

DECEMBER 2020

TCFD CLIMATE REPORTING IN THE FINANCIAL SECTOR

STUDY OF REPORTING
PRACTICES OF 10 FRENCH
INSTITUTIONS USING THE TASK
FORCE ON CLIMATE-RELATED
FINANCIAL DISCLOSURES
FRAMEWORK

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Introduction

The magnitude of the challenges posed by climate change, which have been studied extensively by the scientific community, highlights the importance of the efforts involved and requires an ambitious response from governments, regulators and supervisors, and the financial and non-financial sectors. Climate change poses significant risks to the economy and more broadly threatens economic financial stability. However, there are several difficulties that companies face in terms of taking ownership of these risks and integrating them into their strategies. The creation of new frameworks for analysing risks and opportunities, the assessment of communication channels in the different sectors of the economy, the availability and accessibility of data, and the strengthening of the level of climate expertise among stakeholders are all issues that are increasingly mobilising financial and non-financial companies.

It was against this backdrop that a private sector working group was established within the Financial Stability Board (FSB) in 2015, at the request of the G20. This Task Force on Climate-Related Financial Disclosures (TCFD) published recommendations in 2017 to structure the provision of clear, comparable and consistent information on the risks and opportunities presented by climate change to companies.

This voluntary reporting framework, structured around four recommendations and 11 items for publication, aims to integrate the effects of climate change into companies' strategic decisions and to provide information that is useful for the financial sector's decision-making. The aim is to be able to estimate and quantify climate risk and integrate it into investment, insurance and credit decisions. The overall objective is to allocate capital in a more informed and effective manner to facilitate the transition to a low-carbon economy. The reporting framework includes recommendations for the sectors that the Task Force identifies as the most challenging: finance, energy, transport, construction, agriculture and forestry.

After three reporting cycles for companies that published their first reports in 2018, and the gradual adoption by more than 1,500 signatory organisations (known as "supporters"), legislators, regulators and supervisors are gradually taking up the TCFD's recommendations. Their adoption is being recommended in many jurisdictions (particularly in Europe) and they are becoming mandatory in

some countries¹. A number of investors are also calling for the TCFD's recommendations to be adopted by the companies in which they invest, and the main private standard-setters have gradually aligned existing reporting frameworks with the TCFD's recommendations. The TCFD reporting approach, although focused on financial materiality², has many advantages: at the level of signatory companies, it enables them to integrate climate issues into their organisation and strategy; at the market level, it encourages the convergence of reporting practices and promotes comparability, which is still largely lacking today.

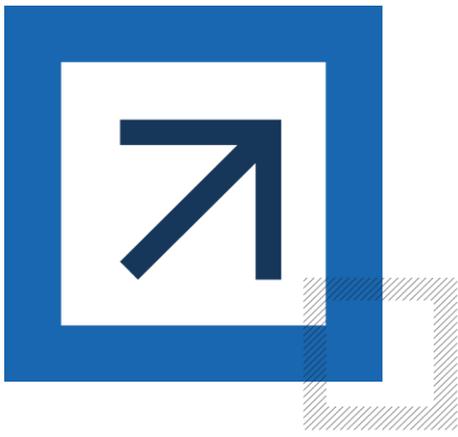
Given the complexity of the aspects to be considered, the ambitiousness of certain recommendations and the methodological difficulties that accompany them, the TCFD reporting framework provides for a gradual implementation through an iterative process of continuous improvement and learning, which is clearly illustrated in the study. This makes it all the more important to report rigorously and transparently on the progress made, but also on the difficulties that remain, the assumptions that have been made and the limitations of the analyses carried out.

It is with these considerations in mind, and consistent with the voluntary approach to supporting companies set out in its roadmap for sustainable finance, that the AMF is publishing this study on climate reporting from 10 French financial institutions. The study aims to make an initial assessment of current climate reporting practices to provide guidance in an educational manner to assist financial market participants when publishing climate information. It may also help them prepare for the forthcoming entry into force of the European Regulation on Sustainability-Related Disclosures in the Financial Sector ("Disclosures" or "SFDR" Regulation) and for a potentially more stringent regulatory framework for corporate climate reporting at the European level. This study also monitors and assesses the way in which companies respond to their voluntary commitments to transparency after signing up to the TCFD and any difficulties encountered. It thus complements the report³ prepared in conjunction with the Autorité de Contrôle Prudentiel et de Résolution (ACPR) on monitoring the climate commitments made by French financial institutions.

1. Five examples: (i) The European Commission recommends the adoption of the TCFD reporting framework in its guidelines on climate reporting published in June 2019. (ii) The same applies to the Network for Greening the Financial System (NGFS), comprising 75 central banks and supervisors. The New Zealand (iii) and UK (iv) authorities have announced that they will make TCFD reporting mandatory. (v) The publication of information aligned with the TCFD was part of the eco-conditionality criteria set by the Canadian authorities for the recovery plan announced in spring 2020 as a result of the health crisis.

2. The European Commission guidelines thus complement the TCFD by recommending the publication of information relating to socio-environmental materiality, in particular on the positive and negative impacts that the company's business activity has on the climate. The European Sustainable Finance Disclosures Regulation ("SFDR") also provides for the publication by investors and asset managers of information on "adverse sustainability impacts". In addition, the Regulation requires all financial operators to publish their policy on the inclusion of non-financial risks as of 10 March 2021.

3. ACPR/AMF, [joint report](#) on climate-related commitments of French financial institutions, December 2020.



Executive summary

The TCFD's recommendations call for reporting on the approach of financial institutions to identify, manage and address climate change factors. Beyond a mere reporting exercise, this framework implies a further evolution of practices that continues to face many challenges.

Five major lessons:

1

This is a demanding exercise but everyone agrees that it is useful. The French framework provides a solid basis for governance and risk management due to regulatory and prudential requirements supplemented by codes of practices. It also includes climate-related disclosure requirements with the non-financial information statement and Article 173. However, meeting all TCFD's recommendations, which call for in-depth changes in practices, remains challenging for financial institutions.

2

While the publication of a TCFD report helps shape a company's climate approach and raise awareness internally, the integration of climate factors into the company's overall strategy remains a challenge for the signatory companies and needs to be demonstrated independently of setting commercial objectives for "green" products.

3

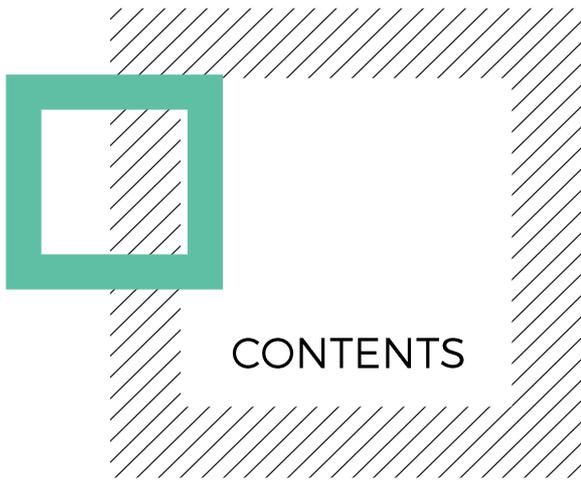
The reporting exercise is an opportunity to set out the issues to be addressed, the difficulties encountered and to initiate a process of continuous improvement for the more advanced companies. Nevertheless, the TCFD's objective of publishing information that is useful for decision-making and that facilitates understanding of the financial risk posed by climate change for a financial institution has not yet been achieved and requires to continue efforts, both at the individual level and through market initiatives.

4

Analysis of the reports reveals the wide variety of climate risk analysis and management tools that financial institutions are experimenting with. Nevertheless, these tools are still rarely integrated into the companies' risk management processes with, for example, alert thresholds or limits that could have an impact on asset allocation or financing decisions, even if the companies indicate that they want to move in this direction.

5

As in other non-financial areas, the TCFD reports analysed use a wide variety of metrics. Although the relative newness of the exercise has not yet led to any harmonisation, it has nevertheless encouraged innovation. Transparency on the approaches pursued and their limitations is a determining factor in improving the maturity of practices.



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Methodology

This study provides an **analysis of climate reporting practices** based on the recommendations of the TCFD framework for ten French financial institutions: banks, insurance companies and asset managers. The objective is twofold:

- 1 Carry out a review of practices, examining the extent to which the recommendations have been implemented and the relevance of the information published;
- 2 Analyse and contextualise these results to identify the main difficulties and support those institutions wishing to change their practices and comply with these transparency requirements.

Sample

Company selection

The companies analysed for this study were selected from the sample used for the joint AMF-ACPR report on monitoring climate commitments (46 companies comprising the largest financial market players) and that publish information aligned with the TCFD's recommendations. Companies in the AMF-ACPR sample whose parent company is not located in France were excluded.⁴ The sample for this study therefore includes 10 companies, nine of which are TCFD signatories.⁵

[Link to TCFD signatory companies](#)

The final sample therefore comprises three banks, two insurance companies and five asset management companies, covering the following business activities:

	Banking	Insurance	Asset Manager	Asset Owner
Amundi			■	
Axa	■	■	■	■
Axa IM			■	
BNP Paribas	■	■	■	■
Crédit Agricole S.A.	■	■	■	■
La Banque Postale AM			■	
LYXOR			■	
OFI AM			■	
SCOR SE		■	■	■
Société Générale	■	■	■	■
TOTAL	4	5	10	5

Sources studied

The analysis focuses on the reports published by these companies and containing information in accordance with the TCFD's recommendations. These reports were published in 2020 and cover the financial year 2019. The following documents were studied: non-financial information statements ("NFIS"), universal registration documents, documents known as "Article 173" reports, and other standalone reports (TCFD Report, Climate Report, PRI Transparency Report, Responsible Investment Report, etc.). For the remainder of this study, these documents are referred to as the "TCFD report".

4. Allianz Holding France, Aviva Investors France, Generali France, HSBC, HSBC Global AM France and Swiss Life Asset Managers France.

5. The SCOR SE group publishes a report aligned with the TCFD's recommendations but is not a TCFD signatory. A total of 67 French companies have signed up to the TCFD to date, including 39 financial institutions.

Methodology

Analytical Method

Recommendations studied

To be able to analyse the reports in detail, all the TCFD's recommendations were considered with the finest level of granularity. The four TCFD pillars cover 11 recommendations, which are further broken down into 35 sub-recommendations. The TCFD also includes specific recommendations for four financial sector activities: insurance, banking, asset managers and institutional investors. All 49 items defined by the TCFD for the financial sector were analysed.

- These 11 general recommendations and sector-specific recommendations are presented on [page 7](#).

Rating criteria

Each of these 49 items was given a rating using a three-level scale, with Level 1 being the weakest and Level 3 designating best practice. The rating is based on the extent to which the information disclosed complies with the TCFD's recommendation, using five of the seven principles defined by the TCFD and summarised below:

Figure 3

Principles for Effective Disclosures

- 1 Disclosures should represent relevant information
- 2 Disclosures should be specific and complete
- 3 Disclosures should be clear, balanced, and understandable
- 4 Disclosures should be consistent over time
- 5 Disclosures should be comparable among companies within a sector, industry, or portfolio
- 6 Disclosures should be reliable, verifiable, and objective
- 7 Disclosures should be provided on a timely basis

Figure 1: Principles for Effective Disclosure, TCFD Report, 2017

To make Principle 1 objective, a literature review was conducted to identify relevant information, which included the European Commission's guidelines on the publication of climate-related information, the ACPR report on the governance and management of climate risks by banking institutions, published in spring 2020, the criteria used for the International Climate Awards, the Climate Transparency Hub⁶ (CTH) developed by ADEME, the clarifications provided by the TCFD in its 2020 Status Report published at the end of October 2020, and related documentation, including information on its online platform (TCFD Learning Hub).

Principles 4 and 7 in [Figure 1](#) have not been taken into account, as only the 2020 reports have been analysed. Principle 5 is addressed in [Appendix 1](#) with the identification of the metrics published. Where information is missing or the report indicates that the recommendation is not being implemented, no rating is given. The three levels correspond to the following information:

Level 1 ■	<ul style="list-style-type: none">• Generic information and information with limited detail• Information only partially covering the recommendation
Level 2 ■	<ul style="list-style-type: none">• Complete and qualitative information according to the criteria set out in Figure 1
Level 3 ■	<ul style="list-style-type: none">• Good practices identified in the reports studied in the course of the analysis• Practices consistent with the recommendations: ACPR, TCFD Learning Hub, CTH, European Commission guidelines

Figure 2: Rating criteria

This three-level rating is supplemented by a measure of how well the sample covers the recommendations, calculated as follows: [number of companies covering the recommendation, rated 1, 2 or 3] / [number of companies affected by the recommendation].⁷

Qualitative interviews conducted

Lastly, nine interviews were conducted: seven with companies in the sample and three with members of the Task Force, one of the companies interviewed also being a member of the Task Force. These interviews, during which the themes in the second part of this study were presented, were particularly useful in identifying the difficulties encountered in the process of analysing climate risks to produce a TCFD report.

6. The CTH is part of the European Finance ClimAct project. It is a tool for identifying, monitoring and promoting the best climate reporting practices among French financial institutions. From January 2021, it will take the form of a digital platform on which reports will be analysed according to a grid defined by ADEME.

7. For the sector-specific recommendations applicable to banks and insurance companies, the number of companies affected is 4 and 5 respectively.

Methodology

Overview of All TCFD Recommendations

“All sector” recommendations

Governance	Strategy	Risk Management	Metrics and Targets
Disclose the organization’s governance around climate-related risks and opportunities.	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning where such information is material.	Disclose how the organization identifies, assesses, and manages climate-related risks.	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.
Recommended Disclosures	Recommended Disclosures	Recommended Disclosures	Recommended Disclosures
<p>a) Describe the board’s oversight of climate-related risks and opportunities.</p> <p>b) Describe management’s role in assessing and managing climate-related risks and opportunities.</p>	<p>a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.</p> <p>b) Describe the impact of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning.</p> <p>c) Describe the resilience of the organization’s strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.</p>	<p>a) Describe the organization’s processes for identifying and assessing climate-related risks.</p> <p>b) Describe the organization’s processes for managing climate-related risks.</p> <p>c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization’s overall risk management.</p>	<p>a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.</p> <p>b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.</p> <p>c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.</p>

Source: TCFD, Report 2017

Sector-specific recommendations by pillar

The sector-specific recommendations cover the Strategy, Risk Management, and Metrics and Targets pillars.

Industries and Groups	Governance		Strategy			Risk Management			Metrics and Targets		
	a)	b)	a)	b)	c)	a)	b)	c)	a)	b)	c)
Financial	Banks		■			■			■		
	Insurance Companies			■	■	■	■		■		
	Asset Owners			■	■	■	■		■	■	
	Asset Managers			■			■	■	■	■	

Source: TCFD, Report 2017

1

Climate Reporting: How have the TCFD's recommendations been implemented?

In this chapter:

Governance

Risk Management

Strategy

Metrics and Targets

For each pillar defined by the TCFD, five points are detailed:

➤ Why the recommendations are important

This box is used to describe the key points.

➤ Finding and quantitative study

To provide an overall assessment. For each of the 49 items comprising the TCFD's recommendations, two data points are presented: **The coverage rate** (number of companies publishing information relevant to the recommendation) and a **rating** using a three-level scale indicating the extent to which the information published meets the recommendation.

➤ Qualitative analysis

To understand these results. This data is put into perspective with a detailed analysis of the figures, exploring the reasons for the differences in rating and pointing out the remaining issues to be addressed in the recommendations.

➤ Moving forward

Based on the main difficulties identified, the AMF proposes the guidance to improve coverage of the key issues in the recommendations analysed.

➤ Examples of good practices

At the end of each section, to share good practices, several excerpts from publications addressing all or part of a TCFD recommendation are presented.

Key Points

The recommendations relating to Risk Management are those covered the most by the companies studied. This reflects the efforts currently being made by the companies in the sample to develop tools for analysing and managing climate risk, although these are not yet very mature and are still largely used for reporting purposes. This point is also illustrated by the fact that the Strategy pillar is the pillar least covered in terms of both quantity and quality. This pillar, at the heart of the issues raised by the TCFD, presents not only the most challenges, but also the most difficulties in implementing a practice to the level expected by the TCFD.

The more advanced companies are using this reporting exercise as an internal and external teaching tool to report on the exploratory work still being carried out and to describe the challenges encountered and the level of achievement attained.

The main challenges encountered by the companies, particularly in scenario analysis, continue to be the availability and reliability of the data to be used in climate analyses, and also the low level of effectiveness of the methodologies currently available, which is a source of internal obstacles. Further methodological work is therefore required. Several actors have made commitments in this area through their contributions to international or local initiatives, including as part of the climate pilot exercise conducted by ACPR with a sample of French banks and insurance companies.

Improved linking of information between the different pillars is also called for in most of the publications. This will demonstrate more convincingly how the climate analyses presented feeds into the overall strategy, the company's structural decisions and, ultimately, the way in which it conducts its day-to-day business.

1

Governance

Disclose the organisation's governance around climate-related risks and opportunities.

Dashboard

Coverage

Rating

n = 10

Level 1

Level 2

Level 3

Ga

Describe the board's oversight of climate-related risks and opportunities.

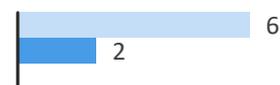
G_a1 - Processes and frequency by which the board and/or board committees are informed about climate-related issues.

80%



G_a2 - Whether the board and/or board committees consider climate-related issues when reviewing and guiding strategy, major plans of action, risk management policies, etc.

80%



G_a3 - How the board monitors and oversees progress against goals and targets for addressing climate-related issues.

50%



Gb

Describe management's role in assessing and managing risks and opportunities.

G_b1 - Whether the organisation has assigned climate-related responsibilities to management-level positions or committees and, if so, whether such management positions or committees report to the board and whether those responsibilities include assessing and/or managing climate-related issues.

100%



G_b2 - Description of the associated organisational structure(s).

100%



G_b3 - Processes by which management is informed about climate-related issues.

100%



Why these recommendations are important

To understand the **specific level of oversight** by executive management: how are the main strategic guidelines set, what are the decision-making mechanisms, how do they cascade throughout the organisation, what topics are discussed at the highest level and what conclusions are reached?

Governance

Findings

- Recommendations covered by a large number of companies. All the companies studied describe, with varying levels of detail, their governance of climate issues. Eight out of the ten companies mention one or more management committees in charge of climate issues, and six out of the ten mention board committees.
- However, further efforts are needed on transparency relating to the board of directors' oversight. These recommendations (**Ga**) are covered to a lesser extent than those on management responsibility (**Gb**) and less satisfactorily, with more generic or partial information.
- Climate is addressed at executive management level, which also addresses other non-financial issues. While placing responsibility at this level seems logical, in terms of the way in which climate is specifically covered by the system of committees described, the climate-related questions raised are only addressed by the more advanced organisations. At the operational level, various functions are integrated, to varying degrees depending on the maturity of the company (e.g. front officers or risk function).
- The climate expertise on the board of directors is only presented by one company, which explains how certain members are qualified by citing their past or current professional experience.
- In particular, there is a notable lack of transparency in the way in which climate issues are addressed by the board of directors for most of the companies in the sample: Are they regularly discussed during the board's regular meetings or are they addressed on the fringes, on a more ad hoc basis? Registration documents set out the main areas of the board's work. Climate-related topics are not included in any report.

- Furthermore, the companies studied provide a better description of the bottom-up processes, i.e. information fed back to executive management (**Ga1, Gb1, Gb3**) than of the top-down processes (**Ga2, Ga3**), which reflect the board of directors' decision-making.

Analyses

Governance, a topic that is already extensively covered by regulations and marketplace work

- Recommendations on governance are often the first to be taken into consideration: the process of integrating climate risks and opportunities starts with defining how the subject will be managed. This topic is therefore well covered, regardless of the organisations' maturity level. However, the degree of oversight of a company's most senior executives, particularly the board of directors, differentiates those organisations most advanced in this area.
- The high degree of alignment of companies with these recommendations is also attributable to the existence of numerous guidelines on governance in France, including the AFEP-MEDEF code, to which several companies in the sample explicitly refer in their registration documents, and to the AMF's reports on governance.

Governance

Transparency issues concerning the board of directors' oversight

- The lack of transparency on the **Ga** recommendations (oversight of the board of directors) compared to those relating to management's role can be explained in particular by the low level of information given on the interaction between the different entities of the same group. Several groups describe governance at the level of the consolidating parent entity, without explaining the interactions with the rest of the group. The governance patterns of the child entities are juxtaposed later in the report, making it impossible to understand how this governance is deployed.
- Understanding how the board of directors integrates climate risks and opportunities when exercising its oversight functions illustrates and ensures the integration of these issues into the overall strategy. The notable lack of transparency on this point (in particular, for the **Ga2** recommendation) is a sign that companies are currently struggling to fully integrate climate issues, which are still only partially addressed, either as part of the CSR strategy or as a topic in their annual reporting.



Moving forward

- In describing the system of committees in place, distinguish climate from other ESG factors.
- Specify the number of board meetings at which climate was discussed and indicate the subject matter covered.
- Explain how the board oversees climate issues, including the metrics monitored, frequency and corrective actions taken.
- Describe the level of expertise of the members of the board of directors on climate issues.
- Specify, if applicable, (i) how the compensation policy integrates climate-related performance, (ii) the objectives set and how they derive from the climate strategy and (iii) the conditions for awarding such compensation.

As a reminder, the European Sustainable Finance Disclosures Regulation (SFDR)⁸ provides for the disclosure of information on how remuneration policies have been adjusted to integrate sustainability risks (Article 4).

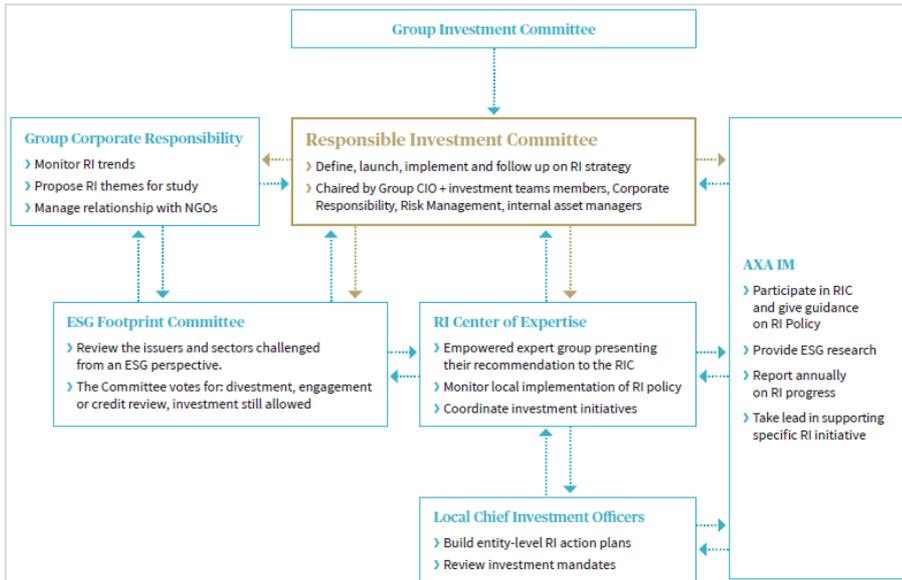
⁸. Regulation (EU) 2019/2088 of the European Parliament and of the Council of 27 November 2019 on sustainability-related disclosures in the financial services sector (SFDR).



Nº 1

A detailed presentation of management and operational responsibilities

- This summary diagram presents the main responsibilities of each of these committees or functions, which then describe in writing the main expectations of the recommendation. The functional links between these committees are explained.



Source: AXA, Climate Report 2020, p. 8

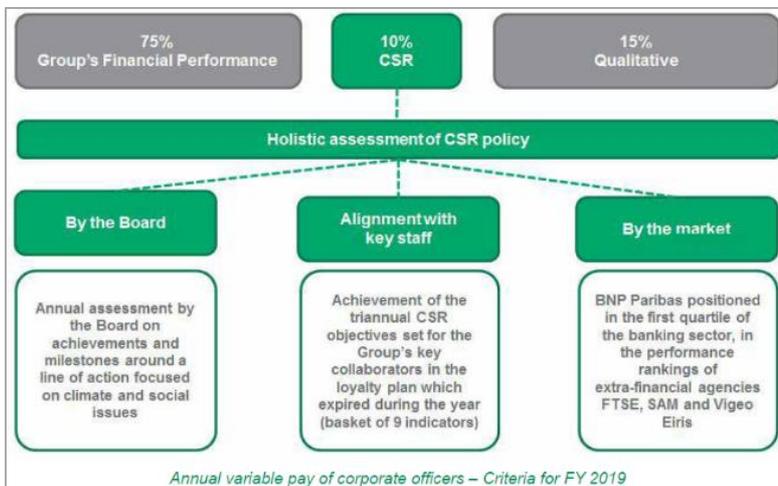


Nº 2

Detailed presentation of non-financial criteria, including climate criteria in compensation

This diagram presents the different pillars of the variable compensation of the bank's executive management team. The registration document includes a description of the mechanism for releasing the compensation and specifying the extent to which these criteria have been met for the financial year in question.

- The results of the qualitative assessment carried out by the Board of Directors are explained.
- However, the method used to determine these criteria and their consistency with the company's climate strategy are not explained.



Source: BNP Paribas, 2019 Universal Registration Document, p. 49

ASSESSMENT OF QUALITATIVE CRITERION FOR 2019 BY THE BOARD OF DIRECTORS

In performing the qualitative assessment, the Board of directors found that this criterion was met in 2019, based on the key social and climate-related events of the year. In particular, the Board noted the following achievements in the ecological and energy transition category:

- BNP Paribas is the No. 1 European bank for sustainable development in the Global 100 Most Sustainable Corporations ranking;
- The Bank announced that, by 2030, it will no longer finance companies whose main business is associated with the unconventional hydrocarbons sector and will discontinue funding of any projects in the coal industry by 2030 in the European Union (this criterion has been extended to the OECD in 2020) and by 2040 in the rest of the world.
- It also raised its funding target for the renewable energy sector.



Details on the operational organisation

This table helps the reader to understand the human resources allocated to the analysis of climate risks and opportunities. It also helps to illustrate and contextualise what the company says about building climate expertise.

N° 3

Table 2: Count of roles of people involved in the strategic CSR transformation (not FTE)

Department	Role & responsibility	2018	2019
CSR department	Defining strategy & policies	18	20
Dedicated wholesale sustainable finance (LoD1)	Sustainable finance offering	20	36
Risk & compliance department (LoD2)	Management of climate-related risks	10	18
CSR correspondents deployed in other BU & SU	Deployment of CSR strategy	21	24
TOTAL		69	98

Source: Société Générale, 2020 Climate Disclosure Report, p. 20



Tentative steps towards referring to the board of directors' expertise on climate change?

Although the expertise of members of the board of directors on climate issues is not specifically stated in the reports analysed, several companies describe the non-financial expertise of certain directors to varying degrees of detail in the section dedicated to board members' qualifications in their registration documents. The board of directors' expertise determines its ability to understand the extent of the changes required to achieve the objectives set by the Paris Agreement and to exercise its oversight role on climate matters and the management required in this area.

N° 4

Grille indicative de référence relative à l'équilibre souhaité des compétences individuelles nécessaires à la compétence collective du Conseil d'administration

	> 50 % ⁽¹⁾	Entre 30 et 50 % ⁽¹⁾	De 10 à 30 % ⁽¹⁾
12) Connaissance dans les domaines de la Responsabilité Sociale et Environnementale			√

Source: Crédit Agricole SA, 2019 Universal Registration Document, p. 118

Administrateur	Age	Sexe	Nationalité	Domaines d'expertise	Terme du mandat
Pierre André de CHALENDAR	61	M	Française	Industriel International RSE	2021
Monique COHEN	63	F	Française	Banque/Finance Marché des affaires RSE	2020
Rajna GIBSON-BRANDON	57	F	Suisse	Marchés financiers Risques/Suivi de la réglementation RSE	2021
Marion GUILLOU	65	F	Française	Risques/Suivi de la réglementation RSE Technologie	2022

Source: BNP Paribas, 2019 Universal Registration Document, p. 49

2

Strategy

Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning where such information is material.

Dashboard

Coverage

Rating

n = 10

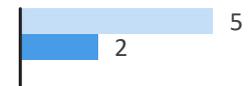
Level 1 Level 2 Level 3

Sa

Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.

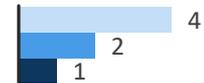
Sa1 - A description of what they consider to be the relevant short-, medium-, and long-term time horizons, taking into consideration the useful life of the organisation's assets or infrastructure and the fact that climate-related issues often manifest themselves over the medium and longer terms.

70%



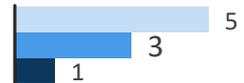
Sa2 - A description of the specific climate-related issues for each time horizon (short, medium, and long term) that could have a material financial impact on the organisation.

70%



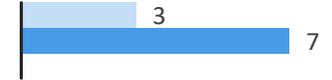
Sa3 - Organisations should consider providing a description of their risks and opportunities by sector and/or geography, as appropriate.

90%



Sb1 - Organisations should consider including the impact on their businesses and strategy in the following areas: products and services; Supply chain and/or value chain; Adaptation and mitigation activities; Investment in research and development; Operations (including types of operations and location of facilities).

100%



Sb

Describe the impact of Climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.

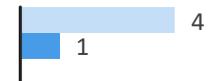
Sb2 - Organisations should describe how climate-related issues serve as an input to their financial planning process, the time period(s) used.

10%



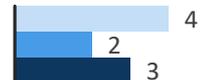
Sb3 - Organisations' disclosures should reflect a holistic picture of the interdependencies among the factors that affect their ability to create value over time. Organisations should also consider including in their disclosures the impact on financial planning in the following areas: Operating costs and revenues; Capital expenditures and capital allocation; Acquisitions or divestments; Access to capital.

50%



Sb4 - If climate-related scenarios were used to inform the organisation's strategy and financial planning, such scenarios should be described.

90%

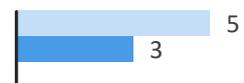


Sc

Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

Sc1 - Organisations should describe how resilient their strategies are to climate-related risks and opportunities, taking into consideration a transition to a lower-carbon economy consistent with a 2°C or lower scenario:
 - where they believe their strategies may be affected by climate-related risks and opportunities? how their strategies might change to address such potential risks and opportunities? the climate-related scenarios and associated time horizon(s) considered.

80%



Strategy

Sector-specific Recommendations

Insurance

Coverage

Rating

Level 1 Level 2 Level 3

$S_{insurance1}$ - Insurance companies should describe the potential impacts of climate-related risks and opportunities, as well as provide supporting quantitative information

80%

n = 5



$S_{insurance2}$ - Insurance companies that perform climate-related scenario analysis on their underwriting activities should provide the following information:

- description of the climate-related scenarios used, including the critical input parameters, assumptions and considerations, and analytical choices. In addition to a 2°C scenario, insurance companies with substantial exposure to weather-related perils should consider using a greater than 2°C scenario to account for physical effects of climate change;
- time frames used for the climate-related scenarios, including short-, medium-, and long-term milestones.

40%

n = 5

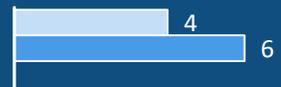


Asset Management

$S_{o/m1}$ - Asset owners/managers should describe how climate-related risks and opportunities are factored into relevant investment strategies. This could be described from the perspective of the total fund or investment strategy or individual investment strategies for various asset classes.

100%

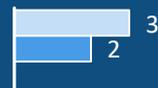
n = 10



S_{owner2} - Asset owners that perform scenario analysis should consider providing a discussion of how climate-related scenarios are used, such as to inform investments in specific assets.

100%

n = 5

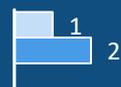


Banking

S_{bank1} - Banks should describe significant concentrations of credit exposure to carbon-related assets.

75%

n = 4



Strategy

Why these recommendations are important

This is the central pillar of the TCFD's recommendations. These recommendations help to demonstrate to the reader how a company integrates the climate risks and opportunities it has analysed into its strategic decision-making processes. The aim of these recommendations is to initiate reflection on:

- an assessment of the main risks and opportunities to help the reader estimate a company's exposure;
- the response provided by the company to meet these challenges, particularly in relation to structural decisions (financial planning, strategy adjustment, development plans).

Findings

Identification of risks and opportunities

- Few companies describe specifically the short-, medium- and long-term time horizons and justify their relevance to their business activities (**Sa1**). As a result, the majority of companies are rated at Level 1.
- Furthermore, the risks identified by time horizon, sector or geographical area (**Sa2, Sa3**) are often described in a theoretical manner. The definitions of transition risks and physical risks indicated by the TCFD are taken up, but they are rarely adapted to the specific characteristics of the companies' different business activities at a detailed level. For example, the climate risks of clients in the carbon-intensive sectors are generally described, but the communication channel between the client, when a climate risk affecting them occurs, and the financial institution is very rarely described and, when it is, it is only described superficially.
- It is essential to understand the processes for identifying and assessing risks and opportunities to be able to interpret published information: How is the materiality of identified risks assessed? How often is this done? Is there a common analytical framework for all types of risks? However, consistency between the description of risk identification and assessment tools (the A recommendations in the [Risk Management pillar](#)) and the main risks and opportunities (recommendations in the Strategy pillar) still needs to be strengthened for the most part. For example, several companies describe climate risks without providing a way to assess how they were determined. A summary table comparing this information can improve consistency and readability (see [Good Practice no. 5](#)).

Implications for organisations' strategy

- Recommendation **Sb1** (description of the impact of climate factors on organisations' businesses and strategy) provides an indication of a company's response to physical, transition and climate risks and opportunities. The high coverage levels and ratings are mainly due to:
 - (i) the fact that the recommendation addresses the subject of the company's locations; the analysis of physical risk on company premises is thus often addressed;
 - (ii) the large volume of information on the products and services developed: range of investments, types of insurance policies, etc.; this relates to how opportunities are addressed, as these "green" products often fulfil commitments made by French financial institutions on levels of "green" financing/investment⁹ ;
 - (iii) the fact that some companies also provide information on the research work undertaken, for example on new risk analysis tools, considered here as R&D.
- The lack of information linking risk analysis to strategy is also particularly evident in the recommendations relating to strategic planning, the results of which are rather weak (**Sb2, Sb3**). The challenge for organisations is to explain how the development of strategic and investment plans and the budgeting exercise take climate factors into account. Processes (**Sb2**) and results (**Sb3**) are covered here. However, very few organisations address these topics, which are at the heart of the TCFD's overall institutional strategy and recommendations.

9. See [ACPR/AMF report](#) on the monitoring of the climate commitments made by financial operators in the financial centre, December 2020.

Strategy

Scenario analysis and strategy

- Most of the financial institutions use scenarios, but with widely varying levels of detail on:
 - how the scenarios are built and their assumptions;
 - the reasons for the choice of scenario(s);
 - their actual end use, in particular how they are taken into account in the strategy. The organisations that demonstrated transparency on these three aspects, whether they made advanced or exploratory use of these scenarios, obtained the best scores (**Sb4, Sc1**).
- In addition, there is a considerable diversity in the scenarios used. The reports indistinctly mix different types of scenarios: climate models, scenarios of the representative concentration pathway (RCP) defined by the Intergovernmental Panel on Climate Change (IPCC), or transition scenarios. Differences and complementary aspects are presented only by the more advanced companies. The most commonly cited are the IPCC RCPs and the transition scenarios of the International Energy Agency (IEA) specific to the energy sector. The IEA transition scenarios have emerged as benchmarks and have been widely adopted at the global level.
- A relatively large number of financial institutions offer a reflection on the level of resilience of their business activities during a transition to a low-carbon economy (**Sc1**), but these analyses, very often exploratory (using forecasting tools still under development), cover only part of their business activities or are presented at too generic a level, including with regard to the current limitations that may be encountered in this tricky exercise.
- In particular, these analyses cover investment business activities (asset management, **S_{owner}2**) much more than insurance (**S_{insurance}2**) or banking (**S_{bank}1**) business activities.
- Three asset owners indicate that they consider the ESG capabilities of asset managers in their selection criteria and in the supervision of these third parties by their investment departments.

The climate issue is not explicitly singled out. The lower scores were obtained by the diversified groups, for which the distinction between the internal asset manager and the institutional investor is generally not detailed. Only one company clearly makes these distinctions. As a result, no asset owner addresses the question of discretionary mandates and any climate-related criteria that may be included in them.

Analyses

Risk analysis reporting with limited granularity

- The description of risks (**Sa3**) does not address geographical distribution in much detail and is more often dealt with only by sector. The description of transition and physical risks in financing, investment or insurance activities by geography is most often partial – one or two examples are described – or at a generic level illustrated with maps that are not easy to read but which do provide evidence of internal work. In fact, the insurance business activities for which these geographical breakdowns are particularly useful are under-represented in the reports analysed, with some major groups not providing detailed information in this area.
- Transparency on the processes and tools used to identify and assess the main risk factors and opportunities for the organisation is essential to assess the robustness of the information published and to be able to interpret the results. For example, some organisations explain that they have set up different analysis processes for each type of risk (teams involved, analysis frequency, or tools used). It is interesting to understand how these analyses are consolidated at the company level and how the teams work in coordination on this more general reporting exercise.

Strategy

Consideration of climate factors in companies' structural decisions is still superficial

- The findings on the lack of information linking the identified climate risks and opportunities, their impact on strategy and their implications for business highlight a more general problem: the lack of connectivity between financial and non-financial climate information. This connectivity, which is the ultimate goal of the TCFD, is constrained by the tools currently available to companies. The lack of robustness noted by all companies in the sample does not encourage organisations to fully consider these results. This analytical framework, which is still being strengthened, can sometimes give rise to internal misgivings about this type of forward-looking reflection to 2050, or present difficulties in publishing these analyses.

➤ *More details on this topic can be found in Part II [Theme 2 on Scenario Analysis](#).*

- During this adoption and learning phase, some organisations prefer to report on more factual information such as the financial products developed to contribute to and capture opportunities related to the transition. This partly explains why the link between risk/opportunity identification and strategy is more often made in relation to strategy, although it could be better articulated. Information on opportunities is often limited to the commercial effort required for a given amount of “green” products, without the reader being able to understand the desired goal, the level of effort involved and the link with the forward-looking analyses that may have been carried out.

Scenario analysis and resilience

Analysis of the use of scenarios is covered in a specific section (see [Theme 2 on Scenario Analysis](#)).



Moving forward

- Adapt the table¹⁰ of risks, opportunities and impacts proposed by the TCFD to the specific characteristics of the companies' activities and business model, in relation to their exposure by geography and sector.
- Clarify the consistency of these risks and opportunities with the processes described in the Risk Management pillar.
- Scenario analysis and especially forward-looking studies on business model resilience are based on methodologies that today are still under development, with considerable uncertainty surrounding the results. It is therefore essential to be transparent about the limitations of these analyses, and even more so, about their actual use in relation to strategic decisions.

¹⁰ The TCFD provides companies with a table of risks and opportunities: <https://www.tcfhub.org/Downloads/pdfs/E08%20-%20Table%201%20&%202.pdf>



A summary table presenting the risks and opportunities, their impacts and the analysis process

To visually compare the risks and opportunities with their impacts on the business activities, processes and tools developed to carry out these analyses, it may be useful to publish a summary table including, for example, the following information, corresponding to various TCFD recommendations:

Risks and opportunities	Range of activity covered (entity in question, specifying share of revenue, share of assets under management, etc.)	Relevant time horizon(s)	Impacts on business activity (description, possibly prioritisation)	Analysis process (tools and teams involved, frequency)
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Such a table must be accompanied by comments explaining the choice of time horizons, detailing the analysis processes mentioned or justifying the scope of application. This table helps to create consistency in the TCFD report and significantly improves the readability of the information published.

Several institutions provide similar tables: BNP, SCOR and Société Générale. The risk communication channels, however, are not detailed. Some also provide a “risk management” column, which can be very useful in establishing the linkage with the recommendations for the Risk Management pillar.

Nº 5

Example 1:

	Short term (below 2 years)	Medium term (2 to 5 years)	Long term (above 5 years)	SCOR answer
PHYSICAL RISK				
In investments, physical risk relates to exposures to climate-related extreme events (acute) or to global trends due to climate change (chronic)				
Acute	Directly: related to investments in Insurance-Linked Securities			Strong monitoring of positions Allocation to ILS assets in the strategic plan within the Group risk appetite
	Directly: related to investments in physical assets (buildings and real estate debt, infrastructure debt)			Assessment of climate risk performed internally using property cat models
	Indirectly: related to corporate exposures Companies in which SCOR invests may suffer from climate-related extreme events depending on their geographical locations			Portfolio monitoring: preliminary risk assessment using 2 nd tools

Source: SCOR SE, 2019 Sustainable Investment Report, p. 15

Example 2:

Risk	Risk factor	Portfolio covered	Identification & assessment	Management
Transition	Reputational	Corporates loan book	Based on normative standard (E&S policies)	Mitigation action
		Corporates loan book	Based on scenario analysis (Climate Vulnerability Indicator)	Client engagement on climate strategy
Physical	Credit	Sovereign loan book	Under development	-
		Corporates loan book		
		Retail loan book		
	Operational	Own operations	Part of operational risk framework	Mitigation action

Source: Société Générale, 2020 Climate Disclosure Report, p. 29

Example 3:

Consistency between identified risks, time horizons and risk identification processes (metrics).

Regulatory and legal risks and opportunities	
Definition	Firstly, they can be linked to a change in policies, for example the implementation of a carbon price or more stringent product regulations. They can relate to either attenuation policies aiming to regulate activities contributing to global warming, or mitigation policies aiming to foster adaptation. Secondly, they can result from increased grievances and disputes due to the rise in casualties and damages caused by climate change. In France, the petition initiated by the “Affaire du Siècle” collective seeking to punish the French government’s inertia in its setting of GHG emissions reduction targets is estimated to have gathered more than 2 million signatures ⁽⁹⁾ . Because as yet it does not have any legal force, the intention is to establish legal case history on climate change.
Measure	LYXOR is using the estimated percentage of operations in geographies facing high carbon regulatory risks in order to measure its portfolio exposure to this risk. To take advantage of the regulatory opportunities, LYXOR chose to certify three of its ETF funds. For example, the Green Bond ETF which was awarded the Greenfin Label enables LYXOR to be in advance of upcoming regulations such as the EU taxonomy which aims to classify green activities, with the long-term goal of establishing a universal standard.
Time horizon	This type of risk is most likely to have a material financial impact in the short term because of the EU Commission Action Plan on Sustainable Finance, which will soon be translated into legislation as a taxonomy on green activities.

Source: LYXOR, Climate Report 2019, p. 24



Summary of exposure to climate risks

Although not included in the sample, this example identified by the TCFD in the Royal Bank of Canada's report provides another illustration of good practice in relation to the S_{bank} ¹ recommendation on exposure to carbon assets.

Nº 6

Table 1: Client sectors most sensitive to transition risk

Sectors	Credit risk ⁹		Climate risk drivers ¹⁰					Examples of potential impacts for clients in these sectors may include
	\$bn	% of total exposure	Technology	Policy	Markets	Legal	Reputation	
Wholesale								
Automotive	\$17.0	1.5%						<ul style="list-style-type: none"> Changes in demand for goods/ services
Oil & gas	\$20.2	1.8%						<ul style="list-style-type: none"> Reduced revenue Increased operating and production costs
Industrial products	\$16.6	1.5%						<ul style="list-style-type: none"> Asset devaluation Difficulty accessing financing
Mining & metals	\$6.8	0.7%						<ul style="list-style-type: none"> Increased capital costs Business model failures
Transportation	\$14.1	1.3%						<ul style="list-style-type: none"> Reputational damage Legal fines or judgments
Utilities	\$32.7	3.0%						
Sub-total	\$107.4	9.8%						

⁹ Amounts are derived from the Credit risk exposure by portfolio, sector and geography table for the year ended October 31, 2019 as provided in our 2019 Annual Report. The amounts present credit risk exposures under the Basel regulatory defined classes and reflects exposures at default. The classification of our sectors aligns with our view of credit risk by industry. These amounts represent our total on- and off-balance sheet credit risk exposure for each sector as at October 31, 2019. These amounts do not include counterparty credit risk. The proportion of credit exposure by sector and relative sensitivity to the climate risk factors is indeterminate and may vary based on several factors such as geography.

¹⁰ The climate risk drivers are defined in the final TCFD Recommendations (June 2017), p. 5-6. The relative sensitivity of sectors to transition and physical risk drivers in Tables 1 & 2 is based on our judgement informed by resources that include third party publications, engagement with external experts and participation in industry working groups, including the Canadian Bankers Association TCFD Working Group and UN Environment Programme – Finance Initiative's TCFD pilot project (2018).

Legend



Source: Royal Bank of Canada, Task Force on Climate-related Financial Disclosures Report 2019, pp. 10 and 16

STRATEGIC MANAGEMENT AT OPERATING LEVEL

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

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

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

MANDATE INVESTMENT COMMITTEE

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



Details on discretionary management and the differences between asset management and asset owner

In the example opposite, the organisation explains the separation between its asset owner activity and its asset management activity. The roles and responsibilities of each entity are explained, and ESG considerations are included in the external manager selection process. However, the more specific issue of integrating climate criteria into discretionary mandates is not explained.

Nº 7

Source: SCOR SE, 2019 Sustainable Investment Report, p. 11

3

Risk Management

Disclose how the organisation identifies, assesses, and manages climate-related risks.

Dashboard

Coverage

Rating

n = 10

Level 1 Level 2 Level 3

Ra

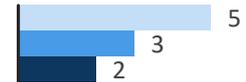
Describe the organisation's processes for identifying and assessing climate-related risks.

Ra0 - a description of the process(es) used to determine which risks and opportunities could have a material financial impact on the organisation.

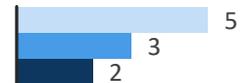
Ra1 - a description of how organisations determine the relative significance of climate-related risks in relation to other risks. In addition, organisations should describe their processes for prioritizing climate-related risks, including how materiality determinations are made within their organisations. organisations should also consider disclosing: (i) processes for assessing the potential size and scope of identified climate-related risks and (ii) definitions of risk terminology used or references to existing risk classification frameworks used.

Ra2 - Organisations should describe whether they consider existing and emerging regulatory requirements related to climate change (e.g., limits on emissions) as well as other relevant factors considered.

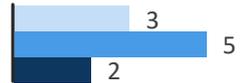
100%



100%



100%

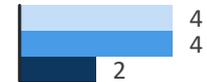


Rb

Describe the organisation's processes for managing climate-related risks.

Rb1 - Organisations should describe their processes for managing climate-related risks, including how they make decisions to mitigate, transfer, accept, or control those risks. organisations should address the risks included in [Tables 1 and 2](#), as appropriate.

100%



Rc

Integration into the organisation's overall risk management.

Rc1- Organisations should describe how their processes for identifying, assessing, and managing climate-related risks are integrated into their overall risk management.

80%



Findings

Risk identification and prioritisation process

- There is a lack of consistency, already raised in the findings of the [Strategy pillar](#), between the published description of risks and opportunities (by sector, by time horizon: **Sa2**, **Sa3**) and the processes for analysing and assessing the risks set out in the reports.

Why these recommendations are important

This pillar helps provide an understanding of how organisations analyse and then manage and integrate risks: it is the operational counterpart to the Strategy pillar. As such, these recommendations focus on the description of processes and tools for analysis and management. This level of information provides a means of accurately assessing the alignment between the level of risk exposure presented in the previous pillar and the mechanisms developed by the organisation to deal with it. The key challenge of this pillar is to assess the financial materiality of the risks and opportunities.

Risk Management

Sector-specific Recommendations

Coverage

Rating

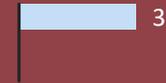
Insurance

Level 1 Level 2 Level 3

$R_{insurance}^1$ - Insurance companies should describe the processes for identifying and assessing climate-related risks on re-/insurance portfolios by geography, business division, or product segments, including the following risks: - physical risks - transition risks- liability risks

60%

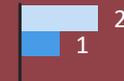
n = 5



$R_{insurance}^2$ - Insurance companies should describe key tools or instruments, such as risk models, used to manage climate-related risks in relation to product development and pricing.

60%

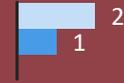
n = 5



$R_{insurance}^3$ - Insurance companies should also describe the range of climate-related events considered and how the risks generated by the rising propensity and severity of such events are managed.

60%

n = 5

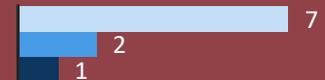


Asset Management

$R_{manager}^1$ - asset managers should also describe how they **identify and assess** material climate-related risks for each product or investment strategy. This might include a description of the resources and tools used in the process.

100%

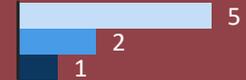
n = 10



$R_{manager}^2$ - Asset managers should describe how they **manage** material climate-related risks for each product or investment strategy

80%

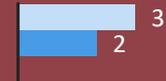
n = 10



R_{owner}^3 - Asset owners should describe how they consider the positioning of their total portfolio with respect to the transition to a lower-carbon energy supply, production, and use. This could include explaining how asset owners actively manage their portfolios' positioning in relation to this transition.

100%

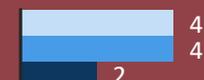
n = 5



$R_{o/m}^4$ - Asset owners /managers should describe, where appropriate, engagement activity with investee companies to encourage better disclosure and practices related to climate-related risks to improve data availability and asset owners' ability to assess climate-related risks.

100%

n = 10



Banking

R_{bank}^1 - Banks should consider characterizing their climate-related risks in the context of traditional banking industry risk categories such as credit risk, market risk, liquidity risk, and operational risk

75%

n = 4



R_{bank}^2 - Banks should consider describing any risk classification frameworks used (e.g., the Enhanced Disclosure Task Force's framework for defining "Top and Emerging Risks").

50%

n = 4



Risk Management

- The coverage rate of recommendations relating to the description of risk analysis processes is quite high. The subject of risk governance at financial institutions is also extensively covered by demanding prudential and regulatory frameworks. However, a significant part of the published information remains at Level 1 because the number of risk assessment criteria is limited, they are not sufficiently detailed or the reasons for choosing them is (very often) not challenged.
- Furthermore, very few of the organisations have risk analysis processes that result in a financial impact assessment for the company (quantitative or qualitative). However, this impact assessment is the desired outcome from both the **Ra0** and **Ra1** recommendations. Specifically, the aim is to explain how the financial materiality of risks and opportunities is analysed.
- As a result, only a handful of companies describe their methods for prioritising climate risks (among themselves or in relation to other financial risk factors).
- In line with the AMF's finding in its *2019 Report on the Social, Societal and Environmental Responsibility of Listed Companies*,¹¹ transition risks are more often studied than physical risks, in particular because of tools that are being developed and/or implemented on a reduced range of activity.
- This is particularly true in the banking and asset management sectors, as also highlighted in a report¹² published in 2019 by the ACPR entitled "*French banking groups facing climate change-related risks*". Financial institutions use physical risk analysis tools, either at the level of their premises or at the level of their real estate asset portfolios. Some use it more generally across their portfolios, via an aggregated analysis tool offered by a service provider. Some insurers are more advanced in their analysis of current physical risk exposure, primarily due to their general (non-life) insurance business.

Risk management processes

- The most frequently described risk management processes are the standard sector-specific policies, e.g. coal exclusion policies (100% of the sample) and

commitment or voting policies (also 100%). ESG integration processes that include climate criteria are also extensively developed, with widely varying levels of detail on these criteria and how they are used by asset managers. Their relevance to the **Rb1** recommendation can therefore sometimes be called into question.

More generally, it was noted that:

- The link between the risk analysis tools presented (**Ra0**) and their actual usefulness for risk management purposes (impact on investment, insurance or financing decisions) is not always clarified or, where applicable, conclusive. For example, less than half of the institutions that describe their risk assessment processes specify the exposure thresholds above which action is taken (risk acceptance or transfer, disinvestment, monitoring, commitment, etc.). A significant proportion of the sample (40%) is therefore rated at Level 1 (see [Good Practice no. 9](#)).
- There is also a notable lack of detail on some risk management processes. For example, how does the reporting process for asset managers, which is mentioned very frequently, impact management decisions? If validation procedures are required before accepting a certain level of risk, how and by whom are they arbitrated? What guarantees do the procedures for dialogue with issuers provide in terms of reducing exposure to risk?
 - A few companies stand out because of their transparency on the usefulness of the risk management metrics or the degree of detail on risk management processes. This level of transparency, more than the level of sophistication of the management processes, explains the higher rating of some companies (see [Good Practice no. 8](#)).

¹¹. AMF 2019 Report on the Social, Societal and Environmental Responsibility of Listed Companies.

<https://www.amf-france.org/sites/default/files/2020-02/report-2019-on-the-social-societal-and-environmental-responsability-of-listed-companies.pdf>

¹². ACPR, "French banking groups facing climate change-related risks", 2019.

https://acpr.banque-france.fr/sites/default/files/medias/documents/as_101_climate_risk_banks_en.pdf

Risk Management

- Only some of the players publish detailed information on their risk management governance system, explaining for example the involvement of three lines of defence (levels 1, 2 and 3). This information is, however, useful for understanding the level of integration of climate risks into conventional risk management processes (**Rc1**). Half of the companies studied do not specify how this integration is (or is not) achieved as part of the overall risk management process.
- Furthermore, the rather weak results of the **R_{manager}2** (asset management) recommendation illustrate fairly well the lack of granularity in describing risk management processes, with very few institutions describing these processes at the level of their different investment strategies.



Moving forward

- Key challenge: Integrate climate risk analysis into the company's overall risk management process. The report should clearly describe the use (or non-use) of the methods or metrics presented, so that the reader understands the link between the risk analysis processes described and the actual impact on management decisions.
- Ensure consistency between the information relating to the risks identified and the information relating to the risk management processes put in place.

As a reminder, Article 6 of the European SFDR regulation makes it mandatory to present, in the pre-contractual information, (i) how sustainability risks are taken into account during product development, and (ii) the results of the assessment of the “likely impact of sustainability risks” on the performance of the financial products made available to clients.

Analyses

Risk identification and prioritisation process

- The lack of information on how risks are translated into financial impact for the organisation highlights once again the lack of connectivity between non-financial and financial information. However, tools for quantifying impacts related to transition risks, physical risks and opportunities are being developed, and a significant number of companies in the sample are testing them, often for the first time in the Climate 2020 reporting exercise. The clear and transparent reporting of the progress made with these approaches, albeit experimental when the reporting scope is broad, explains why some stakeholders have obtained a rating at level 2 or 3.
- These analyses are, however, complex, and most organisations are using tools with a relatively high entry cost from third-party service providers and have achieved varying levels of proficiency in the methodologies used. While some companies have taken ownership of the underlying assumptions and have sometimes even made them an important criterion for choosing a provider, others point to the “black box” nature of these methodologies.
- Furthermore, there is significant room for improvement in the transparency of the risk prioritisation process, which is not unrelated to the background information provided above. This prioritisation process requires that the link between risks, opportunities and financial impacts be made more visible, which is not yet systematic.

Risk Management

Risk management processes

A wide range of risk analysis and assessment tools are described in the reports. There are two main approaches:

- An analysis at the macro level, leading to the identification of generic risks as described in the appendices to the TCFD recommendations¹³ (e.g. lower profitability of certain sectors leading to increased credit risk), which are assumed to be mitigated by conventional risk management tools.
 - An analysis at the micro level, issuer by issuer, which results in the firms' rating on climate, usually as part of the ESG rating carried out elsewhere. In most cases, no distinction is made between climate risk factors and ESG risk factors, which makes it difficult to understand the extent to which climate is covered by the ESG analysis or whether a climate-specific risk analysis is performed (see [Good Practice no. 8](#)).
 - The way in which each of these processes are effective ("mitigating") responses to the identified climate risks is generally not explained, making it impossible to understand how they reduce gross risk.
- The challenge of the **Rb** recommendation for the reader lies in also being able to understand:
 - how these tools feed (or not) into risk management processes (transparency on the usefulness of the tools, and therefore their limitations and scope);
 - what forms these management processes take, whether they are integrated into conventional risk management processes, and how they actually impact decisions (sufficient level of detail to assess the robustness of the processes).
 - However, some of the tools presented, particularly the forward-looking tools, are used for learning, familiarisation and annual publication purposes and not for risk management. Given this, transparency regarding the usefulness of the tools seems to be necessary (see [Good Practice no. 6](#)). Furthermore, progress made on methodological work should be reflected in future publications.
 - We also note that banks and insurance companies, whose core business is risk management, are on average further ahead than the rest of the sample in integrating climate issues into the framework of traditional risk management. Insurers can therefore draw on their greater experience in analysing climate risks ("CatNat" models, for example) and on their pre-existing risk management processes. However, scenario analysis and the assessment of long-term impacts pose new challenges for these organisations, which must, just like others, adapt their tools and processes to the high degree of uncertainty that accompanies these analyses.
 - Lastly, we note that while the TCFD includes recommendations related to shareholder engagement in asset management (**R_{o,m}4**), primarily to encourage issuers to publish climate-related information useful for decision-making and to modify their practices, dialogue with clients is also widespread in the banking and insurance sectors. Obtaining information on this subject is sometimes integrated into the Know Your Client process at the time the relationship is entered into, or during project financing.

➤ This point is developed in [Theme 1](#) on the "Perceived Usefulness of the TCFD Reporting Approach and its Limitations".

¹³ The TCFD provides a table of risks and opportunities in the appendices to its recommendations: <https://www.tcfddhub.org/Downloads/pdfs/E08%20-%20Table%201%20&%202.pdf>



Methodology for ESG analysis and climate risk management

A great many companies present their ESG analysis methodology in their climate report. However, the information published is not always relevant to the TCFD’s recommendations. Here are a few tips on how to best present this tool:

- From among the ESG criteria selected, clearly identify those criteria that are climate-related (example 1 – a table including all the climate metrics selected, by sector).
- To improve the readability of the information, explain, where applicable, the weighting system used for these criteria or the analysis processes specific to them. A weighting system clearly shows the climate-specific analysis choices made (example 2).
- Explain the extent to which this tool, and in particular climate factors, are or are not used in management, investment or insurance decisions (feeding into the risk management strategy or processes) (see [Good Practice no. 13](#)).
- If the ESG rating is described as a risk management process (e.g. with a policy of exclusion or commitment depending on the rating), specify the levels of exposure to climate risks associated with the thresholds set.

N° 8

Example 1: Identification of the “climate” criteria included in the ESG rating

Transition Economique & Energétique	
Automobile	35%
	<ul style="list-style-type: none"> ■ Emissions CO₂ moyennes de la flotte ■ Offre de produits “verts” et nouvelles mobilités
Utilities	35%
	<ul style="list-style-type: none"> ■ Orientation du mix énergétique (fossiles/renouvelables) ■ Contribution à la transition énergétique ■ Stratégie d’entreprise en faveur de la transition énergétique ■ Exposition charbon ■ Exposition aux risques liés au changement climatique

Source: La Banque Postale AM, 2020 Energy Transition Report, p. 18

Example 2: Weighting of “Energy Transition” criteria in the ESG rating

Le tableau ci-dessous présente quelques exemples de pondération du pilier E par secteur :

Secteur GICS 2	Poids du pilier E dans la note finale GREaT
Assurance	35%
Automobiles et composants automobiles	35%
Services aux collectivités	35%
Biens d’équipement	30%
Énergie	30%
Immobilier	30%
Télécommunications	30%
Équipements et services de santé	15%
Sciences pharmaceutiques, biotechnologiques et biologiques	15%

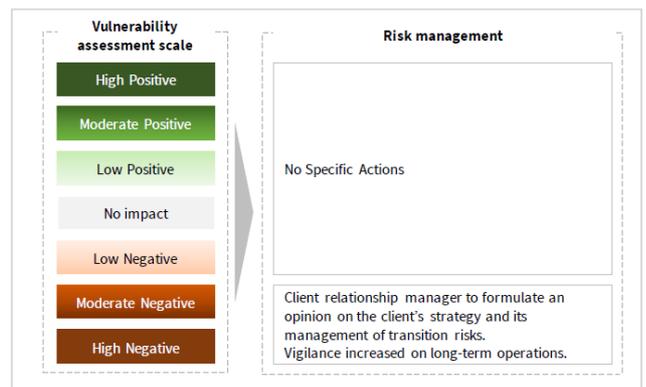
Source: La Banque Postale AM, 2020 Energy Transition Report, p. 58



Link between risk analysis tools and risk management, the importance of transparency on triggers

In this example, the use of the “Climate Vulnerability Index” analysis tool for risk management is specified, as are the thresholds or “triggers” (rating on the assessment scale).

N° 9



Source: Société Générale, Climate Disclosure Report, p. 32

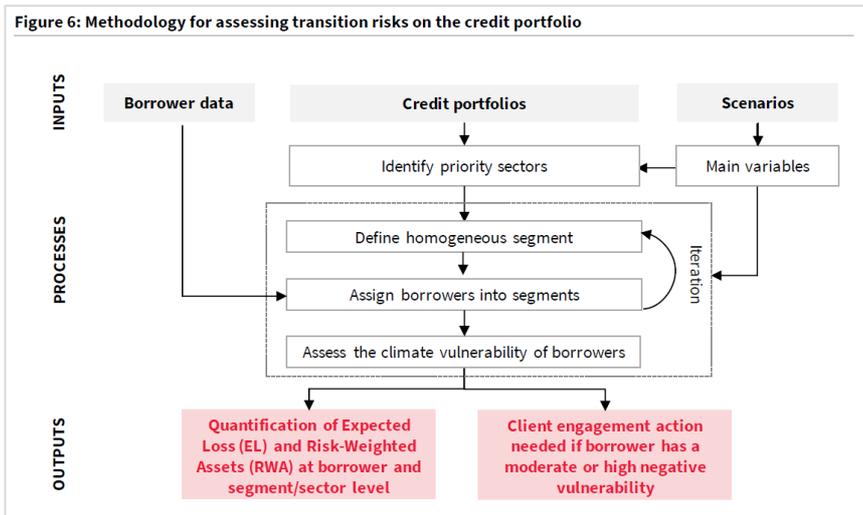


Presentation of an exercise to integrate climate factors into conventional risk management tools

Calculation of Risk Weighted Assets and an analytical Expected Loss that takes into account climate-related factors. This summary is accompanied by a short commentary.

N° 10

Figure 6: Methodology for assessing transition risks on the credit portfolio



Source: Société Générale, 2020 Climate Disclosure Report, p. 31

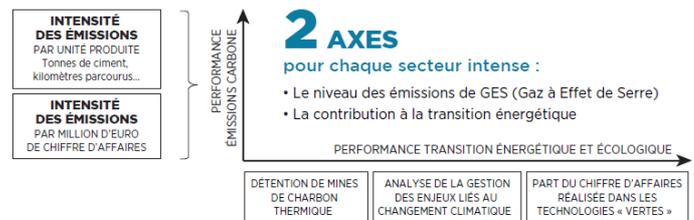


Description of the climate risk prioritisation process

These diagrams help explain how the materiality of transition risks is determined at the issuer level and how issuers are prioritised. The components making up the analysis could, however, be more detailed, particularly with regard to the assessment of the issuers' "management of climate issues".

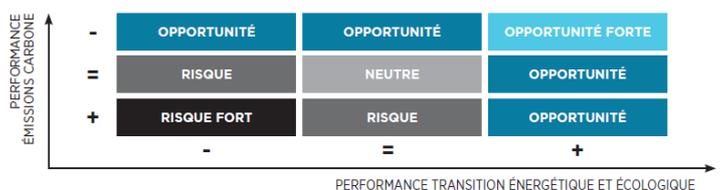
N° 11

Matrice de transition énergétique et écologique (TEE)



Le croisement de ces données nous permet de classer les entreprises des secteurs carbo-intensifs selon les catégories suivantes regroupée dans la matrice TEE.

Matrice risque / opportunité



Analyse du risque climatique du portefeuille OFI AM par l'approche interne de classement avec la matrice qui classe les entreprises en risques ou opportunités.

Source: OFI, Climate Risk Report, p. 15

➤
Nº 12

Adopting an educational approach

- Example 1: After an explanatory section on how a scenario is developed, AXA publishes the results of two metrics calculated by an external service provider by assessing, in varying degrees of detail, the methodological limitations that accompany these values. In a more exploratory manner, the insurance company tested four different “temperature measures” on a small sample of 13 issuers to highlight the significant impact that these assumptions have on the final results.
- Example 2: Similarly, the company provides the reader with the keys to understanding the various factors that influence exposure to physical risk for insurance activities.

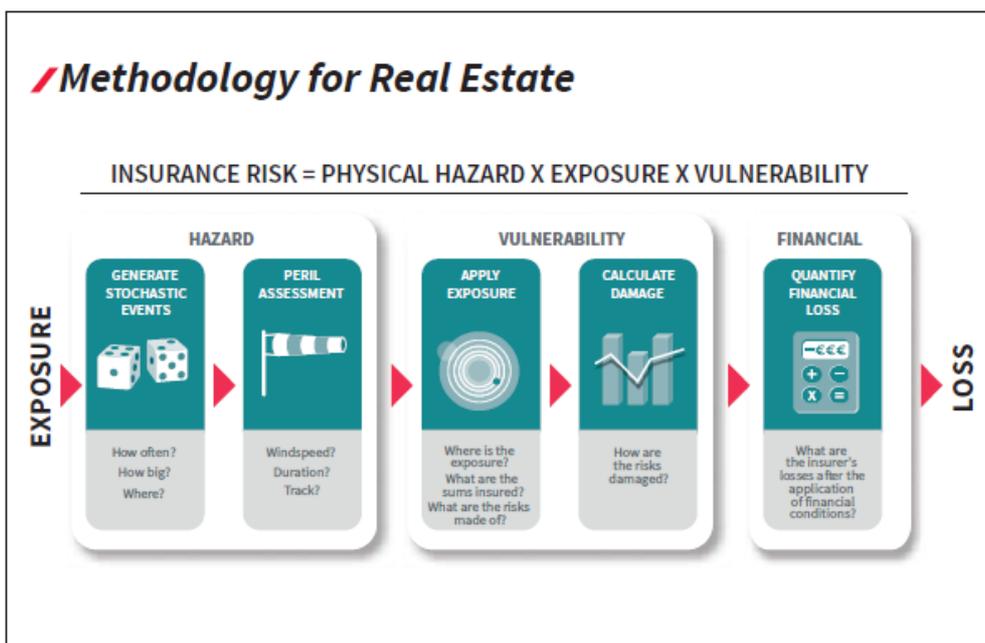
Example 1:

Temperature comparison of various securities

Company	GICS Industry Group Name	Country	Provider 1	Provider 2	Provider 3	Provider 4
1	Consumer Discretionary	USA	NC	2°	3.1°	4°
2	Technology Hardware & Equipment	United States	>5°C	2°	1.5°	4°
3	Materials	Luxembourg	>2.7°	>6°	6°	6°
4	Insurance	France	1.5-2°C	2°	3.6°	4°
5	Pharmaceuticals	Germany	<1.5°C	2°	4.5°	2°
6	Materials	United Kingdom	>5°C	>6°	5.0°	6°
7	Transportation	United Kingdom	2-2.7°C	2°	5.3°	6°
8	Food, Beverage & Tobacco	Brazil	1.5-2°C	>6°	5.2°	4°
9	Materials	South Korea	>2.7°C	6°	5.2°	5.8°
10	Capital Goods	France	>5°C	2°	1.3°	1.5°
11	Energy	France	>5°C	>6°	4.9°	6°
12	Telecommunication Services	USA	>5°C	6°	3.1°	4°
13	Food & Staples Retailing	Australia	>5°C	>6°	2.1°	4°

Source: AXA, Climate Report p. 23

Example 2:



Source: AXA, Climate Report, p. 40

4

Metrics and Targets

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.

Dashboard

Coverage

Rating

n = 10

Level 1 Level 2 Level 3

Ma

Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.

Ma1 - Organizations should provide the key metrics used to measure and manage climate-related risks.



Ma2 - Where climate-related issues are material, organizations should consider describing whether and how related performance metrics are incorporated into remuneration policies.



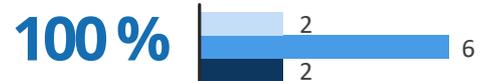
Ma3 - Where relevant, organizations should provide their internal carbon prices as well as climate-related opportunity metrics such as revenue from products and services designed for a lower-carbon economy.



Ma4 - Metrics should be provided for historical periods to allow for trend analysis.



Ma5 - where not apparent, organizations should provide a description of the methodologies used to calculate or estimate climate-related metrics.



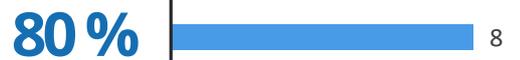
Mb

Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.

Mb1 - Organizations should provide their Scope 1 and Scope 2 GHG emissions and, if appropriate, Scope 3 GHG emissions and the related risks



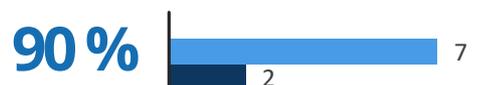
Mb2 - GHG emissions should be calculated in line with the GHG Protocol methodology.



Mb3 - GHG emissions should be provided for historical periods to allow for trend analysis.



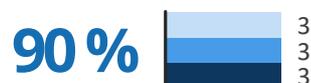
Mb4 - Where not apparent, organizations should provide a description of the methodologies used to calculate or estimate GHG emissions.



Mc

Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

Mc1 - Organizations should describe their key climate-related targets in line with anticipated regulatory requirements or market constraints or other goals. Other goals may include efficiency or financial goals, financial loss tolerances, avoided GHG emissions, or net revenue goals for designed for a lower-carbon economy. In describing their targets, organizations should consider including the following : whether the target is absolute or intensity based, time frames over which the target applies, base year from which progress is measured, key performance indicators used to assess progress against targets.



Metrics and Targets

Sector-specific Recommendations

Coverage

Rating

Insurance

Level 1 Level 2 Level 3

$M_{insurance1}$ - Insurance companies should provide aggregated risk exposure to weather-related catastrophes of their property business (i.e., annual aggregated expected losses from weather-related catastrophes) by relevant jurisdiction.

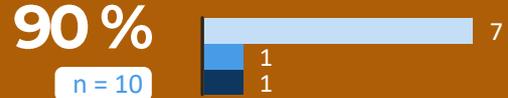


Asset Management

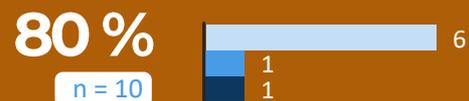
$M_{o/m1}$ - Asset owners /managers should provide the weighted average carbon intensity, where data are available or can be reasonably estimated, for each fund or investment strategy.



$M_{o/m2}$ - Asset owners/managers should provide metrics considered in investment decisions and monitoring.



$M_{o/m3}$ - Asset owners/managers should describe metrics used to assess climate-related risks and opportunities in each product or investment strategy. Where relevant, organizations should also describe how these metrics have changed over time.



Banking

M_{bank1} - Banks should provide the metrics used to assess the impact of (transition and physical) climate-related risks on their lending and other financial intermediary business activities in the short, medium, and long term. Metrics provided may relate to credit exposure, equity and debt holdings, or trading positions, broken down by : Industry – Geography - Credit quality - Average tenor.



M_{bank2} - Banks should also provide the amount and percentage of carbon-related assets relative to total assets as well as the amount of lending and other financing connected with climate-related opportunities.



Metrics and Targets

Why these recommendations are important

The recommendations in the Metrics and Targets pillar enable the reader to understand how organisations are managing the deployment of their strategy and the achievement of their objectives.

Findings

Metrics

- The reports provide a good level of information on greenhouse gas (GHG) emissions (**Mb1**). While only some institutions (6/10) publish in their TCFD report their Scope 1 and Scope 2, and their Scope 3 related to operations (employee travel, buildings, etc.), more institutions (8/10) publish the carbon footprint of their financing or investment portfolio (emissions in absolute value, carbon footprint or carbon intensity of portfolios, etc.). Of these 8 players, two take into account Scope 1 and Scope 2 of portfolio companies only, and six take into account Scopes 1, 2 and 3 of portfolio companies. However, only two actors out of ten disclose the carbon metric specifically requested by the TCFD : the weighted average carbon intensity of portfolios (**M_{o,m}1**).

↗ *These metrics and their methodologies are described in more details in Appendix 2.*

- Overall, when further details are needed to understand how the metrics are constructed, the level of information published on methodologies is rather good (**Ma5**: majority at level 2 and 3).
- The study of the climate reports revealed the very wide variety of metrics and methodologies used: historical or forward-looking metrics, metrics measuring risks (exposure) or degree of alignment (portfolio temperature).
↗ *An overview of the performance metrics published by the companies studied is presented in Appendix 1.*
- Most of the companies in the study (8/10) use forward-looking metrics, most often from tools supplied by service providers (“Climate VaR” by Carbon Delta, “portfolio temperature” by various service providers, “PACTA” by the 2° Investing Initiative) or from proprietary tools (“Climate Vulnerability Index”, the “P9XCA” methodology for calculating the carbon footprint on financing portfolios, with different carbon prices applied).
- By contrast, the financial institutions studied, all metrics combined, still only rarely publish historical data over three years (**Ma**, **Mb**).
- Furthermore, the reports contain little information on the usefulness of the metrics used.

Still too few companies explain and justify the usefulness of the metrics and their limitations. For the most part, internal management of climate risks and opportunities is not demonstrated, except for “green” products. However, these metrics are used within the scope of these annual reports to report on the year’s actions. The various uses made are not all explicitly stated: external and internal communication, dialogue with companies (engagement), impact on allocation decisions.

↗ *This point is developed in [Theme 1](#) on the “Perceived Usefulness of the TCFD Reporting Approach and its Limitations”.*

- Overall, few metrics specific to the insurance sector are published compared with metrics for the asset management sector (**M_{insurance}1**).

Targets

- The vast majority of companies publish climate targets, which vary in number (from 3 to more than 7 targets). These targets take several forms: reduction of exposure to carbon-intensive sectors, decarbonation and alignment targets, “green” products, improvement of measuring systems (for example, increasing the scope of assets assessed), or in relation to companies’ participation in marketplace work on methodological developments.
- However, only some of the companies publish targets that are specific, measurable and time-bound. In addition, the reader is not always able to understand how the published targets are justified by the risk and opportunity analyses carried out by the organisations. Therefore, one third of the sample is rated at level 1.
- Furthermore, there is relatively little information on the management of these targets, even though they are essential for understanding the impact of these targets on how the organisations operate: associated metrics, governance system, intermediate targets, reassessment mechanisms. For example, several long-term targets (2030 and 2050) are set without specifying intermediate targets.

Metrics and Targets

Analyses

- Metrics measuring greenhouse gas emissions are addressed relatively well because of the companies' maturity level in this area, due in part to the obligation to report significant emissions under Article 173.
- Generally speaking, the metrics chosen by financial institutions mainly relate to portfolio-level analyses (amount of investments, portfolio alignment and portfolio exposure) and much less often assess financial impacts at the overall company level (all business activities combined).

➤ *Additional analysis is provided in [Theme 5](#) on the "Representativeness of the Information Published".*

- Publication of historical data: A number of metrics were published for the first time by organisations experimenting with measurement tools. As they develop, the information reported on these measurements could increase, and practices could become more mature, provided that they are reported with transparency regarding the assumptions made. However, due to the instability of methodologies on some complex analytical tools, ensuring that data can be compared over time is difficult. Therefore, as a minimum, changes in methodology from one year to the next should be presented to help the reader interpret any variations in the results. Some companies in fact chose to publish forward-looking metrics in relative terms to make it easier to compare the results where a change in methodology occurred.
- Forward-looking metrics, which are becoming increasingly popular with organisations, pose a number of challenges that may explain why companies are cautious about publishing results and using them internally. In a recent note on forward-looking metrics accompanying a consultation on this

topic at the time its 2015 Status Report¹⁴ was published, the TCFD describes the difficulties associated with these metrics, relating to both their construction and their use.

Some of these difficulties are reproduced below:

- The lack of data (many companies mention this, particularly in the Scope 3 GHG data of portfolio companies);
- The complexity of the calculations, with a resulting high entry cost for organisations (use of service providers but also the time needed to learn how to use the tool). This limitation goes hand in hand with the "black box" effect of provider methodologies perceived by some of the organisations involved in the study;
- Uncertainty management, owing to the use of scenarios but also because of important methodological choices;
- Lastly, the scope of application is restricted to certain sectors (lack of data, applicable methodologies) or certain business activities (more advanced tools on the investors' side than on the insurers' side).

➤ *More details on this topic can be found in [Theme 2](#) on "Scenario Analysis".*

- The current level of sophistication in risk analysis may explain the lack of harmonisation among the metrics published by the organisations. All organisations are therefore calling for more convergence. Some of them highlight the marketplace work and initiatives in which they are taking part as an effective means of achieving this (e.g. United Nations-convened Net Zero Asset Owner Alliance (UN NZAOA), Banks of Katowice, and the Science Based Targets Initiative (SBTi)).

14. <https://www.fsb.org/wp-content/uploads/P291020-4.pdf>

Metrics and Targets



Moving forward

- Specify the Scopes taken into account when calculating the carbon footprint of portfolios.¹⁵
- Explain the methodological limitations of the calculations of the published metrics (see “Moving Forward” in the Strategy section).
- Provide a table summarising the published metrics, indicating at least the type of metric, the unit, the scope and their definition.
- Explain how these metrics are taken into account, specifying how they relate to strategic thinking, risk management and management decisions.
- Justify the choice of the strategic targets set by linking them to the analysis processes described by defining, where applicable, (i) deadlines, (ii) quantified targets, (iii) the breakdown of long-term targets into intermediate targets, (iv) any reference periods taken into account.

As a reminder, the European SFDR Regulation will make it mandatory for investors and asset managers to publish information on their policies regarding the integration of sustainability risks in their investment decision-making process (Article 3) and on their due diligence policies regarding negative sustainability impacts of investment decisions, including reporting on key metrics to be defined in technical standards (Article 4).

- However, these metrics, even if still under development, can be very useful to readers who wish to assess the progress made by an organisation, provided there is transparency on:
 - the methodologies, assumptions and limitations of the tools;
 - the use made of the results at the time of the exercise and the intended long-term use. This provides the reader with an idea of the progress made by the company and reduces the risk of over-interpreting the results.

However, this level of transparency has not yet been achieved, particularly regarding the use of the metrics in relation to the strategy and risk management. However, some companies studied stand out on this point (see [Good Practice no. 13](#)).

- Some companies mention performance metrics in their reports for which they do not publish the results, for reasons such as the sensitivity of the data or because the organisation is uncomfortable with the idea of sharing data that is too unreliable and could be open to misinterpretation by readers. In this case, it may nevertheless be interesting for readers to have detailed information on the methodology and the use of these metrics (especially if the analysis tools are complex) because, even without the results or with partial results, it provides evidence of the progress made by the companies concerned and reflects the work carried out.
- Regarding the apparent lack of metrics for insurance-related business activities, it seems that the sector is less mature in developing forward-looking analytical tools or in measuring its carbon footprint. This is due, in part, to the high level of complexity linked to the required granularity of the measurements (for example, only certain causes of damage are insured), but it is also linked to the slower and less dynamic transformation of underwriting portfolios, with disinvestment approaches being easier than not renewing insurance policies. A less mature regulatory framework governing insurance business activities may also contribute to this (unlike asset management, which is governed by Article 173).

↗ This point is detailed in [Theme 5](#) on the “Representativeness of the Information Published”.

- Lastly, through producing and publishing metrics and experimenting with innovative analytical tools, financial institutions can create a strong demand for certain information and encourage the production of data, particularly by firms.

¹⁵ In the consultation document on the draft technical standards for applying the European SFDR, published in spring 2020, the European supervisory authorities proposed including Scope 3 in portfolio carbon footprint measurements among the metrics relating to “negative sustainability impacts”.



Discussion on the usefulness of metrics

- La Banque Postale Asset Management and AXA clearly specify which metrics are used in the analyses and which are calculated for exploratory purposes (examples 1 and 3).
- Similarly, SCOR SE explicitly mentions that the methodology used is not integrated into investment decisions, even though it was initially intended to be used as a tool for understanding this approach (example 2).

Nº 13

Example 1

“We calculated metrics for this report to provide an assessment of our climate action. Some metrics are already integrated into portfolio management, such as the coal exclusion policy and the E pillar score for all labelled funds. Others have been calculated on an ex-post basis and are not actively managed as part of investment decisions to date. The metrics will enable us to develop LBP AM’s roadmap for the coming years.”

Source: La Banque Postale AM, 2020 Energy Transition Report, p. 69

Example 2

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

Source: SCOR SE, 2019 Sustainable Investment Report, p. 24

Example 3

“Ultimately, and according to this methodology, AXA’s net ‘company cost of climate’ appears to be equivalent to an average 10.5% of the turnover of the companies we invest in. This would translate into a 3.3% reduction in AXA’s investment value, which could be described as a ‘portfolio cost of climate’¹.

[...] Although currently AXA does not leverage this complex and evolving KPI in its day to day investment decisions, this metric provides an insightful of the possible climate-related financial risks that may be incurred by investors should its underlying assumptions be suddenly realized.”

¹: These figures may not be compared with those disclosed in our 2019 Climate report. Here also, methodology changes have occurred, and the 1.5°C scenario used this year (in line with our AOA commitment) is more demanding than the 2°C scenario used in 2019.

Source: AXA, Climate Report 2020, p. 25



Summary presentation of the metrics and comparison with the group’s targets

- An example of a table presenting the group’s policy, performance metrics, data over three years, short-term target and scope (example 1).
- An example of a summary table published at the end of the report listing all the metrics presented in the report, with a short description of the methodology used (example 2).

N° 14

Example 1

Indicateurs de performance extra-financière						
Politique de maîtrise des risques	Indicateurs extra-financiers	2017	2018	2019	Objectif 2022	Périmètres concernés
La finance verte : une des clés de croissance pour le Groupe	Encours du portefeuille de financements verts (en milliards d'euros)	ND	ND	7,1	13	CACIB
	Encours des initiatives spécifiques relatives à l'environnement (en milliards d'euros)	ND	8,2	12,3	20	Amundi
	Investissements dans les énergies renouvelables (capacité en GW)	1,3	1,7	1,9	2	CAA

Source: Crédit Agricole S.A., Universal Registration Document, p. 92

Example 2

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 organisation 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/country (scope 1 and 2 + scope 3 business travel) and from their turnover.</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 and gas flaring. Carbon Footprint for sovereign debt is expressed in CO2 tons per millions \$ GDP PPP.</p>
<p>Green Share – Listed Assets (Trucost S&P)</p> <p>The French government’s TEEC label (Energy and Ecological Transition for Climate Change) provides different types of activities that can be categorised 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. 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 candidates’ activities.</p>
<p>Green Share – Listed Assets (BeyondRating)</p> <p>Share of low-carbon energy in primary energy use. Energy included in the calculation of the green proxy: hydropower, wind, solar, geothermal, tidal, nuclear.</p>

Source: AXA IM, Article 173, TCFD combined report

2

Five Themed Analyses on the TCFD Framework

In this chapter:

From the analysis of the reports and the interviews conducted, five cross-cutting themes were identified. They help contextualise the results presented in the first chapter by explaining the choices made by organisations working to implement the TCFD's recommendations.

1 Theme 1: Perceived Usefulness of the TCFD Reporting Approach and its Limitations

The complexity of implementing practices in accordance with the recommendations varies depending on the recommendation in question. Some are also considered more useful for the organisations involved in the process, according to the organisations questioned.

2 Theme 2: Scenario Analysis

Scenario analysis is the recommendation in the TCFD framework for which practices are the least mature and most wide ranging. The aim of this section is to give an account of the tools used and to describe how they are used.

3 Theme 3: Managing Uncertainty

The TCFD involves the introduction of forward-looking analysis frameworks that differ from the forward-looking analyses usually carried out by financial institutions' risk or strategic functions, regardless of the business segment.

The tools used for this purpose are not yet sufficiently mature, rely on robust assumptions and often have significant limitations. Consequently, how do we deal with this uncertainty and make decisions based on these tools? How do we report on this?

4 Theme 4: Evidence-based Approach

Financial institutions have only recently begun to take climate into consideration. Voluntary climate-related commitments are increasing and there is a strong desire to stand out from the crowd. It is therefore particularly important that TCFD reporting is convincing and that its claims are based on evidence. Financial institutions use varying levels of detail to contextualise and explain the information provided in their TCFD reports, for a number of reasons.

5 Theme 5: Representativeness of the Information Published

The amount of TCFD information published is often not proportional to the materiality of a particular business activity at group level. Asset management has the best coverage in terms of information provided, followed by financing activities. Information provided on insurance business activities is the most patchy.

**1****Theme 1**

Perceived Usefulness of the TCFD Reporting Approach and its Limitations

The standardised framework established by the TCFD is perceived by the organisations involved as useful and demanding, in terms of both the practices and analyses it covers and the dynamics it sets in motion internally.

An aid to structuring the approach

The format and level of detail of the TCFD is seen by those preparing the reporting as a checklist that helps to frame the main points on which efforts should be focused. The proposed framework is considered by the companies in the sample interviewed as an important aid to structuring the climate approach within their organisation.

Two pillars are particularly useful for these companies. The Governance pillar has provided guidance to several organisations as they began to define their approach. The allocation of roles and responsibilities in climate matters determines how climate risks and opportunities are analysed and managed. Involvement at the highest level encourages and enables far-reaching changes to be made in the organisation. The Strategy pillar and the significant level of ambition of these recommendations have also informed internal reflection, as evidenced by the efforts made in response to scenario analyses, which account for the bulk of the difficulties. Implementing the recommendations in this pillar requires concerted efforts by all business activities.

An indication of the importance attached to these pillars is the fact that, when reviewing issuers' or counterparties' TCFD reports, it is these sections that are particularly scrutinised, according to the organisations studied.

An internal educational tool

The TCFD's cross-functional vision, involving different functions in the company and aiming to integrate the climate issue into day-to-day management, has resulted in barriers being broken down and a wider involvement beyond just climate or ESG experts. Making a report public, sometimes in the universal registration document, also broadens the business functions involved (e.g. audit and legal). For many organisations, this has been accompanied by a major educational and awareness-raising effort, particularly on the part of management, but also by the risk and compliance functions, front officers and asset managers. The illustrations provided by the TCFD, particularly the examples of climate risks and opportunities, were useful in this awareness-raising effort.

This necessary educational effort has meant that certain technical subjects, such as forward-looking analysis methodologies and their main limitations, have been presented to senior managers in certain groups. Although not yet used in investment decision-making, one participant reports that concepts such as "implied temperature rise" ("portfolio temperature") are now sometimes discussed in investment committees.

Objective assessment and internal reporting

The quantification exercise carried out by the companies in the context of the TCFD recommendations provides an initial basis for reporting on the work carried out to implement the companies' climate strategy. It should be noted that this quantification exercise is performed for the purposes of annual ex-post reporting. However, trends in the various metrics from one year to the next are analysed and presented internally, although these analyses are not systematically made public.

Standardising and promoting convergence

The publication of information in accordance with the TCFD's recommendations has resulted in an increase in communications by financial institutions on climate issues and has been accompanied by a growing use of the services of providers offering various climate reporting tools. At the same time, the financial sector, both a producer and user of this information, is gradually refining its expectations and calling for more information on this subject. We could call this a "breath of fresh air".¹⁶

The TCFD framework and the help and implementation guides published by initiatives supported by the Task Force promote standardisation of climate issues and comparability of the information published. To contribute to this convergence, most of the organisations involved have strictly adopted the plan recommended by TCFD, even though some redundancies were identified. However, this approach was not universally adopted, with one organisation choosing to adjust the TCFD plan to avoid certain redundancies (see opposite).



Difficulties and limits of the TCFD framework: feedback from financial institutions

In addition to the methodological and data difficulties mentioned elsewhere in this study, two issues were identified by respondents:

- Several redundancies, which can be found in Chapter 1, hamper the fluidity of reporting, particularly between the Strategy pillar and the Risk Management pillar, and between the Strategy pillar and the Metrics pillar with regard to defining targets.
- The scope covered by the TCFD framework is very broad, and it is challenging to provide a comprehensive response based on each of the recommendations. The level of progress and the difficulties encountered differ depending on the pillars and recommendations in question and on the different maturity levels of the various business lines within the same group. The objective for the organisations involved is therefore to continue the processes of continuous improvement and gradual adoption of the recommendations.
- In addition, one organisation interviewed emphasised the difficulties in linking TCFD reporting with the various existing or future regulatory reporting requirements, in particular with the Disclosures Regulation, the future obligations arising from the revision of the Non-Financial Reporting Directive, and the Taxonomy Regulation, which provides for specific reporting obligations for financial institutions.

¹⁶. By way of illustration, the number of signatories increased from 101 in June 2017 to more than 1,500 in 2020 (source: 2018 and 2020 TCFD Status Report).

2 Theme 2

Scenario Analysis

Scenario analysis (recommended as part of the **Sc** recommendation) is a central aspect of the TCFD's recommendations and introduces the forward-looking dimension with strong interplay with the company's overall strategy. This recommendation, more than any of the others, is confronted with many difficulties.

As a reminder, scenario analysis does not attempt to "predict" the consequences of climate change on the environment and the economy. Instead, it aims to depict probable futures, each determined by many assumptions, foremost among them being the "radiative forcing trajectory" scenario selected (representative concentration pathway or RCP), and the socio-economic changes envisaged (via shared socioeconomic pathways¹⁷ (SSPs), integrated assessment models (IAMs)) in the case of transition risk, and the rate of transition in question (see the work of the NGFS¹⁸ and the ACPR on this subject). Scenario analysis is used, among other things, to assess the likely future risks to which the company will be exposed in the short, medium and long term, and the resilience of its strategy depending on the different scenarios selected. It is also used to inform the long-term strategy based on climate factors and to translate them into short- and medium-term intermediate objectives. The "tragedy of the horizons", as defined by Mark Carney, can also be broken with this type of analysis.

The stated objective of many players is to integrate this type of reasoning into the core of strategic, allocation or granting decisions and into risk management processes.

Although the term "scenario" is used in all the reports studied, the actual use of scenario analyses still falls well short of the objective set. Significant research work is being carried out in this area.

Significant obstacles remain

This new analytical framework is still emerging. Supervisors, industry working groups, external providers and financial institutions themselves are taking up the challenge and developing scenarios. The field of research is rapidly evolving and has witnessed some significant innovations in recent years.¹⁹ Many methodologies have been developed, but there is still no consensus on any of them: all the proposed methodologies are accompanied by sometimes significant assumptions and are based on data that is still unreliable or incomplete (e.g. Scope 3). The results obtained are dependent on the initial assumptions and diverge, sometimes significantly, depending on the method used.²⁰ The organisations studied are legitimately reluctant to use these analytical frameworks to make structural decisions for the company.

The use of scenario analysis is also limited by the coverage of existing tools in the different sectors. The high-stake sectors, i.e. the carbon-intensive sectors, are certainly covered, but this is not the case for all sectors in which these organisations operate.

In addition to these methodological constraints, the difficulties involved in taking on board, understanding and disseminating this work were frequently referred to by the companies studied. The complexity of the analyses to be carried out and the wide variety of information to be considered means that this approach is very time-consuming and requires qualified personnel. The human and financial resources that need to be allocated to it therefore limit their ability to address this recommendation fully.

Lastly, several organisations stressed that the scale of change and transformation required to limit global warming to 2°C, if not 1.5°C, by 2100 compared with the pre-industrial era, as defined by the scenarios, sometimes caused internal obstacles, as the changes envisaged were deemed unrealistic. This illustrates the importance of the role of internal education on the climate issue.

¹⁷. SSPs were developed jointly by climatologists, economists and energy systems modelling teams. They describe five possible future socio-economic development scenarios: regional rivalry, sustainable development, fossil-fuelled development, increased inequality and a "middle of the road" scenario. They will feed into the IPCC's work for its Sixth Assessment Report.

¹⁸. <https://www.ngfs.net/node/294716>

¹⁹. Until recently, only the carbon footprint of financing or investment portfolios was calculated.

²⁰. Institut Louis Bachelier and IACE (2020), *The Alignment Cookbook – A technical Review of Methodologies Assessing a Portfolio's Alignment with Low-carbon Trajectories or Temperature Goal*.

Use of scenario analysis

Due to these limitations, the practices currently developed do not fully satisfy the TCFD's recommendations. The scenarios are used by publishing the results provided by external service provider methodologies on transition and physical risks (see [Appendix 1](#) for their description together with the metrics published). The overall objective of the service provider's approach is generally described and the results published, but at this stage they are not yet used in the company's day-to-day and/or strategic business decision-making process. It is therefore simply a reporting exercise. This is also illustrated by the annual publication of the results of these scenario analyses: the relevance of annually running a scenario that should feed into the company's long-term strategy is questionable.

However, one company did choose to make a public commitment by adopting a quantified target for one of these metrics by 2050.²¹ Another made a commitment relating to its investments in the power generation sector.²²

The organisations studied also use the resources made available by providers for internal educational purposes. A variety of methods are tested, with some organisations going as far as publishing the results from several providers or different analyses from the same provider. This contributes to enhancing the skills of these organisations, helping them to identify the workable elements in each of these methodologies and compare them publicly. The objective is to familiarise themselves with the forward-looking exercise and adapt to using it by exploring the tools available. Conversely, other organisations choose to focus only on the analysis proposed by a service provider or a scenario with a view to adapting it to their own use, taking into account the difficulties involved and always as part of a learning process. One organisation highlights that quantifying the risks and opportunities related to climate change helps to foster objective discussions on climate and raise awareness of the value of a forward-looking analytical framework.

The publications and services of external providers are particularly geared towards the asset management business and to a lesser extent to the financing business. In addition, some banks have developed their own tools and frameworks to address transition risk. Insurance companies mainly address physical risk, via existing "CatNat" models. Forward-looking analysis of the resilience of insurance companies' strategies is also mainly addressed through the ability to renegotiate premiums over short time frames (1 to 3 years). This ability to adjust the price leads to the conclusion that there is no risk attached to these activities, without any reference to the acceptability risk that this could cause, nor to the impact on the insurability of certain risks. One insurance company also mentions the Solvency 2 mechanism among the various climate risk management tools used. Quite paradoxically, the "tragedy of the horizons" still seems to be a reality in the insurance sector.

The internal educational dimension is also reflected in the choice of scenario or service provider (see below). Only the more advanced organisations argue this by going further than the limitation objective sought, by also evaluating the other parameters in the scenario and its underlying assumptions (e.g. the extent to which CCUS²³ technologies are used). A well-supported justification makes it possible to report on the detailed understanding of the chosen scenario and a company's proficiency in using it. There is a disparity between the level of information published and the work carried out: several organisations established a selection process and tested several scenarios before choosing just one. However, this information is not reflected in the reports.

Several organisations report that their sector-specific and divestment policies (on coal phase-out dates) are updated in line with the assumptions of various scenarios. However, other decisions, particularly those relating to opportunities ("green" financing and investments) are not explained using forward-looking

21. The Warming Potential of investments at 1.5°C in 2050.

22. A maximum value for the carbon intensity of the electricity mix of financing and investments is set. This is obtained from the Sustainable Development Scenario (SDS) of the International Energy Agency (IEA).

23. CCUS: Carbon Capture, Utilisation and Storage.



Moving forward

- Justify the choices made in selecting the scenarios, in particular the criteria taken into consideration.
- Describe the main assumptions made.
- Describe the use made of the results of these analyses, specifying in particular whether it involves exploratory work, a pilot deployed for a specific area, or information used in the analyses and business decisions.

Use of methodologies from external service providers

The fact that most forward-looking analysis is performed using standardised tools provided by external service providers raises questions about the use of these methodologies. The level of this use varies from one organisation to another. In its interview, one stakeholder describes it as a “black box” solution. Several report that they analysed the methodology proposed by the provider in depth and even changed assumptions. However, on the whole, the main features of the methodology and assumptions are still determined by the provider. Although this places constraints on organisations, it does help to harmonise practices and facilitates the comparison of results when several companies have used the same analysis from the same provider. A few organisations develop their own methodologies, which vary in terms of their forward-looking ability (with a varying number of forward-looking variables).

analysis. For example, the level of “greening” of portfolios required to achieve a target of limiting global warming to 1.5°C or 2°C is never specified. Public commitments to amounts of green products, or even ESG or SRI in some cases, do not seem to be based on the results of the various forward-looking methods developed internally or by service providers.

Several organisations, mainly those in the banking sector, also highlight how the results of their analyses, particularly sector-specific analyses, enhance dialogue with clients. In the asset management sector, on the other hand, several organisations point out that the data from service providers makes it impossible to make a commitment to an issuer. They highlight that an issuer’s individual forward-looking data is not given much weight in the methods used by service providers, which makes it impossible to establish a specific, reliable basis for dialogue and makes it difficult to determine the accuracy of the request to make.

3 Theme 3

Managing Uncertainty

An inherent feature of the TCFD approach

Dealing with uncertainty is a key issue in TCFD reporting. The TCFD recommendations were designed on the premise that promoting reporting on these issues would encourage collective and internal reflection. The Task Force states in its latest Status Report: *“Start where you are, with what you have. Implementing the TCFD guidance is a process.”*²⁴ The iterative approach, which is inevitably imperfect at the outset, implies that organisations may not have mature practices and tools covering all the recommendations. Experimentation is therefore at the heart of the approach and is accompanied by sometimes considerable uncertainty surrounding the tools used. Forward-looking analysis methods and the calculation of alignment indicators or portfolio temperature are prime examples. Based on estimated data (e.g. Scope 3) and assumptions in models, the results involve a significant degree of uncertainty. Consequently, how do we deal with this uncertainty? How did the companies in the sample handle it? Two main strategies are considered here: describing this uncertainty in the reporting and understanding this uncertainty in the decision-making process.

Uncertainty and transparency

The approaches adopted by the organisations studied to report on uncertainty cover a broad spectrum: some prefer not to communicate information that is not considered to be totally reliable, while others provide extensive details on the limitations of the published metrics or the methods used. It should be noted that the same organisation may adopt a different approach for each subject under consideration. Lastly, it should be remembered that for most organisations, the metrics and methodologies mentioned here are developed by external service providers.

There are several explanations for this:

- The level of transparency reflects the approach adopted by different organisations: those that use the TCFD report as a tool for reporting on current thinking give more details than those that engage in an annual reporting exercise. Publishing only information that is deemed reliable either increases the number of isolated examples or initiatives, such as the development of particular products, or results in a more generic level of information.
- The question of a metric’s understandability for external stakeholders also plays a role here and, according to several organisations, may justify not publishing it. One company gives the example of the meaning of a “portfolio temperature of +5°C with +/-2°C of uncertainty”. By contrast, other companies will publish a portfolio temperature to the nearest tenth of a degree, without specifying the limits and assumptions involved.
- The detail given on the uncertainty also reflects a balance between the different functions involved in preparing the report (see section on [Evidence-based Approach](#)). In addition, reservations may be expressed regarding the publication of figures that may render the company liable – depending on the place of publication – or may have an impact on its reputation from one year to the next, because of a change in methodologies used.

The organisations that published information resulting from these methodologies have contextualised it, explaining the process used to develop these metrics, the data sources used (with varying degrees of detail), the main assumptions made by the service provider and the consistency or disparity of the metrics with analyses developed internally. In many cases, others stress the importance of taking a step back from the published values.

²⁴. TCFD 2020 Status Report, D. Case Studies on Implementation, 3. Case Study by an Asset Manager, Key takeaways.

The results can be reported in different ways: one organisation reworked the results in absolute terms as provided by the service provider and published a ratio to avoid any future methodological changes; others emphasised that, given the current level of reliability, the results could not be used in decision-making.

However, these metrics are sometimes published, discussed and linked to activity data without it being clearly explained whether the analysis describes a causal or correlation relationship. It is therefore still unclear whether this metric is taken into account in management decisions.

However, experimentation should be encouraged. Transparency and clarity of information around uncertainties are key to facilitating joint progress and dialogue, and to contributing to a convergence of practices. For example, the European Commission, in the consultation on the Renewed Sustainable Finance Strategy, examined whether it should impose the publication of information on “which temperature scenario their portfolios are financing (e.g. 2°C, 3°C, 4°C), in comparison with the goals of the Paris Agreement” based on a common European methodology.

Lastly, when these metrics are not made public, particularly for the elements of uncertainty discussed above, they can nevertheless be used internally with explanations of the methodological limitations and level of uncertainty with a view to contributing to the educational effort concerning these emerging reflections.

The issue of uncertainty and the balance to be struck in terms of the transparency to be provided also calls for open reflection on the very minimum information to be included in any publication making use of scenarios.

The place of publication affects the level of transparency on uncertainty

The medium used to publish TCFD reports can influence the approach organisations take to the uncertainty surrounding the chosen metrics. The question of whether to include this information in the universal registration document as recommended by the TCFD has arisen among many organisations. Only one ultimately chose to include information addressing the TCFD’s recommendations in its non-financial information statement.

This may have resulted in a more cautious approach in the information provided. For the other organisations, the criteria contributing to the decision to publish a standalone report were:

- the disparity between the educational tone of the TCFD and the tone of the registration document;
- the organisation’s accountability for content in the registration document on topics that is still in a state of flux;
- the protracted review process for the registration document, in particular the review by the legal department;
- the constraints on the place and timing of the publication of the registration document;
- the audit by an independent third-party body (ITB) was sometimes identified as an additional constraint, but not by all organisations, and the reports of two organisations were reviewed by an ITB (see below).

Publishing a standalone report therefore seems to provide greater insight into the approach adopted by these organisations to address the TCFD’s recommendations and seems to go further than the registration document, as several organisations suggest. It is interesting to note that, contrary to the recommendations of the Task Force, the companies interviewed highlight that their stakeholders (investors or NGOs) favour a standalone report that brings together all the information relating to climate in one place.

FOCUS

Review by an independent third-party body (ITB)

Two companies in the sample had ITBs audit the information that they published relating to the TCFD’s recommendations. Both audits resulted in the issuance of a moderate assurance report, which is the level of assurance usually given by ITBs on non-financial information statements (NFISs). One of the companies undertook a voluntary audit of its standalone TCFD report. As the other company included the TCFD information in its NFIS, this information was audited in the same way as the rest of its NFIS. Three to four metrics were therefore reviewed by the ITBs.

Below are excerpts from the ITB reports indicating the information that was reviewed.

Atténuation des changements climatiques et adaptation	3.2. dont les indicateurs montants investis par Crédit Agricole Assurances Solutions dans des programmes de transition énergétique, émissions de GES scope 3 (liées aux financements, aux investissements et aux déplacements professionnels en avion et en train) publié en page 94 et encours Amundi soutenant la transition énergétique et la croissance verte
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Source: Crédit Agricole S.A., Universal Registration Document, p. 109

<p>Identified Information</p> <p>The Identified Information for the year ended 31 December 2019 is summarized below:</p> <ul style="list-style-type: none"> › Aggregate Corporate Securities (Equity and Debt) Warming Potential (section Climate-related impact assessment: “Portfolio alignment” & warming potential); › Portfolio and Company cost and opportunity of climate for Corporate Securities (section Climate-related risk assessment: AXA’s “Cost of climate”); › Carbon footprint of Corporate Securities and Sovereign Debt (section Investment carbon footprinting – a 2014-2019 trend analysis); › Green Bonds (section Green Investments: a focus on Green Bonds). <p>Our assurance engagement was with respect to the year ended 31 December 2019 information only and we have not performed any procedures with respect to earlier periods or any other elements included in the Climate report and, therefore, do not express any conclusion thereon.</p> <p>Criteria</p> <p>The criteria used by the Company to prepare the Identified Information are available in the Company’s procedures listed below and can be read at the Company’s headquarters (the ‘Criteria’):</p> <ul style="list-style-type: none"> › MSCI – Carbon-Delta_Methodology, January 2020; › AXA Investment Managers – Our green bond framework, July 2018; › RI Search - Carbon footprint engine focus, June 2019, whose corporate carbon intensities are based on a private database prepared by the provider Trucost.

Source: AXA, Climate Report 2020, p. 49



4

Theme 4

Evidence-based Approach

While all companies interviewed share the view that it is important that the information published is convincing and demonstrative, the analysis of the publications reveals various practices, reflecting different perceptions of the purpose of a TCFD publication.

Overview of practices: an “editorial decision”

The more advanced companies are using TCFD reporting as an exercise in education and transparency. The aim is to specify the targets set and commitments made by presenting the work carried out and explaining the experiments conducted. The assumptions made, the areas of uncertainty, the quality of the data used and the methodological limitations of calculating forward-looking metrics are clearly explained. Several companies are experimenting with various methodologies from external service providers, comparing them with each other and explaining the results. Lastly, the companies in the sample describe the specific use made of this work and of these results. In most cases, the purpose is to become more familiar with these tools, and not to monitor metrics *ex ante* when making management, financing or risk management decisions. The reader is in a position to assess the uncertainty surrounding the results published or the direction that the organisation intends to take in managing its climate-related risks and opportunities.

Other companies opt for a more assertive tone for all or part of their report. They highlight conclusions on the exposure to climate risks, the resilience of the strategy and the appropriateness of the measures taken. However, the process leading to the conclusion that there are no major risks or that climate factors have been fully considered is not explained in any detail. The reader is not in a position to form an opinion on the relevance of the approach, due to a lack of information.

The companies suggest several reasons for this:

- The decision by a company to produce a concise report justifies its choice not to publish important details on the approach taken. Similarly, for some points that are particularly uncertain, it would take too long to explain the assumptions and parameters involved.
- The more comprehensive and detailed the report is, the more cumbersome the approval process for publishing it becomes. And the more information published, the greater the organisation’s exposure. Limiting the level of detail provided is therefore a way of streamlining the publication process.

Producing an illustrative rather than demonstrative document is an “editorial decision”: the interviews thus showed that not all the work and initiatives carried out on the climate issue are necessarily included in the report, including some large-scale work.

In addition to the issue of uncertainty, discussed in the previous section, two other factors are taken into consideration when deciding whether or not to publish information. The strategic and/or sensitive aspect of information was highlighted, as was the potential for misinterpreting information or using the information disclosed in a way that would be detrimental to the company (sensitive information given to competitors, interpretation or use by NGOs and reputational risk). The intention is therefore to exercise caution in the level of information provided to protect the company.

Not everything is meant to be published. However, to be relevant (“effective”), the information published must comply with the TCFD’s seven principles summarised in [Figure 1](#).

Parts of the answer

In the same way that the level of detail disclosed is covered by different practices, the type of information published is considered differently by the companies in the sample. Some companies provide several examples related to each of the recommendations while others try to describe the systematic processes put in place with varying degrees of coverage. The systematic aspect of a process demonstrates more clearly than a juxtaposition of isolated initiatives how the company addresses the climate issue. For example, funds of less than €200m sometimes undergo significant developments without making it clear how they fit into the systematic development of commercial offers. By contrast, the conversion of an organisation's entire commercial range is taken as an illustration of its strategy to take advantage of opportunities. These two types of information – examples and processes – can nevertheless usefully complement each other, as the examples can illustrate in an effective way how the processes are applied, providing the reader with a better understanding.

5 Theme 5

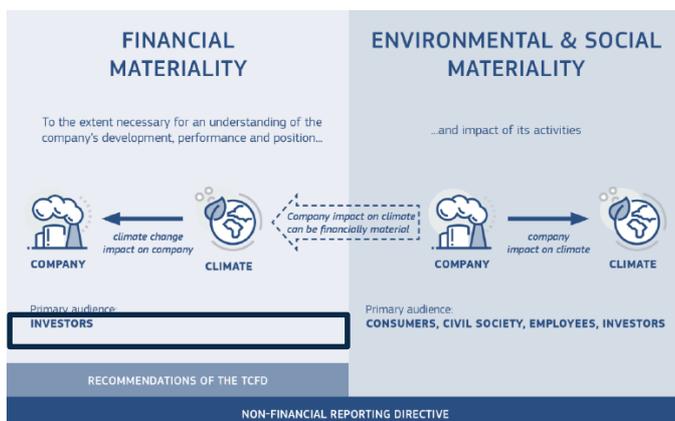
Representativeness of the Information Published

Financial materiality and link to the business model

Several recommendations encourage companies to conduct a materiality analysis of climate risks, indicating the process for identifying these material risks and publishing the results (Sa2, Sa3, R_{manager}-1). Other aspects of the companies' approach, particularly risk management, should allow for mitigation processes to be put in place to deal with these material risks.

There is therefore a parallel between the materiality analysis required by the Non-Financial Reporting Directive (NFRD) and that recommended by the TCFD. One important clarification, however: while the TCFD focuses on financial materiality, the NFRD is based on the concept of double materiality. Two organisations address this concept of double materiality in their climate reporting. The difference is summarised in the diagram below:

The double materiality perspective of the Non-Financial Reporting Directive in the context of reporting climate-related information



* Financial materiality is used here in the broad sense of affecting the value of the company, not just in the sense of affecting financial measures recognised in the financial statements.

Figure 3: Double materiality in the Non-Financial Reporting Directive

Source: European Commission 2019, "European Commission's guidelines on the publication of climate-related information"

This materiality analysis cannot ignore the link with the companies' business model. However, in the vast majority of cases, the link between physical and transition risks is not compared with the group's various business activities. Not all the entities' business activities are covered by the risk and opportunity analyses, even though they may contribute significantly to the overall company results. Their exclusion from the scope is neither explained nor justified.

Scope of the analyses

As a result, the reader often struggles to determine how much of a company's overall business activity is represented by the numerous initiatives and analyses that are sometimes developed at length in the reports, which either undermines the relevance of the reports or prevents the reader of the TCFD reporting from assessing the extent to which the company is protecting itself from the financial risks related to climate change or has significantly changed its business model.

By way of illustration, some experimental pilot studies are described in detail, but the size of the associated samples is not specified. While it is understandable that initiatives should be developed and tested on a limited scope before being deployed on a larger scale, and that sharing such initiatives is useful to the group as a whole, these initiatives should be contextualised in relation to the company's business model, especially when these analyses are developed further in the reports.

Among groups with multiple business activities, the analyses carried out show that insurance activities are poorly represented, as are retail banking activities.

The organisations interviewed point to the different maturity level of each of their business segments with regard to climate risk management as an explanation for the over-representation of asset management and financing activities compared with insurance activities:

- The analysis methods offered by service providers cover asset management or financing business activities (see “portfolio alignment” methods).
- Climate analysis is sometimes embedded in analyses of issuers or counterparties that already exist, based on data that is generally not available for smaller companies.
- Restricting or limiting a company’s exposure to certain carbon-intensive sectors does not require the same commercial effort for each business activity in question. This is because a policy of excluding certain issuers in asset management is less binding from a commercial point of view and has less impact on revenue than discontinuing insurance services for certain sectors. For insurers, this approach, which consists of aligning sector-specific policies in terms of assets and liabilities, is a recent development (and exists for other issues, notably health, in the treatment of economic sectors such as tobacco) and mainly concerns European companies. The fact that the insurance sector was late to the table in introducing climate issues as a consideration in its underwriting activities, and then only for a small number of companies, may explain why analytical tools are still being developed for insurance activities.
- The timescale involved also plays a role: reshaping an investment portfolio is achievable in a shorter period than reshaping an underwriting portfolio.

Is a consolidated vision of exposure to climate risk emerging?

As mentioned earlier, the recommendations aim to assist investors in estimating the financial impact of climate risk at the entity level and in assessing the resilience of the corporate strategy to climate risk. To date, the presentation of consolidated information is absent from all reporting.

It should be noted that the Task Force states in its latest

2020 Status Report that the key challenge for asset managers is to provide clear information to clients on how climate factors are taken into account in management decisions and product design.

The usefulness of being able to provide an overall, group-wide vision of these risks in addition to an analysis by business sector appears to be an interesting prospect for the organisations in the sample. It would help to illustrate the consistency within the group and to show the strategic intent at the highest level. However, this overall vision is confronted with many methodological and logical difficulties.



Moving forward

- Establish the link with the business model as specified by the Non-Financial Reporting Directive (NFRD) and reiterated in the AMF’s CSR report, and in conjunction with the European Commission’s guidelines on the publication of climate-related information.
- For each of the risk analysis and management processes described, specify the scope of business concerned (% of assets under management, % exposure, % premiums, etc.).
- In an effort to be concise and improve the readability of the report, reduce the information that does not contribute to an overall understanding of the analyses carried out or the processes put in place, in particular information on more specific initiatives, such as the development of certain “green” products.

Conclusion

By publishing information in accordance with the reporting framework proposed by the TCFD, the financial institutions studied have opted for transparency regarding their understanding of climate risks and opportunities, **an approach that should be encouraged**. Although the implementation of this **demanding reporting framework**, one that is however commensurate with current and future climate issues, poses a number of challenges for the organisations, it also allows them to **move forward step by step towards being more resilient at a time of climate crisis**.

This **in-depth examination of the reporting practices** of 10 French financial institutions has **identified the main challenges and best practices around TCFD reporting, with a view to providing support to companies that are embarking on this path**.

This analysis revealed the **diversity of approaches** used by the companies studied: governance systems, strategies, tools and processes for risk analysis and management, climate-related metrics and targets.

[These practices](#)

These practices reflect current thinking and the **current momentum for innovation** in the analysis of climate risks and opportunities, momentum that needs to be maintained to enhance analytical frameworks that still have significant room for improvement. This will also allow the financial sector, and the many financial institutions in the Paris financial market that have committed to it, to play their part in the transition. With this in mind, **it is essential to encourage organisations to be more transparent about their analytical frameworks and thus promote the development of tools and methodologies that are more robust but also more comparable going forward**.

To sum up, the TCFD offers financial institutions a useful framework for **understanding climate issues from the perspective of financial materiality**, which they can use **in part** to meet the **reporting requirements of European legislation** applicable to companies (NFRD) and investors (SFDR).

Appendices

Appendix 1. Panorama of climate-related metrics

This appendix presents a list of all climate-related metrics published in the TCFD reports analyzed. Indicators for which the methodology is described but no results are published are not included here.

Synthesis

Category	Total (nb)	Share (%)
Total number of metrics	78	100,0%
Forward-looking metrics	20	25,3 %
Backward-looking metrics	58	74,4 %
Climate-related opportunities metrics	31	39,7 %
Transition risks metrics	45	57 %
Physical risks metrics	16	20,3 %

Note: these categories are not mutually exclusive (e.g. a metric can be listed both as a transition risk metric and as a forward-looking metric). Some aggregate metrics address both physical and transition risk. Therefore, the sum of shares exceeds 100%.

Panorama

Metrics	Units	Providers	Types of risks / opportunities	Backward/forward-looking	Description*	Number of actors
Portfolio's carbon footprint	tCO ₂ /€M invested	Trucost S&P, MSCI	transition risk	backward-looking	Total carbon emissions for a portfolio normalized by the market value of the portfolio. GHG emissions are allocated to investors based on an equity ownership approach (value of investment on issuer's market capitalization).	2
Portfolio's carbon footprint (2)	tCO ₂ /€M invested	not specified	transition risk	backward-looking	Total carbon emissions for a portfolio normalized by the market value of the portfolio. GHG emissions are allocated to investors based on another ownership approach, as the value of the issuers (equity and debt) replace the market capitalization.	1
Portfolio's carbon intensity	tCO ₂ /€M revenues	Trucost S&P, MSCI	transition risk	backward-looking	The company's (or issuer's) revenue is used to adjust for company size to provide a measurement of the efficiency of output. GHG emissions are allocated to investors based on an equity ownership approach.	3
Portfolio's weighted average carbon intensity	tCO ₂ /€M revenues	MSCI for some actors	transition risk	backward-looking	Average carbon intensities of the companies in the portfolio, allocated to investors based on portfolio weights (rather than the equity ownership approach). This metric gives the portfolio's exposure to carbon-intensive companies.	2
Carbon footprint of the electric mix financed	gCO ₂ e / kWh financed	not specified	transition risk	backward-looking	Average GHG emissions (gCO ₂ e) of one kWh financed (electricity mix).	1
Carbon intensity of the energy production financed	gCO ₂ e / kWh financed	produced by the actor, based on 2 ^o Investing Initiative's (Zii) research.	transition risk	forward-looking	Average GHG emissions (gCO ₂ e) of one kWh financed (electricity mix) and carbon intensity projection to 2040.	1
Carbon intensity of investments	tCO ₂ e / €M invested	not specified	transition risk	backward-looking	The actor discloses a value for "carbon intensity per million euros invested" but the methodology disclosed is relative to "carbon intensity". As described by the actor, carbon intensity is defined as the ratio of total CO ₂ emissions to GDP for states and to turnover for companies.	1
GHG emissions related to investments and financing (scope 3)	tCO ₂ eq	not specified	transition risk	backward-looking	This metric measures the absolute value of GHG emissions associated with the financing and investment portfolio.	1
Portfolio's carbon intensity (corporate and sovereign assets)	tCO ₂ e / M\$ GDP tCO ₂ e / M\$ revenues	produced by the actor, based on the World Bank's research	transition risk	backward-looking	Carbon intensity is defined as the ratio of total CO ₂ emissions to GDP for states and to revenues for companies.	2
Assets subject to a carbon footprint calculation	€M	not specified	transition risk	backward-looking	/	1

* Details on formula and methodology are given in [Appendices 2 and 3](#)

Appendices

A1. Climate-related metrics panorama

	Metrics	Units	Providers	Types of risks / opportunities	backward-looking / forward-looking	Description	Number of actors
Green share of investments	1 - Green share (listed assets)	% green revenues	Trucost	opportunity	backward-looking	The green share for listed investments is the value-weighted average share of revenues of issuers in portfolio (average share of issuers' revenues in the portfolio dedicated to green activities, weighted by the turnover of the issuers). The provider decomposes revenue mix of companies according to a proprietary taxonomy closed to the French Label TEEC grid. This taxonomy defines "core green" activities (geothermal, hydroelectricity, solar, etc.) and "green candidate" activities.	2
	2 - Green share (sovereign investments)	% low-carbon in countries' energy supply	Beyond Ratings	opportunity	backward-looking	Share of low-carbon energy in primary energy use. Energy included in the calculation of the green proxy: hydropower, wind, solar, geothermal, tidal, nuclear.	1
	3 - Green share (share of issuers offering environmental solutions)	% Issuers	MSCI	opportunity	backward-looking	Weight of portfolio carbon rated issuers offering "clean technology goods & services", breakdown by : alternative energy, energy efficiency, green building, pollution prevention, sustainable water	1
	1 - Green investments (Project-led green share)	€M	not specified	opportunity	backward-looking	Share of portfolio dedicated to green investments : green bonds, infrastructure debt and equity, "impact investment", real estate, commercial real estate loans.	2
	2 - Green investments	% portfolio	not specified	opportunity	backward-looking	Share of portfolio invested in green investment, and distribution by asset class : green bonds, infrastructure debt, real estate debt, direct real estate investment. Further details are provided for some asset classes (share of certified real estate in portfolio, distribution of infrastructure debt investments with an environmental impact, etc.).	1
	Green financing production	€M	not specified	opportunity	backward-looking	Amount of green financing (corporate assets) in billion euros, and split of these financing between : renewable energy production, sustainable buildings, public transports and other environmental projects. Sustainable bonds (green and sustainability bonds) are included.	1
	Assets in the green financing or green loans portfolio (2)	€M	not specified	opportunity	backward-looking	Assets in the green loan portfolio. The actor provides an in-house definition of "green".	1
Other green investments*	Investments in renewable energy (€)	€M	not specified	opportunity	backward-looking	Investment in renewables, expressed in amount invested.	2
	Investments in renewable energy (GW)	GW	not specified	opportunity	backward-looking	Investment in renewables, expressed in energy capacity (GW).	1
	Renewable financing or advisory	€M	not specified	opportunity	backward-looking	Amount of financing dedicated to renewable energies or related consulting activities.	1
	Amount of Green bonds	€M	not specified	opportunity	backward-looking	Actors in the sample give different definitions of green bonds (reference to the Green Bond Principles or in-house frameworks). Some actors disclose their investments in green bonds per project categories, such as : energy efficiency, renewables, waste management, etc.	7
	Amount of Sustainable bonds	€M	not specified	opportunity	backward-looking	Actors in the sample give various definitions of sustainable bonds. One of the actors refers to ICMA's Sustainable Bond Principles.	2
	Amount of Transition bonds	€M	not specified	opportunity	backward-looking	According to the actors, this category of bonds is required to finance 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."	1
	Assets supporting the energy transition and green growth	€M	not specified	opportunity	backward-looking	Relates to the amount of "environmental themed assets" (climate, energy transition, water, natural resources), including : low-carbon indexed funds, targeted programs, green bonds, environmental themed funds, etc.	1
	Low-carbon index solutions	€M	not specified	opportunity	backward-looking	Amount of low carbon index investment solutions, relative to the MSCI Low carbon leaders index.	1

* These products are often supplemented with a list of ESG products, see category [ESG rating].

Appendices

A1. Climate-related metrics panorama

	Metrics	Units	Providers	Types of risks / opportunities	backward-looking / forward-looking	Description	Number of actors
Other green investments*	Amount of Sustainability Linked-loans (SLL) and specific share of environmental loans	€M	not specified	opportunity	backward-looking	Amount of "Sustainability Linked-loans" and the proportion of these loans exclusively related to environmental criteria.	1
	Weight of portfolio carbon-rated issuers with a revenue dedicated to environmental solutions	% issuers	not specified	opportunity	backward-looking	Share of issuers in portfolio with revenues from environmental solutions : share of issuers between 1 and 10% of revenues, between 20 and 50% and between 50 to 100%.	1
	Green funds under management	€M	not specified	opportunity	backward-looking	Green funds mainly concern investments in energy efficiency and alternative energies.	1
	Assets in the "sustainable thematic"	€M	not specified	opportunity	backward-looking	Amount and distribution of equity, green bonds and sustainable bonds funds exposed to sustainable thematic : sustainable mobility, renewable energies, services, green buildings, inclusive development, circular economy, food and agriculture.	1
ESG rating, ESG integration policy and various related metrics	ESG score**	Score (number, letter)	depends on actors	depends on actors	backward-looking	Diverse methodologies, depending on the actors (e.g definitions of environmental criteria).	3
	Specific score on climate factors					Disclosure of specific climate scores.	1
	ESG controversies exposure	Level of exposure, gradient	MSCI	transition risk	backward-looking	Exposure of assets to ESG controversies, with a gradient of exposure (no specific climate-related controversies categories: based on the 10 principles of the Global Compact).	1
	Assets under management after exclusion of lowest-rated issuers following an ESG rating	€M	not specified	N/A	backward-looking	Assets under management after exclusion of the lowest rated issuers according to an ESG analysis covering part of the portfolio. The scope of this analysis is given.	2
	ESG training for employees and clients	Number of trainings	not specified	transition risk	backward-looking	/	1
	Assets incorporating an ESG filter	€M	not specified	N/A	backward-looking	/	2
	Amount of "sustainable assets"	€M	not specified	transition risk, opportunity	backward-looking	Amount of assets in the following categories : ESG selection, Sustainable Thematic investments.	1
Exposure in terms of energy mix (coal, oil, ect.)	Proportion of portfolios exposed to thermal coal	% portfolio	not specified	transition risk	backward-looking	<i>Description and/or methodology not disclosed.</i>	1
	Weighted exposure of portfolios to thermal coal	€M	not specified	transition risk	backward-looking	As described by the actor, the issuer's coal exposure (percentage of revenue from coal-related activities) is multiplied by the amount invested in the issuer (company's exposure). The sum of these amounts is then compared to the total amount of the actor's investments.	1
	Exposure to thermal coal (€)	€M	not specified	transition risk	backward-looking	Total exposure to issuers with revenues from thermal coal (open funds).	1
	Weight of portfolio carbon rated issuers with a revenue from coal	% portfolio	MSCI	transition risk	backward-looking	Share of issuers in portfolio with a revenue from coal. The actor gives the distribution of actors with : 1 to 20% of revenues from coal, 20 to 50% of revenues and more than 50%.	1
	Exposure of investment portfolios to hydrocarbons	€M	not specified	transition risk	backward-looking	Total exposure of portfolio to oil and gas sectors.	1
	Coal Power Share	% MW	not specified	transition risk	backward-looking	Share of coal in the energy mix financed.	1
	Primary energy mix and electricity mix financed	% energy	not specified	transition risk	backward-looking	Primary energy mix : share of fossil energy financed, per type of energy: gas, coal, oil. Electricity mix : share of oil, gas, coal, nuclear, hydro and other renewables in the mix financed.	1
	Coal mines financing	base 100	not specified	transition risk	backward-looking	Evolution of coal mines financing (base 100 in 2016).	1

* These products are often supplemented with a list of ESG products, see category [ESG rating].

** Only metrics with results or part of the results disclosed in the TCFD reports are cited here. ESG ratings are referenced as backward-looking and not forward-looking as they are not based on scenarios and generally take into account data from reports published in N for N-1.

Appendices

A1. Climate-related metrics panorama

	Metrics	Units	Providers	Types of risks / opportunities	backward-looking / forward-looking	Description	Number of actors
Energy mix exposure	Assets under management subject to the coal exclusion policy	M€ & % portfolio	not specified	transition risk	backward-looking	<i>Description and/or methodology not disclosed.</i>	1
	Portfolio's energy mix	% portfolio	for one of the actors: based on 2° Investing Initiative (2ii) research	transition risk	backward-looking	Share of portfolio (scope: energy producers) exposed to a given energy production technology or to fossil fuels (level of granularity varying between actors).	2
	Thermal coal power & mining financing targets : gross commitment by 2040	base 100 in 2020 (M€)	produced by the actor, based on 2° Investing Initiative (2ii) research	transition risk	forward-looking	Thermal coal extraction and power financing (gross commitment base 100 in 2020) by 2040. The actor also gives intermediary milestones. Gross commitment : drawn amount + confirmed undrawn amount, excluding for guarantees	1
	Share of thermal coal in the electricity mix financed : 2050 target	% electricity mix financed	not specified	transition risk	forward-looking	Targets of the actor concerning the share of coal in the electricity mix financed, by 2050.	1
	Upstream oil & natural gas financing targets : 2040 commitment by 2040	base 100 in 2020 (M€)	produced by the actor, based on 2° Investing Initiative (2ii) research	transition risk	forward-looking	Upstream oil & natural gas financing (gross commitment base 100 in 2020) by 2040. The actor also gives the intermediary milestones.	1
	Portfolio's exposure to issuers holding fossil fuel reserves	% portfolio	MSCI	transition risk	backward-looking	Assessment of risks related to stranded assets: exposure of the portfolio to issuers holding fossil fuel reserves : weighting in the portfolio (among assets covered by carbon footprint assessment).	1
Other risk exposure metrics	Assets in carbon-intensive sectors	% portfolio	produced by the actor	transition risk	backward-looking	Proportion of carbon-intensive sectors in the investment portfolio (carbon intensity : emissions per unit produced or turnover), details on the sectors are not given.	1
	« Low Carbon Transition Score »	% portfolio	MSCI	transition risk, opportunity	backward-looking	As described by the actor, "the Low Carbon Transition Score uses the issuers' carbon intensity to assign to each a score of exposure to transition risks, while considering their capacity to manage those risks. This 0 to 10 grade classifies issuers in five main categories : "asset stranding risk" ; "operational Transition risk"; "product Transition risk" ; "neutral" and "solutions". The final metric disclosed shows the distribution of asset across these 5 categories.	1
	« Climate Vulnerability Index (CVI) »	Risk scale	produced by the actor	transition risk	forward-looking	The "Climate Vulnerability Index" rates borrowers in the credit portfolio on a 7-level scale (from "high negative" to "high positive") for transition risks, based on scenario analysis. The study concerns only 7 "at risk" sectors. The final disclosed shows the distribution of exposure across seven sectors sensitive to transition risks	1
	« Environmental Vulnerability Index »	% portfolio	produced by the actor, based on UNEP research	physical risk	backward-looking	Share of assets exposed to different categories of physical risks (climate hazards and natural catastrophes) : "at risk", "vulnerable", "highly vulnerable", "extremely vulnerable".	1
	Exposure to biodiversity risks and land use risks	% portfolio	produced by the actor	physical risk	backward-looking	Estimation of the share of assets located in geographical areas with high, medium or low biodiversity and land use risks.	1
	Impact of transition risks on market value	% market value	produced by the actor, based on 2° Investing Initiative (2ii) research	transition risk	forward-looking	Evaluation of variations in the market value in a "too late, too sudden" scenario, by 2025 ("Storm Ahead" analysis).	1
	Impact of transition risks on assets' credit ratings	Grades from A+ to C- and % variation	produced by the actor, based on 2° Investing Initiative (2ii) research	transition risk	forward-looking	Estimation of credit ratings of the assets in the investment portfolio in a "too late, too sudden" scenario, by 2025 ("Storm Ahead" analysis).	1
	Energy mix of investment portfolios	% portfolio	2ii	transition risk	forward-looking	For power producers only: comparison between the institution's current portfolio (allocation of energy sources in the portfolio) and a portfolio aligned with a 2°C scenario.	1
	Production of car manufacturers : gap between the current portfolio and a portfolio aligned with a 2°C scenario	% portfolio	2ii	transition risk	forward-looking	For car manufacturers: comparison between the institution's current portfolio (allocation of car manufacturers' products: thermal, hybrid, electric cars) and a portfolio aligned with a 2°C scenario.	1
	Impact of transition risks on bond value - DNB	% bond value	produced by the actor, based on DNB research	transition risk	forward-looking	Estimation of future changes in bond prices under different scenarios developed by De Nederlandsche Bank (DNB). These variations are due to changes in interest rates and credit spreads that may affect the bond portfolio of the institution.	1

Appendices

A1. Climate-related metrics panorama

	Metrics	Units	Providers	Types of risks / opportunities	backward-looking / forward-looking	Description	Number of actors
Other risk exposure metrics	Share of private assets in each risk and opportunity exposure categories	% portfolio	produced by the actor	transition risk, opportunity	backward-looking	Share of portfolio's issuers in each risk and opportunity categories defined by the actor, and distribution of such categories per sectors : high risk, risk, neutral, opportunities, high opportunities. The ranking only concerns carbon-intensive sectors.	1
	Share of assets exposed to maximum physical risks	% portfolio	Carbon Delta	physical risk	forward-looking	Share of asset under management exposed to maximum climate physical risks (e.g 95th percentile of the probability distribution), taking into account acute and chronic risks.	1
	Share of assets exposed to water stress	% portfolio	produced by the actor	physical risk	backward-looking	Estimated percentage of assets in geographies facing high/moderate/low water stress.	1
	Exposure of assets to high, moderate and low carbon regulatory risks	% portfolio	produced by the actor	transition risk	backward-looking	This metric gives the estimated percentage of operations in geographies facing high and medium to low carbon regulatory risk.	1
	Physical risk weighted score of most exposed sectors of the loan book	scale from 1 to 100	not specified	physical risk	backward-looking	Assessment of physical risk level conducted on the nine sectors most exposed to physical risks (by taking the top 10 clients in terms of credit exposure in each sector). The assessment is based on operational risks, value chain risks and market risks. The results are expressed in the form of a score for each type of risks.	1
	Average annual loss due to physical risks and average annual loss for a 100 year event.	€M	not specified	physical risk	backward-looking	Average losses due to physical risks in the following sectors: real estate, real estate debt, infrastructure debt. Complementary estimate of losses for centennial events.	1
	Exposure to Insurance-linked Securities (ILS)	€M	not specified	physical risk, opportunity	backward-looking	/	1
	Distribution of natural catastrophe investments by estimated loss	% loss	not specified	physical risk	backward-looking	Distribution of losses per type of natural catastrophe (Australian windstorm, Japan Earthquake, U.S Tornado, etc.).	1
	Losses due to floods and storms (real assets)	€M	not specified	physical risk	backward-looking	Amount of losses due to floods and storms, broken down by country.	1
Climate VaR (value at risk) Composite metric: Portfolio cost of climate + Technology opportunity	(1) "Company cost and opportunity of climate"	% company's revenues	Carbon Delta - MSCI	transition risk, physical risk and opportunity	forward-looking	Share of company's revenues affected by i) transition risks (-) , ii) physical risks (-) and iii) green revenues (+). The results are presented in both aggregated and disaggregated form.	2
	(2) "Portfolio cost of climate " with : - Transition cost - physical risk cost	% value of investments		transition risk, physical risk	forward-looking	Assessment of the financial impacts of climate physical and transition risks on portfolios under management. An actor disclose the breakdown of cost by type of physical hazard.	4
	(3) "Technology opportunity " or "Green revenues"	% value of investments		opportunity	forward-looking	Assessment of the financial impacts of climate-related opportunities on portfolios under management.	3
	"Climate VaR" (2) + (3)	% value of investments		transition risk, physical risk and opportunity	forward-looking	Value of investments negatively impacted by transition and physical risks ("cost of climate") and positively affected by climate-related opportunities ("green revenues").	4
Implied Temperature rise	« Warming Potential » (corporate)	°C	Carbon Delta - MSCI	transition risk, physical risk and opportunity	forward-looking	Measure of an Implied Temperature Rise with a methodology developed by Carbon Delta.	2
	Temperatures of portfolios (equity and bonds) - Carbon Impact Analytics	°C	Carbon 4 - Mirova	transition risk, physical risk and opportunity	forward-looking	Measure of an Implied Temperature Rise with a methodology developed by Carbon 4.	2
	Temperatures of portfolios (equity and bonds) - Science Based 2°C Alignment (SB2A)	°C	I Care & Consult	transition risk, physical risk and opportunity	forward-looking	Measure of an Implied Temperature Rise with a methodology developed by I Care and Consult.	1
	Temperature of portfolios (sovereign assets) - Beyond Ratings	°C	Beyond Ratings	transition risk, physical risk and opportunity	forward-looking	Measure of an Implied Temperature Rise with a methodology developed by Beyond Ratings.	2

Appendix 2. Carbon accounting metrics: relation to the metrics documented by the TCFD

This appendix provides methodological details on the carbon accounting metrics published by the actors in the sample, compared with the five carbon footprinting metrics identified by the TCFD in its appendices (see [appendix 3](#) p. 57, which also presents the advantages and limitations of each indicator identified by the TCFD). As a reminder, the TCFD recommends the publication of a weighted average carbon intensity ($M_{o/m1}$). The number of actors publishing these metrics is given in column 5. Other carbon footprint metrics not listed by TCFD have been published by actors: these metrics and their methodologies are presented on the next page.

Metrics	Units	TCFD's formula	Definition	Number of actors	
Metrics described by the TCFD	Total carbon emissions	tCO ₂	$\sum_n^i \left(\frac{\text{current value of investment}_i}{\text{issuer's market capitalization}_i} \times \text{issuer's GHG emissions}_i \right)$	<p>This metric measures the absolute greenhouse gas emissions associated with a portfolio. GHG emissions are allocated to investors based on an equity ownership approach. Under this approach, if an investor owns 5 % of a company's total market capitalization, then the investor owns 5 % of the company as well as 5 % of the company's GHG emissions.</p> <p>While this metric is generally used for public equities, it can be used for other asset classes by allocating GHG emissions across the total capital structure of the investee (debt and equity).</p>	0
	Carbon footprint	tCO ₂ /€M invested	$\frac{\sum_n^i \left(\frac{\text{current value of investment}_i}{\text{issuer's market capitalization}_i} \times \text{issuer's GHG emissions}_i \right)}{\text{current portfolio value}}$	Total carbon emissions for a portfolio normalized by the market value of the portfolio. GHG emissions are allocated to investors based on an equity ownership approach.	2
	Carbon Intensity	tCO ₂ /€M revenues	$\frac{\sum_n^i \left(\frac{\text{current value of investment}_i}{\text{issuer's market capitalization}_i} \times \text{issuer's GHG emissions}_i \right)}{\sum_n^i \left(\frac{\text{current value of investment}_i}{\text{issuer's market capitalization}_i} \times \text{issuer's revenues}_i \right)}$	This metric gives the carbon efficiency of portfolios. The company's (or issuer's) revenue is used to adjust for company size to provide a measurement of the efficiency of output. GHG emissions are allocated to investors based on an equity ownership approach.	3
	Weighted average carbon intensity	tCO ₂ /€M revenues	$\sum_n^i \left(\frac{\text{valeur actuelle de l'investissement}_i}{\text{current portfolio value}} \times \frac{\text{issuer's GHG emissions}_i}{\text{issuer's revenues}_i} \right)$	Average carbon intensities of the companies in the portfolio, allocated to investors based on portfolio weights (rather than the equity ownership approach). This metric gives the portfolio's exposure to carbon-intensive companies. .	2
	Exposure to Carbon Related Assets	€M or % portfolio	$\frac{\sum \text{current value of investments in carbon related assets}}{\text{current portfolio value}} \times 100$ <p style="text-align: center;">or</p> $\sum \text{current value of investments in carbon related assets (€M)}$	<p>The amount or percentage of carbon-related assets in the portfolio. This metric focuses on a portfolio's exposure to sectors and industries considered the most GHG emissions intensive. Gross values should be used.</p> <p>The TCFD gives further details on the term « carbon-related asset » : "Recognizing that the term carbon-related assets is not well defined, the Task Force encourages asset owners and asset managers to use a consistent definition to support comparability. The Task Force suggests defining carbon-related assets as those assets tied to the energy and utilities sectors under the Global Industry Classification Standard, excluding water utilities and independent power and renewable electricity producer industries.. »</p>	1

	Metrics*	Units*	Formula, if disclosed by the actors*	Definition*	Number of actors
Other carbon metrics disclosed by the actors	GHG emissions related to investments and financing (scope 3)	tCO ₂ e	Not specified	This metric measures the absolute value of GHG emissions associated with the financing and investment portfolio. As described by the actor, "Greenhouse gas emissions are allocated to economic agents according to their ability to (and economic interest in) reducing them based on a "by issue" allocation, as opposed to the usual "by scope" allocation" (« P9XCA » methodology).	1
	Carbon intensity of energy production financed	gCO ₂ e / kWh financed	Reference to 2 Degrees Investing Initiative's methodology ^a	Average GHG emissions (g) of one kWh financed (electricity mix) and carbon intensity projection to 2040.	1
	Carbon footprint of the electric mix financed	gCO ₂ e / kWh financed	Not specified	Average GHG emissions of one kWh financed (electricity mix). The metric is supplemented by further information on the electric mix financed.	1
	Investments carbon intensity	tCO ₂ e / €M invested	Not specified The actor indicates : $\frac{GHG\ emissions\ of\ issuer}{issuer's\ turnover\ or\ GDP}$ The expression « per million € invested » is not aligned fully with this formula	The actor discloses a value for "carbon intensity per million euros invested" but the methodology disclosed is relative to "carbon intensity". As described by the actor, carbon intensity is defined as the ratio of total CO ₂ emissions to GDP for states and to turnover for companies. Scope 1 to scope 3 GHG emissions are taken into account for sovereign assets, and scope 1 and 2 for corporates.	1
	Portfolio carbon intensity (corporate and sovereign assets)	tCO ₂ e / €M GDP tCO ₂ e / €M revenues	Not specified	Carbon intensity is defined as the ratio of total CO ₂ emissions (scope 1 to scope 3) to GDP for states and to revenues for companies.	2
	Carbon footprint of portfolio	tCO ₂ e / €M revenues	$\frac{\sum_i \left(\frac{current\ value\ of\ investment_i}{company's\ value\ (equity + debt)_i} \times GHG\ emissions\ of\ company_i \right)}{current\ value\ of\ portfolio}$	Total carbon emissions for a portfolio normalized by the market value of the portfolio. GHG emissions are allocated to investors based on an different ownership approach compared with the TCFD carbon footprint metric : the value of the issuers (equity and debt) replace the issuer's market capitalization.	1

* If the actor publishes a carbon metric not listed by the TCFD, the wording, calculation formula and definition are those specified in the public report.

a. Formula available in the following report : <https://2degrees-investing.org/wp-content/uploads/2020/09/Katowice-Banks-2020-Credit-Portfolio-Alignment.pdf>

Appendix 3. Appendices from the « TCFD Final Report »

5. Carbon Footprinting and Exposure Metrics

Table 2 below provides descriptions, formulas, and additional information for common carbon footprinting and exposure metrics. The table includes the weighted average carbon intensity metric that the Task Force recommends asset owners and asset managers report to their beneficiaries and clients as well as other metrics such organizations should consider reporting.

Table 2

Common Carbon Footprinting and Exposure Metrics

Metric	Supporting Information	
Weighted Average Carbon Intensity	<i>Description</i>	Portfolio's exposure to carbon-intensive companies, expressed in tons CO ₂ e / \$M revenue. <i>Metric recommended by the Task Force.</i>
	<i>Formula</i>	$\sum_n^i \left(\frac{\text{current value of investment}_i * \text{issuer's Scope 1 and Scope 2 GHG emissions}_i}{\text{current portfolio value} * \text{issuer's \$M revenue}_i} \right)$
	<i>Methodology</i>	Unlike the next three metrics, Scope 1 and Scope 2 GHG emissions are allocated based on portfolio weights (the current value of the investment relative to the current portfolio value), rather than the equity ownership approach (as described under methodology for Total Carbon Emissions). Gross values should be used.
Total Carbon Emissions	<i>Description</i>	The absolute greenhouse gas emissions associated with a portfolio, expressed in tons CO ₂ e.
	<i>Formula</i>	$\sum_n^i \left(\frac{\text{current value of investment}_i}{\text{issuer's market capitalization}_i} * \text{issuer's Scope 1 and Scope 2 GHG emissions}_i \right)$
	<i>Methodology</i>	Scope 1 and Scope 2 GHG emissions are allocated to investors based on an equity ownership approach. Under this approach, if an investor owns 5 percent of a company's total market capitalization, then the investor owns 5 percent of the company as well as 5 percent of the company's GHG (or carbon) emissions. While this metric is generally used for public equities, it can be used for other asset classes by allocating GHG emissions across the total capital structure of the investee (debt and equity).
Carbon Footprint	<i>Description</i>	Total carbon emissions for a portfolio normalized by the market value of the portfolio, expressed in tons CO ₂ e / \$M invested.
	<i>Formula</i>	$\frac{\sum_n^i \left(\frac{\text{current value of investment}_i}{\text{issuer's market capitalization}_i} * \text{issuer's Scope 1 and Scope 2 GHG emissions}_i \right)}{\text{current portfolio value} (\$M)}$
	<i>Key Points</i>	<ul style="list-style-type: none"> + Metric can be more easily applied across asset classes since it does not rely on equity ownership approach. + The calculation of this metric is fairly simple and easy to communicate to investors. + Metric allows for portfolio decomposition and attribution analysis. - Metric is sensitive to outliers. - Using revenue (instead of physical or other metrics) to normalize the data tends to favor companies with higher pricing levels relative to their peers.

- A Introduction
- B Recommendations
- C Guidance for All Sectors
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Table 2

Common Carbon Footprinting and Exposure Metrics (continued)

Metric	Supporting Information	
Carbon Footprint (continued)	<i>Methodology</i>	Scope 1 and Scope 2 GHG emissions are allocated to investors based on an equity ownership approach as described under methodology for Total Carbon Emissions. The current portfolio value is used to normalize the data.
	<i>Key Points</i> + / -	<ul style="list-style-type: none"> + Metric may be used to compare portfolios to one another and/or to a benchmark. + Using the portfolio market value to normalize data is fairly intuitive to investors. + Metric allows for portfolio decomposition and attribution analysis. - Metric does not take into account differences in the size of companies (e.g., does not consider the carbon efficiency of companies). - Changes in underlying companies' market capitalization can be misinterpreted.
Carbon Intensity	<i>Description</i>	Volume of carbon emissions per million dollars of revenue (carbon efficiency of a portfolio), expressed in tons CO ₂ e / \$M revenue.
	<i>Formula</i>	$\frac{\sum_n^i \left(\frac{\text{current value of investment}_i}{\text{issuer's market capitalization}_i} * \text{issuer's Scope 1 and Scope 2 GHG emissions}_i \right)}{\sum_n^i \left(\frac{\text{current value of investment}_i}{\text{issuer's market capitalization}_i} * \text{issuer's \$M revenue}_i \right)}$
	<i>Methodology</i>	Scope 1 and Scope 2 GHG emissions are allocated to investors based on an equity ownership approach as described under methodology for Total Carbon Emissions. The company's (or issuer's) revenue is used to adjust for company size to provide a measurement of the efficiency of output.
	<i>Key Points</i> + / -	<ul style="list-style-type: none"> + Metric may be used to compare portfolios to one another and/or to a benchmark. + Metric takes into account differences in the size of companies (e.g., considers the carbon efficiency of companies). + Metric allows for portfolio decomposition and attribution analysis. - The calculation of this metric is somewhat complex and may be difficult to communicate. - Changes in underlying companies' market capitalization can be misinterpreted.
Exposure to Carbon-Related Assets	<i>Description</i>	The amount or percentage of carbon-related assets ³⁴ in the portfolio, expressed in \$M or percentage of the current portfolio value.
	<i>Formula for Amount</i>	$\sum \$M \text{ current value of investments in carbon-related assets}$
	<i>Formula for Percentage</i>	$\frac{\sum \text{current value of investments in carbon-related assets}}{\text{current portfolio value}} * 100$
	<i>Methodology</i>	This metric focuses on a portfolio's exposure to sectors and industries considered the most GHG emissions intensive. Gross values should be used.
<i>Key Points</i> + / -	<ul style="list-style-type: none"> + Metric can be applied across asset classes and does not rely on underlying companies' Scope 1 and Scope 2 GHG emissions. - Metric does not provide information on sectors or industries other than those included in the definition of carbon-related assets (i.e., energy and utilities sectors under the Global Industry Classification Standard excluding water utilities and independent power and renewable electricity producer industries). 	

Note: The term "portfolio" used in the table above is defined as "fund or investment strategy" for asset owners and "product or investment strategy" for asset managers.

³⁴ Recognizing that the term carbon-related assets is not well defined, the Task Force encourages asset owners and asset managers to use a consistent definition to support comparability. The Task Force suggests defining carbon-related assets as those assets tied to the energy and utilities sectors under the Global Industry Classification Standard, excluding water utilities and independent power and renewable electricity producer industries.

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Appendices

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This work only reflects the AMF's point of view. The other members of the ClimAct Finance Consortium and the European Commission are not responsible for any use that may be made of the information contained herein.

About the Finance ClimAct

The Finance ClimAct project contributes to the implementation of France's National Low Carbon Strategy and the European Union's Sustainable Finance Action Plan. It aims to develop new tools, methods and knowledge enabling (1) retail investors to integrate environmental targets into their investment choices, and (2) financial institutions and their supervisors to integrate climate issues into their decision-making processes and align financial flows with energy/climate objectives.

The consortium, coordinated by ADEME, also includes the French Ministry for the Ecological Transition, the Autorité des Marchés Financiers (AMF), the Autorité de Contrôle Prudentiel et de Résolution (ACPR), 2° Investing Initiative, Institute for Climate Economics, Finance for Tomorrow and GreenFlex.

Finance ClimAct is an unprecedented programme with a total budget of €18 million and funding of €10 million from the European Commission.

Duration: 2019-2024

About the AMF

The AMF is an independent public authority responsible for ensuring that savings invested in financial products are protected, providing investors with adequate information and supervising the orderly operation of markets.

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