



LIGHTING THE WAY TO BEST PRACTICE

CLIMATE REPORTING AWARD CASE STUDIES



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FOREWORD



On October 28th 2016, Ségolène Royal, Minister of Environment, Energy and the Sea, and former president of COP 21, granted the “International Award on Investor Climate-related Disclosures” to 14 investors at OECD Headquarters. This award exemplifies the cooperation between the private sector and public authorities promoted by the Paris Agreement. Its aim is to connect investors and financial actors to fight against climate change, thereby promoting the transition to a low-carbon economy. By granting the award, the Minister accelerates and amplifies the financial sector’s efforts to support the energy transition, while stimulating innovation and the emergence of new investor climate-related disclosure practices.

This guide, produced with the support of the Ministry of Environment, Energy and the Sea, presents best-practice examples of investor climate reporting emerging from the award. These practices, as well as the investment coalitions launched during COP21, are proof of the growing ownership on the topic in the financial sector. However, additional steps need to be taken in order to contribute to the large-scale financing of the energy transition. This document, building on existing practices, supports and completes the wide range of initiatives put forward by the Ministry of Environment, Energy and the Sea in order to promote green finance:

- **Article 173-VI of the Law for the Energy Transition and Green Growth**, through which France became the first country to make mandatory the disclosure of investor contributions to climate objectives and information on their exposure to climate-related financial risks.
- **The “Energy Transition for Climate Label” for investment funds**, which highlights funds that demonstrated environmental excellence. As of today, 14 funds have been labelled, for a total sum of 1.7 billion euros.
- **The “Participatory Finance for Green Growth Label”**, targeted at projects linked to the energy transition hosted on participatory finance platforms. The first projects will be labelled before the end of the first semester of 2017.
- **The launch of a 7-billion euro « green » sovereign bond**, which covers the budgetary expenses and the “future investment program” directed at fighting climate change, pollution, biodiversity loss, and financing climate change adaptation.

A positive momentum has been initiated and needs to continue in order to make Paris the global center of green finance. The Ministry will continue to encourage all initiatives that support this agenda, including those of 2° Investing Initiative and this guide in particular.

Laurence Monnoyer-Smith

Commissioner General and Interdepartmental
Delegate for Sustainable Development of the French
Ministry of Environment, Energy and the Sea

THE 2° INVEST AWARD

ABOUT THE INTERNATIONAL AWARD ON INVESTOR CLIMATE-RELATED DISCLOSURES

The International Award on Investor Climate-related Disclosures (2° Invest Award) is an initiative organized by the French Ministry of Environment, Energy and the Sea, the Ministry of Finance and Economy and the 2° Investing Initiative. The award is designed to enable the fostering of innovation and promotion of existing best-practices in climate disclosure aligned with the requirements of Article 173-VI of the Energy Transition for Green Growth Law. The objective of the 2016's edition of the award was three folded:

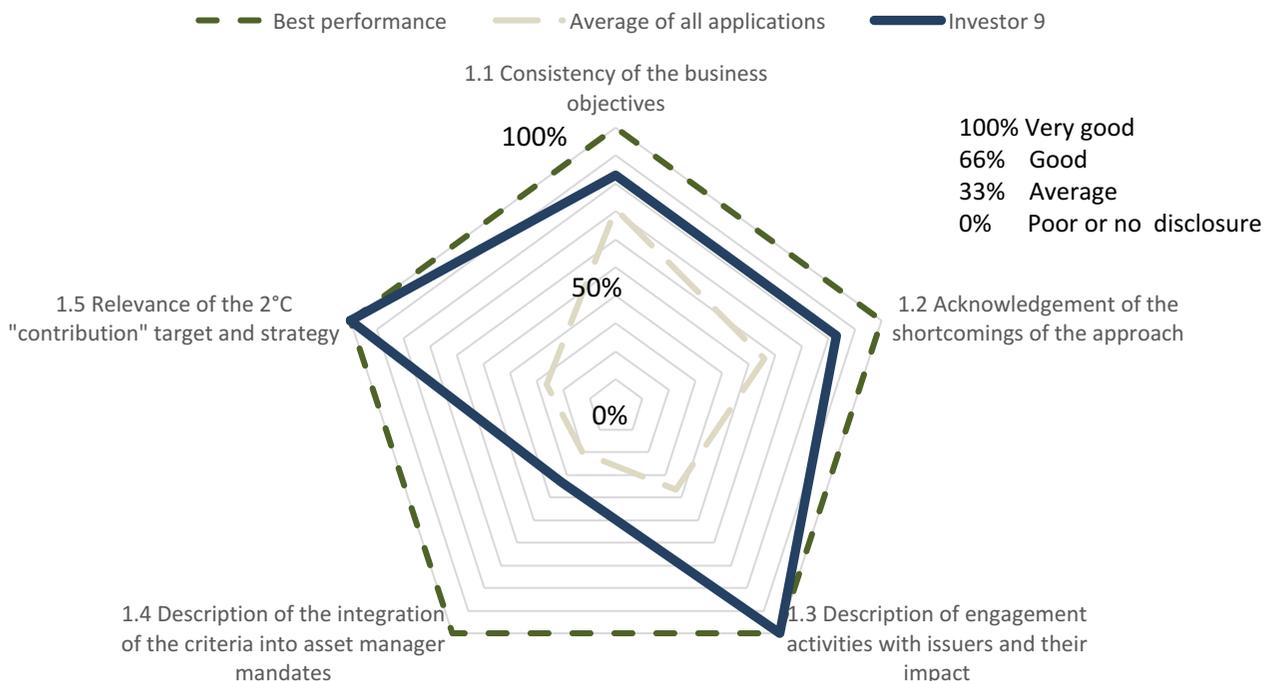
- To serve as preparation for those investors planning to showcase and/or improve their methodologies and disclosure in the next reporting cycle;
- To give the opportunity to investors to receive feedback on their current reporting and the possibilities for improvement; and
- To provide food for thought to the various organizations (private sector working groups, investors coalitions, governments, standard organizations) involved in the development of guidance for financial institutions.

Asset owners and asset managers were called to submit their applications during a period of 1 month, from September 15 to October 15. Feedback was provided to investors submitting their application during the first week and which had the possibility to integrate it in their reporting and re-submit a final version before the final deadline. By October 15, 30 applications were received.

The reports submitted were scored on the basis of 24 criteria falling within 4 major pillars: i.) integration of climate criteria in the investment decisions and engagement; ii.) alignment with climate goals; iii.) exposure to climate risks; and iv.) communication with clients and beneficiaries. The grid was developed in such a way that no weighting was given to any factor thus, following the spirit of Article 173 by providing flexibility to the investor regarding the most convenient approach.

The jury of the award, composed of 14 voting members and 7 observers belonging to 4 constituent groups (advocacy NGOs, Investor Groups, Members of Parliament and Public Administration) and presided by Ségolène Royal, Minister of Environment, selected the winners on October 26th. The reports of 7 investors were selected as best-practice due to their performance on the first three categories aforementioned.

Each report submitted was rated on the various criteria. For each section of the grid the scorecard included a summary of the strengths and weaknesses (2-3 sentences) and a spider chart (see sample below).



1. INTRODUCTION

This report summarizes the best practice reporting recognized by the 2° Invest Awards, organized by the 2° Investing Initiative, the French Ministry for the Environment, and the French Treasury.

The awards, presented in November 2016, were designed to recognize and identify best practice in the space of climate reporting by institutional investors. 30 investors participated from 9 countries. 7 investors were awarded across three categories, by a jury consisting of policymakers, NGO representatives, and investor coalitions. This report provides case studies and learnings from the analysis of investor's reporting, based on the feedback and assessment of the jury. It provides guidance for institutional investors and asset managers on options for reporting across three key objectives.

Climate-related reporting can cover three key areas, all addressed in the legislation and decree of the French Art. 173. These three elements are:

- **Climate strategy reporting** relates to reporting on the integration of climate-related issues in the company's policies and processes, their results and next steps. Investors climate strategy may be developed in response to a climate goal alignment or a risk management objective (2ii 2015, 2ii 2016). It allows users of disclosure to understand how climate change issues fit into the investment strategy and investment mandate design; and identify the integration of climate change issues into engagement policies;
- **Climate goal alignment reporting** relates to reporting on the alignment of investments with international and national climate targets or policies, therefore implying the use of scenario analysis and future targets. It allows users of disclosure to understand the degree of misalignment/alignment of the portfolio with respect to the climate objectives; and follow investor's ambition and commitments on the set up and progress measure of 2° C contribution targets.
- **Climate-related risk reporting** relates to disclosing on the extent in which transition and physical risks affect the financial performance of the portfolio. It allows users of disclosure to identify the most material climate-related risks and their degree of exposure; and understand the efforts towards the integration of risks analysis in the climate policy or risk management processes.

Critically, all types of reporting should be designed with the ultimate user in mind.

Best practice for one investor may not be applicable for another investor with a different user base. Users could include beneficiaries, clients, analysts / investors (for investors listed on the stock market) and/or regulators and policymakers. By extension, not all case studies presented here may be relevant for all types of investors and certain types of case studies or approaches need to be adjusted to reflect this. Generally, the choice of reporting should be based on a cost-benefit analysis with the user in mind (both internal and external) and as a function of the resources and size of the investor. Thus, smaller asset managers or owners may seek to develop more simplified reporting.

The guide should thus be read as a source of inspiration with regards to reporting options based on best practices identified in the context of a competition of global, leading investors on climate change reporting.

The guide does not suggest that the case studies identified here are the only options – a number of climate reporting approaches in the market not chosen by investors who applied for the award could be considered best practice as well (2ii, 2016). Nor should the guide be considered to set in stone the future of climate reporting. Many of the approaches identified in the case studies are still under development with more advances to come in the near future. It is thus likely that next year's reporting or the subsequent reporting will yield new innovative approaches. The objective is rather to open and not to close the door to such innovation.

Section 2 of the report provides general reporting options. The subsequent sections then present the specific case studies for climate strategy, climate goal alignment / contribution, and climate-related risk reporting.



2. GENERAL REPORTING PRINCIPLES

2.1 USERS

The objective of reporting is two-fold:

- Raise awareness of the risks related to climate change internally;
- Create transparency to interested third-parties (e.g. analysts, regulators).

Best practice reporting should thus evidence one or both of the objectives above and respond directly to them.

The nature of good reporting thus depends on the specific objective each investor has and the specific use case they anticipate. Asset owners may want to report to their beneficiaries on environmental and in particular climate issues to evidence that beneficiaries' savings are invested in a sustainable way. Reporting may also target broader users (e.g. policymakers, civil society more generally) to evidence the integration (or lack thereof) of the Paris Agreement objectives into investment beliefs. Even in the context of a regulatory mandate like in France, considering and responding to the use case of reporting in this way is critical. On the other hand, best practice reporting may also be an internal exercise, where the reporting itself is simply a form of stock take of climate beliefs and their implications for asset allocation and investor strategies. In this case, the reporting is designed to be more 'inward-facing' and acts as a public accounting of internal processes.

While this report and the 2° Invest award more generally recognize and present 'best practice', individual up take of one the other case study presented in this report should depend on the investors objectives related to reporting.

The current landscape of indicators shows that there is significant room for improvement. This best practice guide for some investors may thus act more as a point of departure to innovate on metrics and reporting frameworks rather than adopt the ones presented here. On the other hand, some investors with certain stakeholders may seek to emphasize the climate goal alignment reporting or the risk reporting. Obviously, the choice of metrics and reporting requires a cost-benefit analysis that may involve different choices for investors with different positioning and budget. In this sense, the guide is not meant as a descriptive blueprint, but as a repository for best practice options.

2.2 CLIMATE STRATEGY REPORTING

In terms of climate strategy, reporting can relate both to the overall climate strategy of the institution or the climate strategy at asset class or portfolio level.

At institutional level, the reporting could include:

- The general approach with regard to the inclusion of climate issues in the investment policy and (when applicable) risk management;
- For an asset management company, the list and the % share of funds (in assets under management) that integrate climate criteria;
- The use of (or membership in) labels, initiatives, charters, and codes related to informing on the 'quality' of climate practices, including a brief description of said labels, initiatives, charters, and codes;
- If the entity has a risk management policy, a general description of the internal procedures of the entity to identify the risks associated with climate issues, a general description of risks identified, and the exposure of its activities to these risks.

At portfolio or asset classes level, the climate strategy discussion can reflect:

- A description of the nature of the main criteria considered for climate issues and the reasons for choosing them.
- For each criteria or set of related criteria a description of the assessment approach, with a focus on the methods and metrics used and a description of possible targets or threshold referred to in this analysis.
- Investors and managers can also report concrete implications of the integration of the outcome of the assessment in the investment decisions in terms of how the integration of climate criteria impacted the portfolios, implementation of dedicated engagement with counterparties – e.g. issuers, asset managers.

Best practice climate reporting – according to the criteria of the 2° invest award – involve the following elements:

- Best practice reporting reflects on the **consistency between the climate strategy deployed and the broader business objective**. This type of reporting could also, for example, comment on the lack of a climate strategy given a potential inconsistency with the business objective or the progress made towards defining one.
- Reporting should **acknowledge the shortcomings** of the analysis, methodology, and data. This type of reporting ideally quantifies the uncertainty of the results.
- Where relevant to the strategy of the asset owner or asset manager, best practice reporting also extends to the **description of the engagement activities**, including relevant bilateral and collective engagement, investor support for external resolutions and projects of resolution, leadership in initiating resolutions, positions adopted, questions asked in Annual General Meetings (AGMs) and the impact of the engagement actions on the companies' decisions and plans. Ideally, where no impact has occurred, a description could be provided on why the assets were kept, even if the company strategy is not in line with the required changes.
- Where relevant, reporting could extend to how the climate-related approach is **integrated in each new mandate** and the **requirements to the asset managers** for existing mandates with a specific focus on the consistency with incentives and KPIs. The reporting could include, for example, the % of mandates given to asset managers that include guidelines on climate-related topics.
- Climate strategy reporting should inform on the objectives related to 'contributing to the 2° C goal', the strategy is defined in such a way that its achievement leads to a positive impact in the real economy potentially through **quantifiable additional reductions of GHG emissions**. Best-practice reporting should benchmark results to international and/or national climate targets, with relevant assumptions explained (see next page on climate goal alignment / contribution).

2.3 CLIMATE GOAL ALIGNMENT / CONTRIBUTION REPORTING

Climate goal alignment / contribution reporting involves disclosing on the extent to which investments are consistent with the Paris Agreement objective of limiting global warming well below 2°C and “aligning financial flows with climate goals” (Art. 2.1a and Art. 2.1c of the Paris Agreement). Quantitative indicators could include:

- *Resources-related indicators* - To what extent the investees’ activities are dependent on the exploitation and use of natural resources compatible with climate goals or ecological constraints, expressed in economic units and potentially relating to either the upstream or downstream use of these resources.
- *Capex-related indicators* - To what extent the investees’ capital expenditures are compatible with climate goals.
- *GHG indicators* - To what extent the GHG emissions associated with investees’ activities are consistent with climate goals.
- *Green finance indicators* - the extent to which investment contributes to the energy, low carbon and ecological transition, expressed in economic units.

It should be kept in mind that these are only examples and other indicators could be potentially used. Asset owners and asset managers should find approaches that are relevant for their investment profile.

In order to be material and relevant, quantitative reporting should include the ‘indicative targets’ (i.e. targets contributing to the Paris Agreement goals) set, allowing for a benchmarking of the consistency with and contribution to the climate goals at portfolio level.

Whatever ultimate indicator is used, best practice reporting involves disclosure on methodology used, coverage (i.e. sector and asset-classes), including the assumptions made to establish the indicative targets, the relevance of the indicators selected and sources of information used.

The following summarizes the basis of best practice reporting – based on the criteria developed as part of the 2° invest awards:

- The entity **discloses on the portfolio exposure or investee-related climate targets that are put into context vis-à-vis the Paris Agreement**. Targets could relate to any range of climate goal outcomes and need not be aligned with the Paris Agreement. They should however – in line with the Financial Stability Board Task Force on Climate-Related Financial Disclosures (FBSB TCFD) and the French investor regulation, as well as other initiatives, comment on how they compare to a Paris Agreement outcome.
- The quantitative indicators and modelling related to the target should be based on a **robust methodology and create transparency** on the misalignment (or alignment) of the approach and the entity with the target. In case of misalignment, reporting should reflect on planned actions to remedy the misalignment – if any.
- Disclosure should extend to **all relevant asset categories and sectors / technologies** – based on the investors exposure – with an explanation of why certain asset classes were excluded or of the logic for circumscribing the disclosure to certain sectors / technologies.
- Ideally, disclosure speaks to the extent to which the metrics rely on both relevant direct and indirect activities (e.g. Scope 3 GHG emissions) associated with issuers in key sectors and flags where there may be shortfalls or ‘estimated data’.
- The analysis should be **both forward and backward looking**, allowing the assessment of both historical contribution of investees (potentially over time based on past reporting) and the (forward-looking) consistency of their plans with climate targets.
- The analysis should cover relevant **geographic granularity**, preferably based on geo-located data, thus allowing the analysis of the alignment with local, national, and global targets and policies.

The ultimate granularity of quantitative disclosure depends on the expected use case of the disclosure. Beneficiaries, clients, other investors / analysts (in the case of listed asset managers), and regulators may each seek different levels of granularity. Best practice reporting tries to align with and respond to the expected use of the disclosure.

2.4 CLIMATE-RELATED RISK REPORTING

The entity should report on the method used and results of the analysis of its exposure to climate-related risks. Climate risks refer to two dimensions:

- Physical risks, defined as exposure to physical impacts directly induced by climate change;
- Transition risk (ET), defined as the exposure to changes caused by the transition to a low-carbon economy.

Examples of possible indicators in relation to these risks include:

- *Climate-events indicators* – In the context of physical risks, to what extent investees are vulnerable to e.g. extreme weather events.
- *Resources-related indicators* - In the context of physical risks, to what extent the investees' activities are dependent on the exploitation and use of natural resources that can significantly diminish and negatively affect financial prospects.
- *Capex-related indicators* - to what extent the investees' capital expenditures will contribute to shield them from potential physical and transition risks.
- *GHG indicators* – in the context of transition risks, to what extent the GHG emissions associated with investees' activities can lead to financial stress in case of stricter and harsher environmental regulations for instance.

The best practice presented below apply to all types of indicators and methodologies and reflect the criteria of the 2° invest awards as follows:

- The method and indicator used directly **inform on the value at risk for the portfolio**, regarding both transition risks and physical risks.
- The value at risk disclosed is **based on a clearly defined adverse scenario**, precise and consistent with the investment horizon of the assets and portfolio. For example, if the value at risk is evaluated for corporate bonds, the risk described in the scenario materialize in a time frame consistent with the maturity of the bonds.
- Reporting covers the **most relevant types of impacts related to physical risks** for the investor e.g. impact of extreme weather events and sea level rise on the value of infrastructures exposed, the price of commodities, the sales in weather sensitive sectors, etc.
- **Financial analysis on physical risks** is based on micro-level data, issuer by issuer e.g. exposure of each power plant to water scarcity, sales by product to changes in weather patterns, etc.
- The analysis distinguishes and captures **most relevant types of transition risks**, based on differentiated and specific assumptions. It captures both upside and downside dimensions of scenarios e.g. policy risks related to carbon tax, energy efficiency norms, tensions of resource availability and price, litigation, etc.
- The **financial analysis on transition risk** is based on geographically explicit data (e.g. exposure of individual plants to regulatory changes), issuer by issuer, taking into account the pricing power and financial buffers of each issuer.
- The analysis covers **all climate-relevant sectors and technologies**, including both upside and downside. Exclusions are duly justified.



3. CLIMATE STRATEGY REPORTING – CASE STUDIES

3.1 OVERVIEW

Which practices were recognized? The jury recognized climate strategy reporting that directly referenced potential impact in the real economy. Although based on quantitative indicators to inform strategy, the jury recognized primarily the strategy itself and the approach implementing it rather than the indicators used to on inform the strategy.

What are the key learnings from the case studies?

- ✓ Best-practice involved **strategies that appeared consistent with the underlying objective** / investment belief associated with that strategy.
- ✓ All award winners of the 2° Invest Award highlighted **potential shortcomings and gaps in strategies**.
- ✓ Best practice made concrete reference to the **impact in the real economy** the strategy is expected to have, in particular the expected interplay between financial market decisions and issuers decisions.
- ✓ Best practice on strategy made concrete **reference to national and international climate goals**, in particular the 'well below 2°C' target defined in the Paris Agreement.

3.2 TARGET SETTING AND ENGAGEMENT IMPACT REPORTING

Case study / Example: In terms of climate strategy, on potential area recognized by the jury involved using engagement as a tool for impacting investment and production in the real economy. Actiam, a Dutch asset manager with €55.9 billion assets under management (AUM), was recognized for their reporting on engagement. Actiam’s objective is to reduce the carbon footprint of all investments by at least 25% in 2025 and at least 40% in 2040 (Fig. 1), in line with IPCC recommendations of 40%-70% carbon emissions reduction by 2050 (compared to 2010 levels). Actiam focuses on active ownership and engagement. Its “Energy Transition Policy” sets out engagement activities targeting oil and gas, utilities and mining companies. Other tools applied are carbon/green metrics used to assess environmental performance in their ESG heatmap and exclusions when no impact from engagement activities is demonstrated. Actiam reports on the impact of engagement activities: *“In 2016, proactive engagement efforts included 26 oil and gas exploration and production companies and 4 oilfield services companies... disclosures on air emissions increased, on average, from 14% to 35% between 2013 and 2016.”* Actiam is currently developing intensity pathways for the missing asset classes. In 2017, its analysis will be complemented by the results of the 2°C alignment check (See p. 13).

Pros:

- Concrete definition of potential ‘impact / contribution channel’ means reporting is not just limited to ‘exposure’ indicators, but the actual targeted impact of the investor on the transition to a low-carbon economy;

Cons / Remaining challenges:

- Lack of carbon intensity pathways for relevant asset classes (currently limited to equity);
- Use of a backward looking metrics and, therefore, the inability to capture the long-term strategy of corporates (including how any decarbonization following engagement differed from what companies had planned anyway);
- Shortcomings related to carbon footprint data (see methodological background discussion below)

FIG.1: THEORETICAL TARGETED EMISSIONS REDUCTION PATHWAY (Source: ACTIAM)

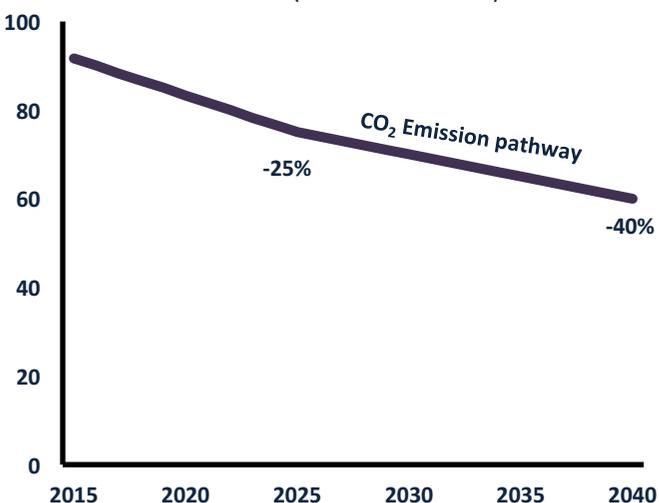
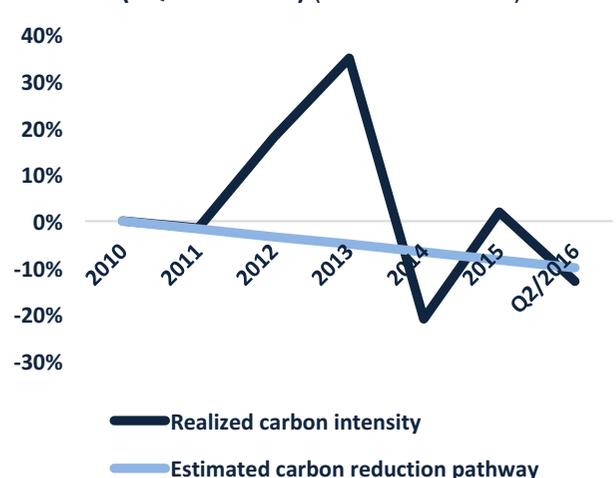


FIG.2: REALIZED VS ESTIMATED EMISSIONS REDUCTION PATHWAYS (EQUITY FUND) (Source: ACTIAM)



Methodological background: Company level carbon footprints capture the GHG emissions of the sum total company’s business. The data usually relies on company reporting (~40-50% of companies report) and third-party estimations for non-reporting companies. A range of estimation models exist for this (2°ii / UNEP-Fi / WRI 2015). The carbon footprint estimates are in almost all cases limited to direct GHG emissions and GHG emissions associated with electricity use. They do not capture GHG emissions associated with sold products and services, GHG emissions associated with investments, and supply chain emissions. The shortcomings of the indicator suggest it should not be used for stock-picking, although in this case Actiam uses the indicator for engagement. The strategy could of course also rely on other indicators highlighted in the course of this guide. Given its shortcomings, carbon footprint may not fully capture the impact of engagement (e.g. doesn’t capture ‘green’ technologies). In addition, its nature as a backward-looking indicator implies that it cannot capture the extent to which – following engagement – companies are doing something that they hadn’t already planned anyway.

3.3 ENGAGEMENT REPORTING WITH ASSET MANAGERS

Case study / Example: Impact can be considered both in terms of the real economy and impact on asset managers. The second type was recognized in the case of Local Government Super (LGS), an Australian pension fund for civil servants managing AUD 9 billion in pension savings, of which AUD 770 mill are invested in low-carbon investments across asset classes. LGS engagement activities in 2015/2106 resulted in: 10 of 19 engagements covering climate topics. 19 out of 190 engagements with industry groups dedicated to climate. When selecting and monitoring asset managers, LGS assesses their approach to climate change, ensuring their assurance to LGS’s SRI policy (incl. exclusionary policy) and monitoring the ESG and carbon performance. Portfolio audits on carbon footprint and intensity are run every 6 months (Fig. 3). Poor performance has resulted in the termination of mandates. In 2015/2016 LGS supported 22 out of 26 climate related resolutions covering scenario planning, strategy, reporting, policy risk, expertise on the board, policy and commitment and carbon reduction targets. LGS highlights the reason for not supporting one of the resolutions “...we did not support the resolution on carbon reporting and reduction targets (...) We directly engaged to understand more about their lending profile and exposure to fossil fuel intensive activities...”

Pros:

- Mandate design can drive change among asset managers;
- Engagement strategy can provide an avenue for the impact of investors on the transition to a low-carbon economy.

Cons / Remaining challenges:

- No significant challenges or obstacles were reported;
- While Local Government Super conducts portfolio carbon audit, there are a number of shortcomings with carbon footprint data (see methodological background, page 10);
- Lack of empirical evidence on engagement strategy creates a challenge in documenting impact.

FIG.3: CARBON EMISSIONS REPORTED BY MANAGERS RELATIVE TO MSCI AUSTRALIA IMI BENCHMARK (Source: LGS, based on MSCI data)

	Tonnes CO ₂ e / \$million invested ¹	Relative to benchmark	
Manager A	279.0	29.5%	Above
Manager B	47.1	-78.1%	Below
Manager C	191.1	-11.3%	Below
Manager D	448.5	108.2%	Above
Manager E	55.4	-74.3%	Below
LGS aggregate portfolio (weighted) ²	205.4	-4.6%	Below
MSCI Australia IMI ³	215.4	N/A	N/A

Methodological background: The methodological background on carbon footprinting can be found on p. 10. In terms of the methodology around engagement with asset managers, no further specific detail was provided



4. CLIMATE GOAL ALIGNMENT / CONTRIBUTION – CASE STUDIES

4.1 OVERVIEW

What was reported? There is currently only one science-based model in the market measuring climate goal alignment directly. This model was used the investor recognized in this particular category (p. 13) and investors receiving the global reporting award (p.16-17). Unfortunately, given the limitations of the model, it can only be applied to some sectors and asset classes. In response, investors also used alternative ‘proxy’ metrics to comment on climate friendliness, notably the ‘green share’ (p. #).

What are the key learnings from the case studies?

- ✓ Best practice involves the use – where possible – of **forward-looking databases**. These can be applied to listed equity and corporate bonds portfolios for key sectors (~20% of market capitalization, ~70-90% of GHG emissions). This stands in notable contrast to backward-looking indicators (e.g. historical carbon footprint, etc.).
- ✓ Best practice involved an explicit reference to previous or planned **measuring of progress** of the portfolios. In this context, it also involved an explicit reference to exposure / contribution targets associated with the reporting and policies.
- ✓ Best practice made explicit **reference to global and/or national climate objectives**, in particular the goal of limiting global warming to well below 2° C.
- ✓ Best practice involved **complementing science-based indicators with other indicators** for parts of the portfolio where science-based indicators have not been developed. As outlined above, this also involved explicit reference to the shortcomings of various metrics to inform against the objectives set by the investor.
- ✓ Challenges were identified with regard to aggregating different types of ‘green’ (e.g. rail vs. breakthrough technologies in industry vs. renewables).

4.2 ALIGNMENT OF PORTFOLIOS WITH 2°C PATHWAYS

Case study / Examples: There is only model currently in the market that measures the alignment of financial portfolios with climate goals. The model focuses on key climate-related sectors (~20% of market capitalization, ~70-80% of GHG emissions) for listed equity and corporate bonds portfolios. It was used by both overall winners of the 2° Invest awards (AXA and TPT Retirement Solutions) as well as the French supplementary pension scheme for non-tenured workers of the state and publicly-funded associations, Ircantec. Ircantec was specifically recognized for their climate goal alignment reporting (Fig. 4). The objective of the fund is to ensure their investments are aligned with a 2°C trajectory. Based on the assessment in combination with other climate assessments, the Board of Directors set climate criteria leading to the divestment of ~1% of their portfolio, provided that complementary engagement activities are not successful. The criteria are i) Energy-producing companies which energy mixed related to coal is greater than 30% or carbon intensity exceeding 500 gCO₂/Kwh; ii) Mining companies whose coal related turnover >1% of the market share; iii) Companies where turnover from coal <20% of the overall turnover. Ircantec plans to extend funds whose management is consistent with a 2° C trajectory and to develop a “values at risk” policy in 2017.

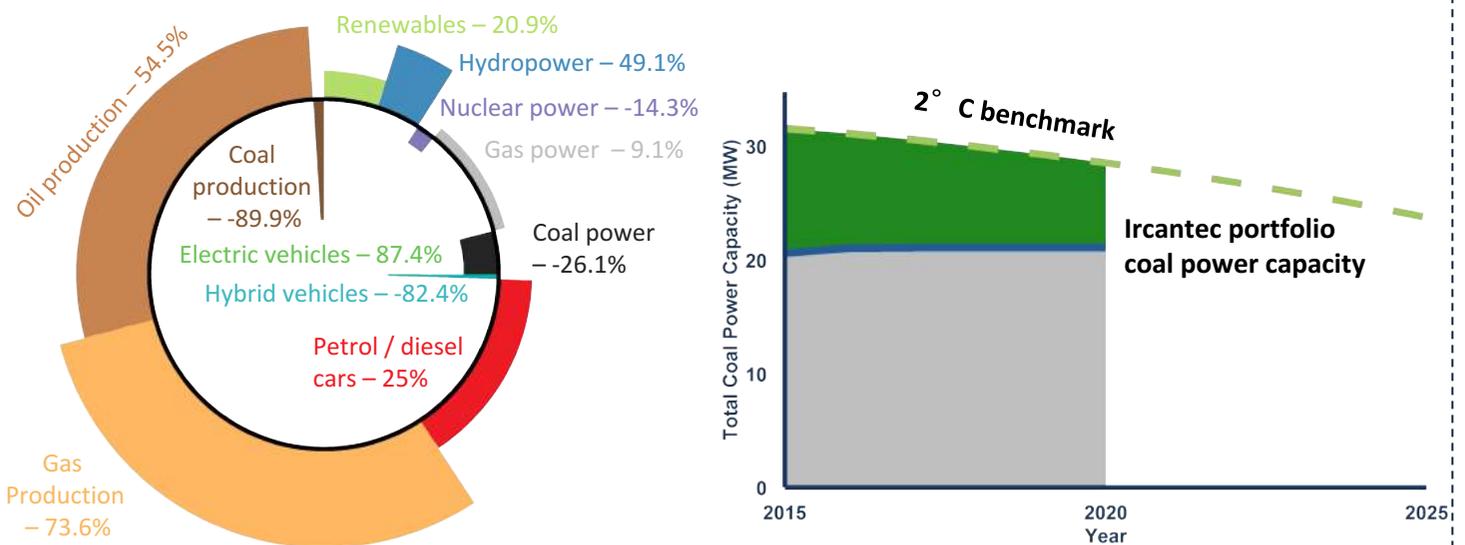
Pros:

- Forward-looking assessment of the portfolio based on current and planned assets and production of companies;
- Only science-based portfolio level methodology with direct reference to 2°C scenarios and decarbonization pathways;

Cons / Remaining challenges:

- Limited to sectors covered in 2° C decarbonization roadmaps – does not comment on climate friendliness more generally;
- Limited to corporate bonds & listed equity;
- “The models looks at technology exposure over a five year period, with many trends more long-term”
- “The model is based on the IEA 2°C scenario, which just one of a number of models that attempt to map future projects under a two degrees scenarios”

FIG.4 : 2°C ALIGNMENT OF PORTFOLIO AND EXPOSURE TO COAL-FIRED POWER 2015-2020 (Source: IRCANTEC)



Methodological background: The 2° alignment test was developed by the Sustainable Energy Investing metrics project consortium, led by the 2° Investing Initiative and funded by the EC H2020 programme. The model projects the evolution of assets, production, and investment exposure for the listed equity and corporate bonds markets under various 2° C transition pathways over a 5 year time horizon. It then compares the exposure to the quantified exposure in a financial portfolio to derive 2° C (mis-)alignment indicators that can be measured in percent, economic units (e.g. MW, barrels of oil), GHG emissions, or revenues. The model focuses on key climate-related sectors (fossil fuels, power, transport). Calculations and estimates are based on industry, physical asset databases that generally cover between 90-100% of global assets for the sector. The tool has been used by over 100 investors to date and is available as an open-source free tool for any interested user.

4.3 'GREEN SHARE' OF PORTFOLIOS

Case study / Examples: While the 2° alignment model described on the previous page is the only model currently that measures the alignment of financial portfolios with climate goals, its limitations to specific sectors and asset classes means that a number of investors also resort to other climate-related indicators – even if not strictly responding to the question of climate goal alignment – in order to inform their investment decisions and reporting for a broader universe. One notable example is the 'green share' approach, which has seen a number of data providers develop associated methodologies for. Thus, in addition to applying the 2°C alignment test, AXA used FTSE Low-Carbon Economy data to measure its exposure to companies involved in producing 'green' products and services. The data is based on FTSE's original taxonomy and data collection. Fig. 5 shows that less than 5% of the portfolio's exposure was to companies where more >10% of the production was classified as 'green' (NB: This type of metrics was also applied by some investors to report on the 'green bond' share for their corporate bonds portfolios and the 'renewable' share in their listed equity portfolio (ERAFP, see Fig. 6). No specific further steps were reported by the investors using 'green' share metrics.

Pros:

- Applicable across all sectors, technologies and fuels.
- Provides for a pathway to recognize and report on exposure to 'climate solutions'.

Cons / Remaining challenges:

- The challenge of green metrics is that aggregating this indicator at portfolio level may be misleading since it aggregates very different elements (e.g. renewables, electric vehicles, energy efficient light bulbs, etc.). Aggregated 'green' indicators can thus currently not be benchmarked to climate goals.
- Significant data gaps remain in tracking company's green share, with current data not forward-looking.

FIG.5: GREEN SHARE OF FIXED INCOME PORTFOLIO
(Source: AXA, based on FTSE Russell data)

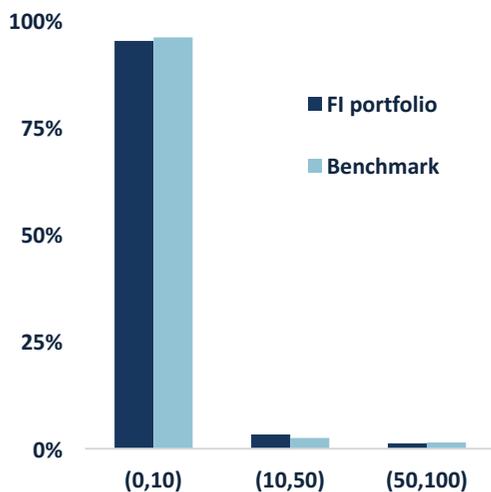
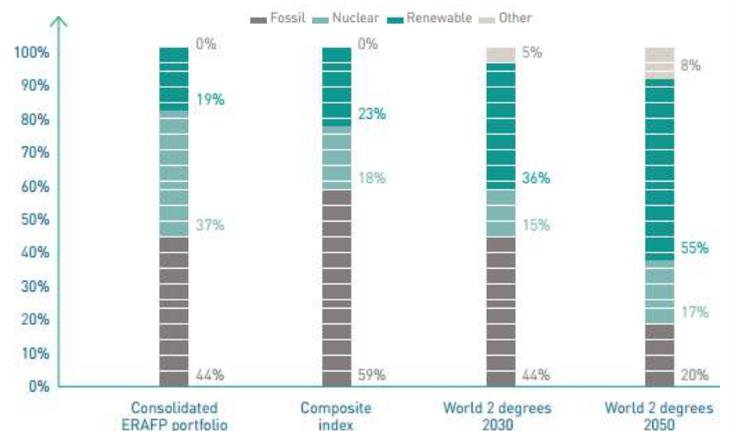


FIG.6: ENERGY MIX OF EQUITY PORTFOLIO (Source: ERAFP, based on Trucost data)



Methodological background: Green share indicators are based on taxonomies or groups that classify certain products and services of a company as 'green' based on their positive environmental / climate footprint. Providers then seek to quantify the % of total sales of a company associated with these products / services. There a range of green taxonomies in the market (e.g. Climate Bonds Initiative, FTSE Low-Carbon Economy, etc.) applied at different levels. Some focus exclusively on climate and others take a broader environmental view. Currently, there is little to no company reporting that breaks down revenues by 'green' / 'brown' and the reporting that does exist does not apply consistent taxonomies. As a result, ESG data providers that develop these taxonomies (e.g. FTSE, MSCI, Trucost) rely on a combination of company surveys, general company reporting, and estimates to derive their data. By extension, there is significant uncertainty associated with the data to date. One key challenge with 'green' share data is that it aggregates across a range of different services (e.g. renewables, train, efficient light bulbs, electric vehicles, etc.) that are largely disconnected. Aggregating green share data at portfolio level thus comes with a number of caveats.



5. CLIMATE-RELATED RISK – CASE STUDIES

5.1 OVERVIEW

What was reported? A range of investors reported on climate-related risk with a particular emphasis on transition risk. Only one of the 27 investors reported explicitly on physical risk exposure (p. 19). Transition risk assessment ranged from cross-asset level risk models involving both physical and transition risk (e.g. Mercer TRIP model, p. 17), sector level assessments using heat maps and ESG scores (p. 18), as well as reporting on company level assessments.

What are the key learnings from best practice?

- ✓ Best practice reporting provided **quantitative results as to exposure to high-risk assets and / or potential losses** under various scenarios.
- ✓ Both AXA and TPT – joint winners of the 2° invest award – used **risk assessment tools to inform climate goal alignment strategy**. TPT used Mercer’s TRIP model to test the risk implications of applying a “Best Ideas” investing strategy. AXA back-tested alternative portfolio constructions for its corporate bonds portfolio.
- ✓ Similar to climate goal alignment, best practice involved **forward-looking approaches**.
- ✓ Risk reporting involved to a significantly larger degree than ‘climate goal alignment’ reporting **bespoke metrics and models**, suggesting both higher costs and a less developed toolbox. On the other hand, this also highlighted a range of innovative approaches.

5.2 ASSET ALLOCATION RISK MODEL – MERCER TRIP MODEL

Overview: Currently there is only one top-down, cross-asset transition and physical risk model in the market. The model was used by a number of investors who applied for the award in their reporting, including TPT Retirement Solutions, one of the overall winners of the award. TPT Retirement Solutions (formerly The Pensions Trust) is a UK pension fund managing GBP 8 billion in assets with 250,000 members. TPT used the TRIP model to assess its portfolio exposure (also used by the Environment Agency Pension Fund) climate risks (Fig.7(1)). The fund articulates the findings of the model with their most material climate-risks and opportunities, namely, reduce risks in equities, quantify risks in alternatives and capture new opportunities in real assets. Based on the recommendations of the investment committee, TPT back-tested a ‘best ideas’ portfolio (Fig.7(2)) with reduced exposure to equities and higher exposure to real assets. The back-tested model shows that a lower exposure to developed market equities results in a considerable risk reduction. The fund will pursue its work on its top three climate risks and opportunities: i) To reduce climate risk in equities by increasing its active management; ii) To quantify climate risk in alternative investments; iii) To capture new opportunities in real assets.

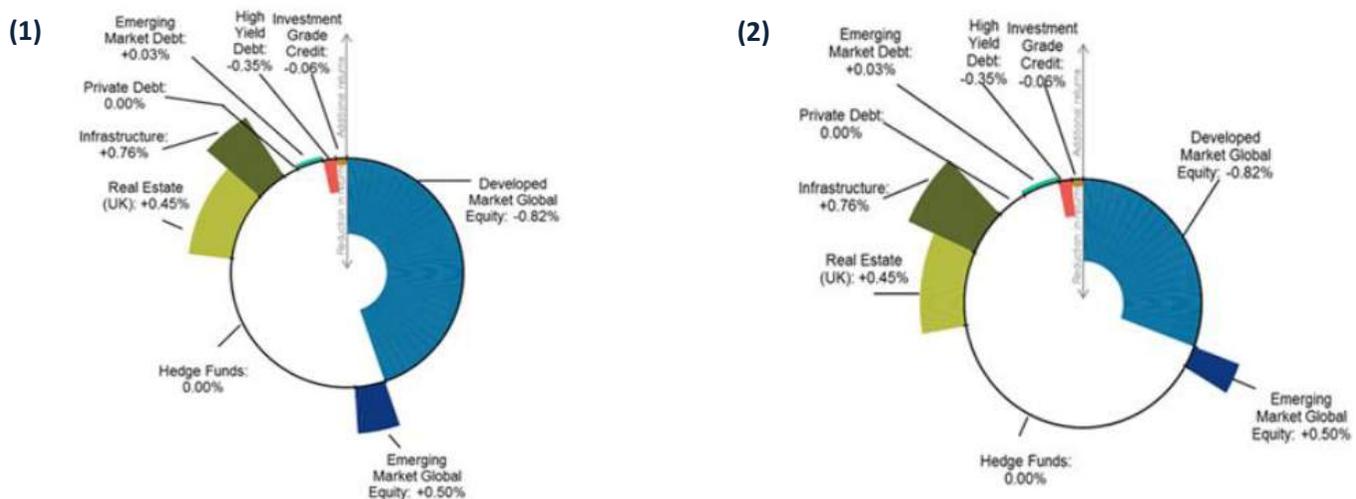
Pros:

- Only cross-asset risk tool currently available in the market;
- Allows for a range of different scenarios;
- Expanded to estimate sector level impacts

Cons / Remaining challenges:

- “Thirty percent of our portfolio is not covered by the model”;
- “The time frame within this model... is beyond the typical time frame that most investors make strategic asset allocation decisions...”
- “The top-down nature of the model may hide bottom-up risks. The model thus likely needs to be complemented by more granular analysis, asset class by asset class, to help inform strategies within asset classes”.

FIG.7: MEDIAN ANNUAL RETURN IMPACT OVER 10 YEARS FOR (1) CURRENT STRATEGY AND (2) BACK-TESTED STRATEGY (Source: TPT retirement solutions, based on Mercer’s data)



Methodological background: The Mercer TRIP model seeks to measure the exposure of a portfolio to four environmental risk factors across a range of asset classes. These risk factors are technology (T), resources (R), climate impact (I), and policies (P). The model operates at asset class level and for listed equity portfolios also provides information at sector level by modelling alternative net present values using traditional discounted cash flow models. The model provides a risk assessment across four different scenarios (Transformation, Coordination, Fragmentation – Lower Damages, Fragmentation – Higher Damages). The climate models themselves are based on integrated assessment models. The model has a time horizon of 10 to 35 years. It builds on the first assessment developed in 2010. There are over 30 investors that have used the model, including the 18 participants in the study. The methodology is proprietary with limited transparency. One key methodological challenge of the model is the fixed starting point assumption assuming current asset prices reflect a 6°C investor belief. This may not be the case in reality as fluctuating asset prices may consider and reflect different prospects for different sectors.

5.3 TRANSITION RISKS HEATMAPS & SCORES

Overview: Given the existing limitations around more bottom-up transition risk models and methods, as well as challenges around costs, one approach used by a number of investors involved a ‘heatmap’ or score reporting. A notable example recognized by the jury was the use of a Moody’s heat map for corporate bonds portfolios and scoring of investees in listed equity portfolios, both of which were used by AXA. Both approaches do not allow to obtain a financial value of value-at-risk, but are seen as best practice because they inform on exposure. The first approach (Fig. 8) uses Moody’s environmental credit risks taxonomy which scores qualitatively the exposure of 86 sectors on the materiality and timing of environmental hazards and linked regulation. The second is a bottom-up approach developed in-house to analyze investees exposure (Fig. 9). Through Moody’s taxonomy AXA identified the sectors that are most exposed to elevated risks. Their exposure to elevated risks account for €54.5 million, 1.1% of their fixed income portfolio. The in-house approach combines country and regional level data on regulation and policies, and asset-based data but the analysis is limit to qualitative exposures. The method covers coal and oil extraction, coal-fired generation utilities and the automobile sector. There was no disclosure regarding next steps.

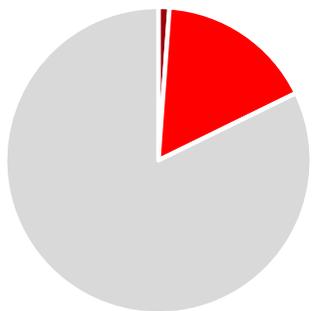
Pros:

- Heat maps are easily applicable at low cost and provide first order of magnitude of potential risk exposure;
- ESG scores can integrate a range of different factors and issues;
- Risk of downgrade estimates – while not directly value at risk indicators – can form the basis of more sophisticated risk models.

Cons / Remaining challenges:

- Doesn’t quantify value at risk;
- Moody’s heat map at sector level cannot inform on stock picking;
- AXA ESG score based on proprietary model that cannot be replicated by third parties;
- Limited to corporate bonds and listed equity portfolios.

FIG.8: EXPOSURE OF TO ENVIRONMENTAL RISKS (Source: AXA, based on Moody’s data)



- Immediate elevated risk
- Emerging elevated risk
- Emerging moderate risk
- Low risk

FIG.9: TRANSITION RISKS ASSESSMENT FOR COAL GENERATION UTILITIES (Source: AXA)

	Commitment	Energy mix	Speed of transition	Transition risk for coal
Country A	High	Diversified / focus on renewables	Fast	High
Country B	Medium	High carbon / Coal based	Medium	Medium

Power Plant	Capacity (MW)	Type	Country	Polluting Emissions	Transition risks	Risks exposure
PP1&2	2035	Subcritical	B	Medium	Low	Medium
PP3	445	Ultrasupercritic	A	Low	Medium	Low

Methodological background: The “Moody’s heat map” relies on a sector taxonomy developed by the credit ratings agency Moody’s. The sector taxonomy groups the Moody’s rated corporate bond universe into four groups based on the risk of a downgrade as a result of environmental risks (not limited to climate change). The grouping is based on Moody’s internal analysis of different sector exposure. The four groups are “Immediate elevated risk” (“already experiencing material credit implications as a result of environmental risk”), “emerging elevated risk” (“clear exposure to environmental risks that in aggregate could be material to credit quality over the medium term (three to five years), but are less likely over the next three years), “emerging moderate risk” (“clear exposure exposure to environmental risks that could be material to credit quality in the medium to long term (five or more years) for a substantial number of issuers”), and “low risk” (“no sector-wide exposure to meaningful environmental risks or, if they do, the consequences are not likely to be material to credit quality or ratings”). Moody’s clients can access the taxonomy and apply it to their own portfolio. AXA is the only known investor to have applied the heat map to date.

5.4 PHYSICAL RISK ASSESSMENT

Overview: While physical risks are also emphasized in the award guidelines and French regulation, methods and metrics are limited in particular outside of the real estate / infrastructure asset class. Thus, the only example recognized by the jury in terms of physical risk reporting involved AXA's physical risk reporting for its real assets. AXA developed an approach to analyze its real assets that covers 50% of its total collective portfolio and which seeks to quantify the financial impact of physical risks. The approach quantifies the expected losses due to the impact of climate change on investments (Fig.10). The method builds on a natural catastrophe model that analyses windstorm events, the most significant events in Europe. Geolocation of investments in assets with multiple locations is considered together with the corresponding destruction rate to determine potential damages rate (Fig.9). AXA is exploring integrating other natural catastrophes into its model, including flood risks. This could account for an increase of 30% in the annual damages- and drought risks. Additional improvements of their geocoding is expected to include building-specific information and the total insured sum to fine-tune the average destruction rates.

Pros:

- Leverages climate impact model on the 'liability' side of AXA Group's business.
- Quantifies estimated loss in a 1-in-100 year event in terms of quantitative loss figures.

Cons / Remaining challenges:

- Assumptions around climate change impacts are associated with significant uncertainty;
- For debt it is assumed that each asset is fully owned by AXA, which is generally not the case;
- Assessment limited to infrastructure and real estate.

FIG.9 : DESTRUCTION RATES DUE TO WINDSTORM EVENTS

(Source: AXA)

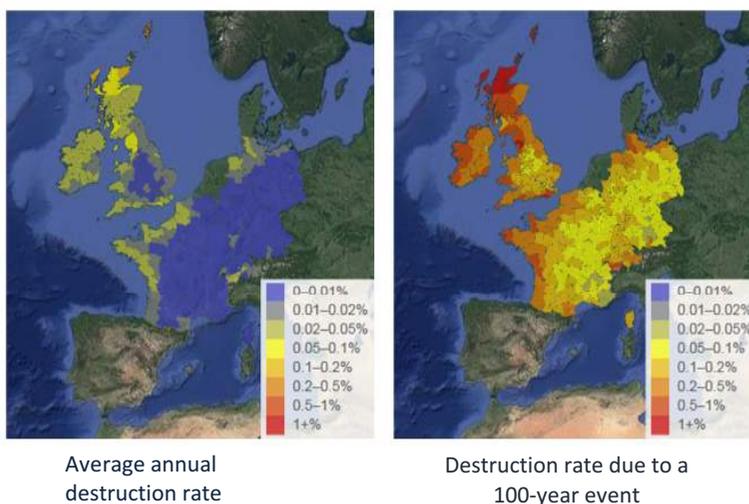


FIG.10: EXPECTED LOSS DUE TO WINDSTORM EVENTS

(M €) (Source: AXA)

	Group Infrastructure Debt	AXA France Real Estate
Total Investment	2972	12558
Total average annual loss	0,2	0,6
Cumulative annual loss over 30 years	6	18
Total loss 100-year OEP	4,7	10,5

Methodological background: The assessment can take various forms, but in the case of AXA focuses on an exposure indicator in terms of exposure to physical risks multiplied by the expected loss associated with the climate impact event. This requires developing physical risk maps either internally or sourced from third-parties. For some physical risks, open-source risk maps exist (e.g. water risk WRI Aqueduct maps, etc.). These can then be matched based on the longitude-latitude information of the assets / infrastructure to identify exposure to various or single risk events. Once the exposure to risk events is mapped, additional financial analysis is required to identify the expected loss in case of impact. In theory, this approach can also be applied to asset classes outside of infrastructure / real estate. This requires however a mobilization and identification of geolocational exposures by companies, for example in the corporate bonds or listed equity portfolios. A number of initiatives are currently looking at developing frameworks around this work (e.g. Carbone4, 2° Investing Initiative, Columbia University, etc.).



6. NEXT STEPS

This report highlighted best practice around climate reporting that can be used by financial institutions to comply with the French Art. 173 climate reporting requirements or as part of voluntary reporting commitments and objectives in other countries.

While highlighting best practice, this report should not be read as a definitive guidance or template, but rather a menu highlighting public reporting examples that can be used by other investors. In this, it is neither exhaustive in reporting options, nor final in terms of what constitutes best practice. Reporting best practice is likely to continue to evolve in the next year and some of what is currently best practice may evolve towards becoming 'general practice' and ultimately be surpassed by more sophisticated models, metrics, data, and approaches.

Models and metrics are particularly developed for listed equity and corporate bonds portfolios.

Most of the reporting submitted in the context of the 2° invest awards focused on these two asset classes. 2° C alignment assessments were applied for both of these asset classes. Similarly, risk assessment focused - with exceptions (e.g. AXA assessment of infrastructure portfolio) on these asset classes. Nevertheless, approaches like Mercer's TRIP model and South Pole Group's private equity carbon footprinting work (not covered as part of the awards) show focus is growing on other asset classes.

Key areas of further development can already be 'previewed' in current reporting frameworks. This includes notably:

- ✓ Further application of 2° C alignment assessments for corporate bonds portfolios (at this stage piloted by one investor);
- ✓ Development of physical risk assessment frameworks for a broader set of asset classes matching geolocational physical asset data and natural catastrophe models;
- ✓ Continuous improvement and use of forward-looking, asset-level data;

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ABOUT 2° INVESTING INITIATIVE

The 2° Investing Initiative [2°ii] is a multi-stakeholder think tank working to align the financial sector with 2° C climate goals. Our research work seeks to align investment processes of financial institutions with climate goals; develop the metrics and tools to measure the climate friendliness of financial institutions; and mobilize regulatory and policy incentives to shift capital to energy transition financing. The association was founded in 2012 and has offices in Paris, London, Berlin, and New York City.

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