA LAB and I CARE & CONSULT selected to provide first of its kind biodiversity impact measurement tool for investors AXA IM Corporate (axa-im.com)
In 2020, AXA Investment Managers developed a charitable scheme for its range of impact funds	Full-year 2020 earnings AXA IM Corporate (axa-im.com)
AXA Investment Managers launched an engagement initiative in 2021 with issuers exposed to coal but whose operations are below our exclusion thresholds	AXA IM Climate Risks Policy
AXA Investment Managers has strengthened its Climate Risk policy in 2020 and is committed to reporting on its progress in its annual reports.	AXA IM Climate Risks Policy
AXA Investment Managers has reinforced its 2021 Climate Risk Policy for the Oil & Gas sector, on the engagement side.	AXA IM further strengthens its climate actions to accelerate its contribution to a low-carbon world AXA IM Corporate (axa-im.com)
AXA Investment Managers has extended its Climate Risk policy in 2021 to the Oil & Gas sector, on the exclusion side.	AXA IM further strengthens its climate actions to accelerate its contribution to a low-carbon world AXA IM Corporate (axa-im.com)
In 2021, AXA Investment Managers has developed a "Three Strikes and You're Out" engagement approach. In 2022, this policy applies in particular to climate laggards.	AXA IM intensifies pressure on companies to take meaningful action on sustainability issues with enhanced stewardship focus AXA IM Corporate (axa-im.com)
AXA Investment Managers has strengthened its biodiversity strategy in 2021 by expanding the exclusions of its Ecosystem Protection & Deforestation policy (former Palm Oil policy)	AXA IM expands its palm oil policy to protect ecosystems and fight deforestation AXA IM Corporate (axa-im.com)
AXA Investment Managers has strengthened its biodiversity strategy in 2021 by reinforcing the engagement activities of its Ecosystem Protection & Deforestation policy (former Palm Oil policy)	AXA IM expands its palm oil policy to protect ecosystems and fight deforestation AXA IM Corporate (axa-im.com)
AXA Investment Managers renames its Sustainable fund range in 2021	AXA IM renames its most focused ESG funds to help simplify its sustainable range for clients AXA IM UK (axa-im.co.uk)
In 2020, AXA Investment Managers made a commitment to the Net Zero Asset Managers Initiative to achieve net zero emissions by 2050 at the earliest. As part of this commitment, by 2022, AXA Investment Managers will manage 65% of its total assets under management in line with the Net Zero target, representing nearly €580 billion by the end of 2021.	65% of AXA IM's total assets are managed to be in line with Net Zero AXA IM Corporate (axa-im.com)
AXA Investment Managers is implementing a new voting policy to further integrate ESG considerations into our voting in 2022.	AXA IM unveils new voting policy to urge investee companies to further consider environmental and social issues AXA IM Corporate (axa-im.com)

1. Regulatory review

Article 29 of the French Energy Climate Law¹⁰⁶

Decree	Content	Reference Sections
Art 1er-III- 1°	Entity general approach	2.1 AXA IM Responsible Investment Framework
	Investors' information	4.8 Disclosure communication
	Article 8 and Article 9 Financial products	Sustainable Finance (SFDR) (axa-im.com)
	List of initiatives, codes and principles	Appendix 3. List of initiatives, codes and principles
Art 1er-III- 2°	Internal resources and means	1.2 Human and Technical Resources
	Reinforcement of internal capabilities	1.2 Human and Technical Resources
Art 1er-III- 3°	ESG Strategy oversight process	1.3 RI Governance Committee
	Remuneration policy	1.2 Human and Technical Resources
	Management Board	1.3 RI Governance Committee 2.6 CSR Strategy
Art 1er-III- 4°	Scope of the stewardship strategy	2.1 AXA IM Responsible Investment Framework 2021 Active Ownership and Stewardship report
	Voting policy presentation	2.1 AXA IM Responsible Investment Framework 2021 Active Ownership and Stewardship report
	Engagement strategy results	2.1 AXA IM Responsible Investment Framework 2021 Active Ownership and Stewardship report
	Voting strategy results	2.1 AXA IM Responsible Investment Framework 2021 Active Ownership and Stewardship report
	Investment decisions	4.2 Environmental Dashboard
Art 1er-III- 5°	Taxonomy alignment and exposition to fossil fuels	Not applicable in 2022
Art 1er-III- 6°	Paris Agreement Alignment strategy Objectives	2.2 Climate strategy
	Methodologies used within the Paris Agreement Alignment strategy	2.2 Climate strategy
	Results	4.6 Climate Dashboard
	Scope, impact on the investment strategy and complementarity with the RI Strategy	2.2 Climate strategy
	Policies to progressively exit coal and unconventional hydrocarbons	2.2 Climate Strategy 4.2 Environmental dashboard
	Monitoring, changes and updates	2.2 Climate Strategy
Art 1er-III- 7°	Biodiversity alignment strategy	2.3 Biodiversity Strategy 4.7 Introducing biodiversity-specific indicators
	Alignment with Convention on Biological Diversity	2.3 Biodiversity strategy
	Analysis of the contribution to the reduction of main pressures and impacts on biodiversity	2.3 Biodiversity Strategy 4.7 Introducing biodiversity-specific indicators
	Biodiversity footprint	4.7 Introducing biodiversity-specific indicators

¹⁰⁶ [Article 29 - LOI n° 2019-1147 du 8 novembre 2019 relative à l'énergie et au climat \(1\) - Légifrance \(legifrance.gouv.fr\)](#)

Art 1er-III- 8°	Identification, assessment, prioritization, management of ESG risks	Only the identification process of sustainability risks is applicable in 2022 Section: 3-Risk management
Art 1er-III- 9°	Improvement and corrective actions	Not applicable in 2022

Recommendations of the Task Force on Climate-related Financial Disclosures¹⁰⁷

Sections	Recommended Disclosures	Reference Sections
Governance Strategy	Board's oversight of climate-related risks and opportunities	- 1.3 RI Governance Committees
	Management's role in assessing and managing climate-related risks and opportunities	- 1.2 Human and Technical Resources - 1.3 RI Governance Committees
	Identified Climate-related risks and opportunities over the short, medium, and long term	- 2.1 AXA IM Responsible Investment Framework - 2.2 Climate strategy
	Impact of climate-related risks and opportunities on investment strategy	- 2.2 Climate strategy - 4.4 Environmental dashboard - 4.6 Climate Dashboard
	Climate-related scenario analysis (including a 2°C or lower scenario)	- 2.1 AXA IM Responsible Investment Framework - 2021 Active Ownership and Stewardship report - 2.2 Climate strategy - 4.3 Scenario analysis - 4.4 Climate scenario - 4.5 Forward looking metrics - 4.6 Climate Dashboard
Risk Management	Identification and assessment process of climate-related risks	- 2.2 Climate Strategy - 3.1 Mitigation of key sustainability risks - 3.2 Factoring Climate risk in Real Estate Management
	Climate-related risks management process	- 2.2 Climate Strategy - 3.1 Mitigation of key sustainability risks
	Integration of climate-related risks identification, assessment and management processes into overall risk management framework	- 3.1 Mitigation of key sustainability - 3.2 Factoring Climate risk in Real Estate Management - 3.3 Internal Controls
Metrics and Targets	Metrics used to assess climate-related risks and opportunities	- 4.2 Environmental Dashboard - 4.6 Climate Dashboard
	Disclosure of Scope 1, 2 and, if appropriate, scope 3 GHG emissions and related risks	- 4.6 Climate Dashboard
	Targets used to manage climate-related risks and opportunities and performance	- 4-Metrics

¹⁰⁷ [Publications | Task Force on Climate-Related Financial Disclosures \(fsb-tcfd.org\)](#)

2. Thought Leadership

Research paper	Authors	Link
COVID-19: Data privacy risks and potential opportunities	Théo Kotula	https://www.axa-im.com/covid-19-data-privacy-risks-and-potential-opportunities
Putting ESG to work: A case study in the telecoms sector	Virginie Derue	https://www.axa-im.com/putting-esg-work-case-study-telecoms-sector
Net Zero through investments: A pilot for intermediary target setting	Lise Moret, Thomas Roulland, César Vanneaux	https://www.axa-im.com/net-zero-emissions-through-investments-road-testing-pilot-intermediary-target-setting
EU Taxonomy: a pathway to superior corporate	Virginie Derue	https://www.axa-im.co.uk/insights/responsible-investing/governance/eu-taxonomy-pathway-superior-corporate-sustainability
China green bonds: seeking harmonisation in a sector that could boost the climate change fight	Théo Kotula	https://www.axa-im-usa.com/insights/responsible-investing/environmental/china-green-bonds-seeking-harmonisation-sector-could
A wake-up call for the energy sector? The IEA's path to net zero	Olivier Eugène	https://www.axa-im.com/insights/future-trends/sustainability/wake-call-energy-sector-ieas-path-net-zero
A climate change conundrum: Is there a sweet spot for natural gas in the energy transition	Olivier Eugène	https://www.axa-im.com/insights/responsible-investing/environmental/climate-change-conundrum-there-sweet-spot-natural-gas
Did 2020 deliver a premium for the top ESG equities?	Hina Varsani	https://www.axa-im.com/news-and-insights/investment-institute/sustainability/environmental/did-2020-deliver-premium-top
Carbon offsets: A necessary tool, but only under close scrutiny and precise	Virginie Derue	https://www.axa-im.com/insights/responsible-investing/environmental/carbon-offsets-necessary-tool-only-under-close
Are Europe's oil and gas majors prepared for the climate change challenge?	Olivier Eugène, Augustin Monnoyeur	https://www.axa-im.com/insights/responsible-investing/environmental/are-europes-oil-and-gas-majors-prepared-climate-change
Climate change: How investors can help deliver a Just Transition	Virginie Derue	https://www.axa-im.com/insights/responsible-investing/social/climate-change-how-investors-can-help-deliver-just-transition
Climate Change: the economic cost of inaction	David Page	https://www.axa-im.com/news-and-insights/investment-

		institute/macroeconomics/macroeconomic-research/climate-change
Playing with fire: Measuring emissions from the world's oil and gas fields	Olivier Eugène	https://www.axa-im.com/insights/responsible-investing/environmental/playing-fire-measuring-emissions-worlds-oil-and-gas

3. List of Initiatives, Codes and Principles

AXA Investment Managers seeks to comply and adhere to various principles, standards, and codes, considered best practices in the market, which govern our policies and practices.

Codes / Principles	Signature date
United Nations Principles for Responsible Investment	2007
UK Stewardship Code	2010 Signatory of the revised UK Stewardship Code in 2020
Japanese Stewardship Code	2014
Task Force on Climate-Related Financial Disclosure	2017

We also support and participate to a number of initiatives focusing on sustainability topics where we believe our involvement will have a material impact. These industry initiatives and groups are intended to reflect on the evolution of practices, establish standards, support companies to address global challenges and/or provide solutions. Please refer to our **2021 Active Ownership and Stewardship report** to find the list of initiatives and groups in which we are involved.

4. AXA IM climate metrics solutions mix - methodology description at a glance

Historical Climate KPIs

<p>Carbon Footprint – Corporate Investments (Trucost S&P)</p> <p>The amount of carbon dioxide released into the atmosphere as a result of the activities of a particular organization and first tier indirect (GHG emissions from operations that are owned or controlled by the company & from its direct suppliers. It is expressed in CO2 tons per millions \$ revenue. The carbon footprint is calculated from the carbon emission of each company (scope 1 and 2 + scope 3 business travel) and from their turnover.</p>
<p>Carbon Intensity by revenue (EV) – Corporate Investments</p> <p>Environmental KPI provided by Trucost S&P. The amount of carbon dioxide released into the atmosphere per million \$ of revenue. It is expressed in CO₂ tons per millions \$ revenue (invested).</p> <p>The carbon intensity is calculated from the carbon emission of each company (scope 1 + scope 2 + scope 3 upstream emissions (of direct suppliers)).</p>
<p>Carbon Footprint – Sovereign Investments (World Bank)</p> <p>Carbon dioxide emissions are those stemming from the burning of fossil fuels and the manufacture of cement. They include carbon dioxide produced during consumption of solid, liquid, and gas fuels</p>

and gas flaring. Carbon Footprint for sovereign debt is expressed in CO2 tons per millions \$ GDP PPP.

Green Share – Listed Assets (Trucost S&P)

The French government's TEEC label (Energy and Ecological Transition for Climate Change) provides different types of activities that can be categorized as "green". The classification is based on the Climate Bond Initiative green categories where they have determined which type of activities can have a positive impact on the environment and on climate change. Trucost green taxonomy includes the followings activities from Energy and Utility sectors as 'Core green': Geothermal Power Generation, Hydroelectric Power Generation, Solar Power Generation, Wave & Tidal Power Generation, and Wind Power Generation. At AXA IM, we have decided to exclude nuclear activities from green activities. We also include activities classified as 'Green candidate' to the green share which are green activities outside Energy and Utility sectors. The green share is calculated as percentage of revenues coming from Core green and Green candidate activities.

Green Share – Listed Assets (BeyondRating)

Share of low-carbon energy in primary energy use. Energy included in the calculation of the green proxy: hydropower, wind, solar, geothermal, tidal, nuclear.

Forward Looking Climate KPIs

Corporate Warming Potential (MSCI)

Warming Potential is a powerful tool that can provide an overall assessment of how companies and issuers can contribute to the convergence to a low sustainable carbon world. Climate model providers offer data and methodologies by which investors can calculate company or portfolio-level temperatures which can be compared to the 1.5°C target. Such a temperature is also a good way to incentivise dialogue and action by all agents involved such as companies and investors.

The model developed by MSCI relies on a top-down approach by combining country-level, sector-agnostic and sector-specific warming potential functions (translating tons of GHG emissions into potential global warming) with company-specific decarbonation capacities and targets. Notably, this model relies on :

- country-level projecting carbon intensities to 2030 which corresponds to the horizon of the Nationally Determined Contributions (NDCs) presented to the COP26;
- gaps between NDCs and carbon emissions budget associated to various temperature scenarios (according to the UNEP Gap report);
- company-level business mix structures by sectors and countries ;
- company-level current carbon intensities;
- R&D in green technologies/products highlighting "transition" opportunities.

Climate Value at Risk metrics (MSCI)

Climate Value-at-Risk (Climate VaR) model developed by MSCI represents an estimation of how the value of AXA IM's investment portfolios – on corporate bonds and listed equities - could be impacted (up or down) by climate policy risk, technology transition opportunities and extreme weather events on a 15-year time horizon. This model is currently applicable only to corporate assets (not to sovereign assets) and it is in continuous development.

- Policy Risk Climate VaR (transition costs)

The transition to a low-carbon economy through market and regulations changes may significantly negatively impact businesses and their investors. Policy Risk Climate VaR metric

assesses how regulations stemming from countries' Nationally Determined Contributions (NDCs) affect a company whose activities are directly (Scope 1) and indirectly (Scope 2 and Scope 3) producing greenhouse gases (GHG).

- Technology Opportunity Climate VaR (green opportunities)

The transition to a low-carbon economy may also lead to new opportunities for businesses and their investors especially through the development of green technologies. Technology Opportunity Climate VaR metric assesses the future potential revenues of companies coming from these green opportunities. While it is certainly not the only factors to be considered to estimate future green revenues, this analysis notably relies on companies' green patents and current low-carbon revenues.

- Physical Risk Climate VaR

Physical climate risk scenarios define possible climatic consequences resulting from increased levels of GHG emissions, and the ensuing financial burden (or opportunity) borne by businesses and their investors. Physical Risk Climate VaR metric assesses how much companies are exposed (notably via their geographical location, the size and value of their assets, ...) and vulnerable (notably via their capacity to adapt) to increasingly frequent and severe extreme weather events.

Sovereign Investments' temperature (Beyond Ratings)

The Beyond Ratings methodology allocates a carbon budget by country supporting various warming scenarios, depending on key macroeconomic variables such as GDP growth, population growth, energy supply mix carbon-content and energy efficiency. National carbon pledges (NDCs) that have been expressed in the Paris agreement are used to build a homogeneous allocation of CO2 emissions reduction commitments by countries by 2030. Country-level carbon intensities are then compared to the 2°C compliant carbon intensities. More generally, using the theoretical linear relationship between carbon emissions and temperature rise, Beyond Ratings define a corresponding temperature based on country-level 2030 carbon commitment intensities.

Climate KPI	Definition	Pros	Cons
Historical Climate KPIs			
Carbon Footprint	<p>For Corporates, we rely on Trucost-S&P's methodology which uses the carbon emission of a company (scope 1 and 2 + scope 3 business travel) compared to its turnover.</p> <p>For Sovereigns, the carbon footprint is based on emissions stemming from fossil fuels' burning and the manufacture of cement, expressed in CO2 tons per millions \$ GDP PPP</p>	<ul style="list-style-type: none"> • Carbon Footprint provides an easy way to compare companies of different sizes and from different sectors, countries • Carbon footprint also allows for historical tracking • Carbon footprint expressed per millions \$ of added value (revenues, GDP ...) also enables comparisons between various asset classes 	<ul style="list-style-type: none"> • Carbon Footprint underestimates the climate impact of companies' activity as it generally does not account for scope 3 downstream and all the emissions from the value chain • Carbon Footprint is backward looking and does not take into account transition strategies undertaken by companies (decarbonization objectives & targets, green capex, roll-out strategy to shift from carbonized activities ...) • Carbon footprint would be more relevant using a physical output, such as CO2 per tonne of cement or per kWh of electricity, but this

			makes an aggregation at the portfolio level more challenging
Green Share	<p>Provided by Beyond Rating on listed assets, share of low-carbon energy in primary energy use.</p> <p>Provided by Trucost for listed assets, percentage of revenues in green sectors</p>	<p>Country green share provides a way of measuring the part of green energies in the energy mix of a country</p> <p>Listed assets green share provides the percentage of revenues of a company coming from green activities</p>	<ul style="list-style-type: none"> • The green share currently focused on already green technologies or assets tends to underestimate the energy transition by not considering enough transition and enabling activities • The country green share tends also to overestimate the greenness. The definition of the green share will need to be adapted to the new EU taxonomy guidelines and in particular, to its eligibility criteria and its evolution regarding some technologies • The company green share doesn't include nuclear power generation because of controversies on this topic. This green share will also have to be reviewed in accordance with the new EU taxonomy • For electricity producers, calculating the green share of power generation (e.g. MW of renewables in % of total MW) would be a more relevant metric

Forward Looking Climate KPIs

Investments' temperature	<p>For Corporates, the Investments' Temperature (based on Carbon Delta-MSCI's methodology) relies on carbon budgets which are allocated by company according to the sectoral and geographical structure of its assets or revenues. For Sovereigns, the Investments' Temperature (using Beyond Ratings' methodology) is</p>	<ul style="list-style-type: none"> • The investment temperature constitutes a good synthesis of all the elements to consider to test for warming scenarios alignment of issuers and investments • Investments' temperature provides a sense of alignment at asset level and portfolio level, when this notion generally 	<ul style="list-style-type: none"> • Temperature at portfolio level makes no sense in real life and under physics laws as global warming must be understood at a macro level • For now, none of the temperature models available in the market are fully satisfying and exhaustive enough to be the only metric used for alignment testing
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calculated using Carbon budget by country supporting various warming scenarios, depending on key macroeconomic variables such as GDP growth, population growth, energy supply mix carbon-content and energy efficiency	applies to an overall economy
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5. B2B Factsheet

Example of B2B/ B2C monthly report including RI metrics: ESG score and Carbon footprint (absolute and relative). These reports are available on our Fund Centre.

As of 31/12/2021, these metrics are included in more than 94% of Fund Fact Sheets of our pure corporates (equities and fixed income) open-ended funds.

Key Figures (EUR)*

Fund Cumulative Performance (%)					Current NAV	
YTD	1Y	3Y	10Y	Launch	Acc.	Inc.
-12.73	-5.40	+23.82	+124.29	+89.75	190.18	115.61

Fund Annualized Performance (%)				Assets Under Management (M)
3 Y.	5 Y.	10 Y.	Launch	EUR
+7.38	+4.00	+8.41	+3.22	270.88

Dividend Record

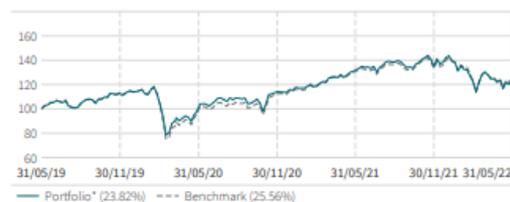
	Record Date	Ex-Date	Dividend per Share	12 month Yield (%)
Dec 2021	29/12/2021	30/12/2021	0.65	0.49

12 Month Yield = (Sum of Dividends) / (Ending NAV). The 12 Month yield is calculated based on the sum of the distributions over the previous 12 months and the latest NAV. The 12 month yield may be higher or lower than the actual annual dividend yield. A positive distribution yield does not imply positive return. Dividends are not guaranteed. Past dividends are not indicative of future dividends.

Please note that a positive distribution yield does not imply a positive return. Investors should not make any investment decision solely based on information contained in the table above. You should read the relevant offering document (including the key facts statement) of the fund for further details including the risk factors.

Performance & Risk

Performance Evolution (EUR)



Data is rebased to 100 by AXA IM on the graph start date. Past performance is not a reliable indicator of future results. Performance calculations are net of fees, based on the reinvestment of dividends. The benchmark, when there is one could be calculated on the basis of net or gross dividend. Please refer to the prospectus for more information.

* 1st NAV date: 18/03/2002

Fund benefits of the historical evolution of the performance of the fund since its creation on the 03/11/10, because they have the same investment objectives.

Benchmark

Since: 27/04/2020
100% EURO STOXX Total Return Net

Fund Key Metrics

	Port.	Bench.
Number of Holdings	55	286
Turnover: Rolling 1Y (%)	58	-
Active Share (%)	74	-

Fund Profile

ESG Rating

ESG Relative Rating
Lower Higher

CO2 Relative rating
More CO2 Less CO2

% of AUM covered by ESG absolute rating: Portfolio = 97.3% Benchmark = 99.9% (not meaningful for coverage below 50%)

% of AUM covered by CO2 intensity indicator: Portfolio = 97.3% Benchmark = 99.8% (not meaningful for coverage below 50%)

All quantitative information, except otherwise specified, is un-audited and provided based on internal methodology. While such information are believed to be reliable and accurate, none of AXA IM or its respective affiliates, directors, officers, employees, partners, members or shareholders assumes any responsibility for the accuracy or completeness of such information. The information has been established on the basis of data and hypotheses which are subjective. This analysis and conclusions are the expression of an opinion, based on available data at specific date. The information is therefore subjective and subject to change from time to time without prior notice.

To the extent SFDR has been applicable for a relatively short period of time, the classification under SFDR is subject to adjustments and amendments, as certain aspects of SFDR may be subject to new and/or different interpretations than those existing at the date of this Report. As part of the ongoing assessment and current process of classifying its financial products under SFDR, AXA IM reserves the right, in accordance with and within the limits of applicable regulations and legal documentation applicable to its financial products, to amend the classification of a particular fund to reflect changes in market practice, in its own interpretations, in SFDR-related laws or regulations or in currently-applicable delegated regulations, in communications from national or European authorities or court decisions clarifying SFDR interpretations. Investors are reminded that they should not base their investment decisions on the classification presented pursuant to SFDR.

This document is for informational purposes only pursuant to Article 29 of Law No. 2019-1147 of 8 November 2019 relating to the Energy and the Climate and does not constitute investment research or financial analysis relating to transactions in financial instruments as per MIF Directive (2014/65/EU), nor does it constitute on the part of AXA Investment Managers or its affiliated companies an offer to buy or sell any investments, products or services, and should not be considered as solicitation or investment, legal or tax advice, a recommendation for an investment strategy or a personalized recommendation to buy or sell securities.

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