

CLIMATE RISKS WHAT LESSONS CAN BE LEARNT FROM THE FIRST CSRD SUSTAINABILITY STATEMENTS?

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EXECUTIVE SUMMARY

The economic shifts brought about by the carbon transition, as well as the physical impacts of climate change, represent new risk factors for business operations. It is therefore necessary for companies to anticipate the effects of climate change on their business models and adapt their risk management procedures accordingly.

A key element of the European Green Deal, the CSRD's main objective is to harmonise corporate sustainability reporting and to improve access to publicly disclosed ESG data. Companies subject to the CSRD must therefore publish a sustainability statement in accordance with the reporting framework of the *'European Sustainability Reporting Standards'* (ESRS), which aims to establish a common language, shared standards and a reference framework promoting the quality of published information as well as greater transparency. Coming into force on 1 January 2024, the CSRD has led to the publication of a sustainability statement for the 2024 financial year by companies falling within its scope, known as the 'first wave'. The first sustainability statements published already constitute a substantial source of information, offering valuable insights into companies' practices regarding the analysis of their climate risks and the presentation of their strategies in response to these risks.

The aim of this report is to analyse the data and information drawn from this first reporting exercise in order to assess the level of maturity of financial and non-financial companies in terms of the assessment and management of physical and transition climate risks. It also aims to highlight the main trends observed in the methodologies implemented by companies, with a view to identifying an initial set of good practices within the Paris financial centre.

The feedback gathered in this first IFD report will be useful for producing a second document – scheduled for the end of the first half of 2026 – which will present the analytical approaches, tools and available databases that enable stakeholders to integrate their risk assessments into their investment and financing decisions.

1. LESSONS FROM THE FIRST CSRD REPORTING CYCLE ON THE CONSIDERATION OF CLIMATE RISKS

The first part of this report draws on the reports published by several institutions¹ following the first CSRD reporting exercise carried out by companies covered by the first wave of the directive. It aims to consolidate and put into perspective the main lessons learnt from this exercise, particularly regarding the degree to which climate risks are integrated in non-financial reporting. Several key points can be drawn from this review:

- **98% of companies in Europe identify climate change as a material issue.** Climate change therefore plays a central role in companies' sustainability statements.
- **Almost 100% of companies identify the carbon transition as a material issue** (99% in France compared to 97% for the European average).
- **70% of European companies assess adaptation to climate change as material.** The relative materiality rate is very high, although to a lesser extent than for the carbon transition.
- Adaptation issues are **more frequently identified as material in Southern European countries**, notably in Spain (93%), France (83%), Greece (80%) and Italy (75%). However, the **materiality of adaptation varies across European countries**, particularly in relation to the highly critical level of exposure of the Mediterranean region to climate risks.
- **The gap in materiality observed between France and the European average for adaptation applies to most sectors.** Only a few sectors, such as insurance and construction, have more consistent materiality rates.
- **The assessment of climate change-related risks has become standard practice** for companies subject to the CSRD, whether these are transition risks (assessed by 96% of them in Europe) or physical risks (assessed by 100%).
- Nevertheless, **fewer than 15% of companies have, at this stage, disclosed quantified financial assessments** of these risks, in a context where reporting on these indicators remains voluntary and where assessment methodologies are still in their infancy.
- **Transition and physical risks are most often associated with companies' own operations**, and particularly so in the energy and industrial sectors, where the exposure of the companies' physical assets to climate-related hazards is particularly critical and where production processes are sensitive to energy prices and technological disruptions arising from decarbonisation.
- **The consumer goods sector is more exposed than other sectors at the upstream end of its value chain** to physical risks (supply of raw materials sensitive to climate-related hazards) and transition risks (the impact of carbon pricing on suppliers).

1 These include EFRAG, the AMF and several audit firms. The list of studies considered can be found in [Appendix A1](#).

- **Overall, companies anticipate that physical risks will materialise over a longer time horizon than transition risks.** The time horizon most often associated with physical risks is the long term (41%), whereas the medium term is most frequently associated (45%) with transition risks².
- Companies comply with the requirements of the ESRS standards regarding **the use of 'extreme' scenarios³** in their climate risk assessments but **often supplement their assessments by using an intermediate scenario** which they consider more likely and therefore more operational for their resilience strategy.
- Regarding the management of climate risk, the **standardisation of transition plans for climate change mitigation** in ESRS E1 has **highlighted areas for improvement**, particularly unaccounted-for scopes, such as Scope 3 or certain activities in the case of multi-activity companies.
- **The completeness of transition plans varies across countries and sectors**, with French companies generally appearing more advanced than the European average (60% of companies in France have transition plans vs 55% for the European average).
- **The actions reported** by companies to address climate risks **mainly concern the carbon transition**. Whilst physical risks are now systematically analysed and adaptation issues are deemed material by a very large majority of companies, **action plans for adaptation remain rare** (25% for SBF 120 companies).

Companies in the first wave of CSRD are required to publish their first sustainability statements in 2025, which required the implementation of resource-intensive processes for collecting data and assessing the materiality of various ESG issues. This context can largely explain the information gaps observed during the analysis of the first published reports.

Furthermore, explanations regarding the assumptions used, calculation uncertainties, or decisions not to disclose certain data are, at this stage, largely absent from the reports. Several factors can partially explain this: (i) beyond the context of the first reporting exercise already mentioned, risk assessment practices and methodologies have not yet stabilised; (ii) CSRD sustainability statements are already very long (averaging 115 pages), so there is a concern to preserve their readability; (iii) certain information may be sensitive to disclose in terms of trade secrets.

Feedback shared by companies as part of our work (see the following section) shows that the issue of climate risks is being addressed through the implementation of effective assessment and strategic management procedures, which will gradually be scaled up to meet regulatory and investor expectations. With companies building expertise on these topics, alongside evolving methodologies and the broader adoption of non-financial reporting, improvements in the accuracy of the information disclosed can be expected in future reporting cycles.

2 Companies have some flexibility in defining time horizons within the European Standards on Reporting (ESRS), which provide the following guidance: "(a) for the short-term time horizon: the period adopted by the undertaking as the reporting period in its financial statements; (b) for the medium-term time horizon: from the end of the short-term reporting period defined in (a) up to five years; and (c) for the long-term time horizon: more than five years."

3 A high-emission climate warming scenario for the assessment of physical risks and a 1.5°C climate warming scenario for the assessment of transition risks.

2. FEEDBACK FROM COMPANIES REGARDING CLIMATE RISK ASSESSMENT AND MANAGEMENT

The second part of the report aims to provide an overview of the practices of both financial and non-financial companies in terms of climate risk assessment and management. Whilst the first sustainability statements published already constitute a substantial source of information, companies' internal processes and the full scope of their initiatives regarding the assessment and management of climate risks are not necessarily intended to be disclosed in CSRD sustainability statements, particularly for reasons of readability. This analysis is based on feedback gathered from the seven French companies that agreed to publicly disclose certain practices for this report, as well as from 19 anonymised French and international Deloitte clients through a series of interviews and consultations, supplemented by a literature review.

Five sectors are examined: finance, logistics and transport, agri-food, real estate, and industry and energy, each facing specific challenges likely to influence the strategies adopted for climate risk management. For each sector, the summary of feedback is based on a review of the practices of three or four anonymised companies, examined along three axes: climate risk assessment, the management of these risks, and the associated governance mechanisms. Whilst this is not an exhaustive review, the analysis of the feedback identifies several practices that demonstrate the implementation of internal procedures for climate risk assessment and management, as well as the growing expertise of companies in these areas:

I. CLIMATE RISK ASSESSMENT

- **Identification of the most critical assets and activities** based on criticality analyses incorporating climate exposure, economic significance, substitutability and business continuity, with financial quantification where relevant.
- **Adapting analytical methodologies** to the types of activities, portfolios and assets, with differentiated time horizons according to the risks (acute/chronic physical risks, transition risks) and a combination of qualitative and quantitative analyses.
- **Adoption of a granular and integrated ('bottom-up') approach** with detailed analyses at the level of assets, sites and geographies, consolidated at the level of business activities and the value chain.
- **Cross-analysis** of acute and chronic physical **risks, climate scenarios** (global, intermediate, extreme, sectoral or national) **and macroeconomic/regulatory analyses**.

II. CLIMATE RISK MANAGEMENT

- **Development of a climate transition plan covering all business activities, customer segments and the value chain**, enabling the structuring of transition risk management and the reduction of the company's overall exposure.
- **Development of an operational approach to adaptation** based on asset vulnerability analysis, site resilience audits, business continuity and crisis management plans, as well as local adaptation measures.
- **Quantification of exposure to transition risks, decarbonisation levers and associated investments** (Capex, internal carbon price, hedging mechanisms).
- **Disclosure regarding decarbonisation targets, mitigation and adaptation measures** for physical risks, and progress made towards enhancing the company's resilience.

III. GOVERNANCE MECHANISMS RELATING TO CLIMATE RISK MANAGEMENT

- **Regular and structured management of climate risks** through recurring assessments, enabling the continuous updating of double materiality analyses, ensuring their methodological consistency and embedding them within existing risk management frameworks.
- **Involvement of the highest levels of governance** (executive committees, boards, governing bodies), **combined with clear coordination between the group and operational divisions** to strengthen the consistency of decisions and their integration into the long-term strategy.
- **Clarification of roles and responsibilities, and coordination between risk, sustainability, finance and business functions**, with the introduction of incentives and climate targets.



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The climate targets set under the Paris Agreement require a profound and rapid transformation of the economic system. In this context, the activities of financial and non-financial companies are affected in two ways. On the one hand, the fight against climate change requires the decarbonisation of goods and services productions, an effort to which the IFD contributes through its 'Extra-financial Analysis' working group by providing a guide to assess companies' performance in their carbon transition and to direct capital more consistently with these objectives. On the other hand, the economic changes brought about by this carbon transition, as well as by the physical impacts of climate change, represent new risk factors for business operations. It is therefore necessary for companies to anticipate the effects of climate change on their business models and adapt their risk management procedures accordingly. This topic is the focus of the work initiated in the second phase of the working group.

A key element of the European Green Deal, the CSRD's main objective is to harmonise corporate sustainability reporting and to improve access to publicly disclosed ESG data. Companies subject to the CSRD must therefore publish a sustainability statement in accordance with the reporting framework of the *'European Sustainability Reporting Standards'* (ESRS), which aims to establish a common language, shared standards and a reference framework promoting the quality of published information as well as greater transparency. Coming into force on 1 January 2024, the CSRD has led to the publication of a sustainability statement for the 2024 financial year by companies falling within its scope, known as the 'first wave'. The first sustainability statements published already constitute a substantial source of information, offering valuable insights into companies' practices regarding the analysis of their climate risks and the presentation of their strategies in response to these risks.

The aim of this report is to analyse the data and information drawn from this first reporting exercise in order to assess the level of maturity of financial and non-financial companies in terms of the assessment and management of physical and transition climate risks. It also aims to highlight the main trends observed in the methodologies implemented by companies, with a view to identifying an initial set of good practices within the Paris financial centre.

The first part draws on the reports published by several institutions⁴ following the first CSRD reporting exercise carried out by companies covered by the first wave of the directive. It aims to consolidate and put into perspective the main lessons learnt from this exercise, particularly regarding the degree to which climate risks are integrated in non-financial reporting. This analysis provides an overview of the level of corporate transparency on climate issues as observed through the CSRD, as well as identifying key trends and sectoral disparities.

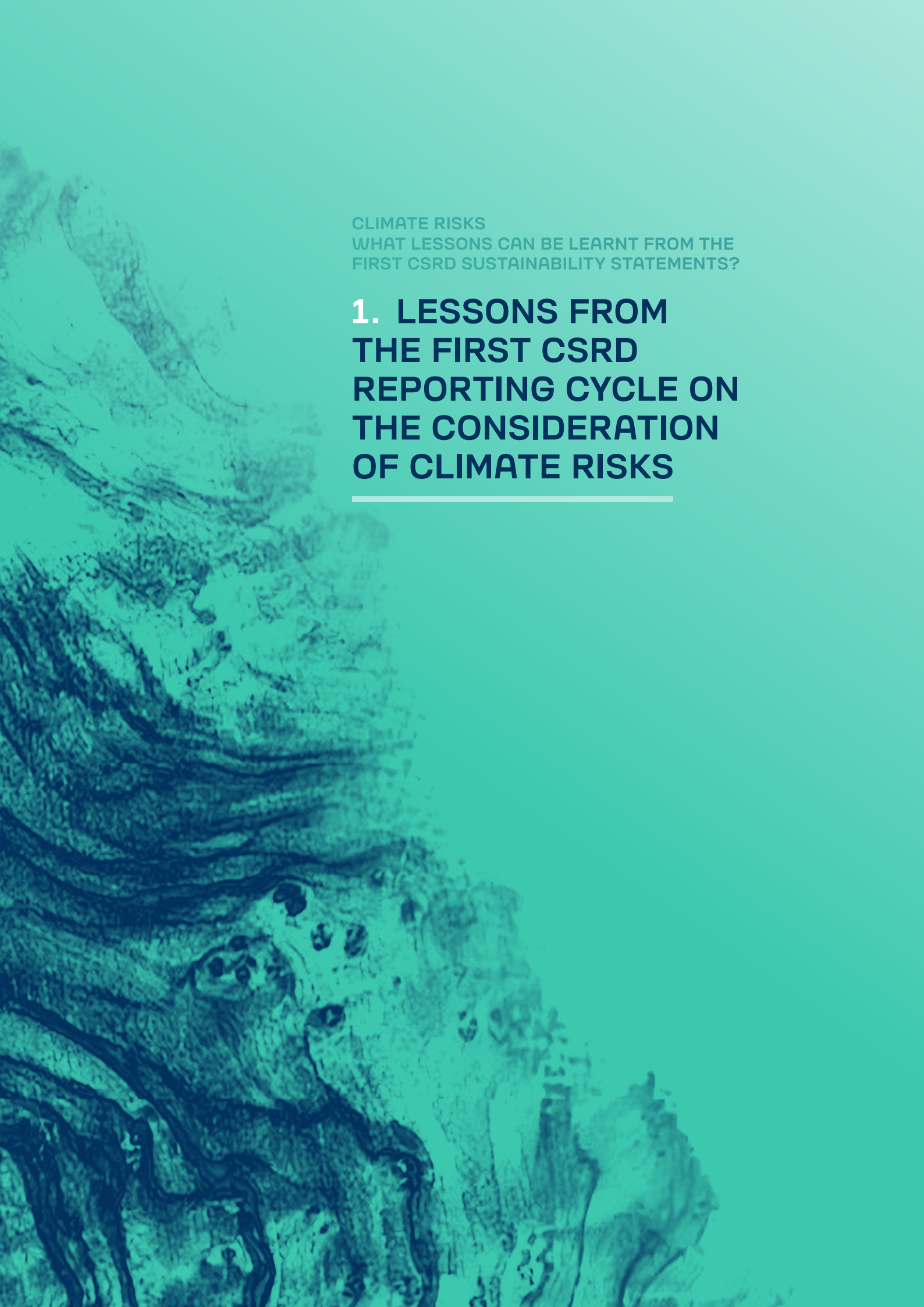
The aim of the second part is to provide an overview of the practices of both financial and non-financial companies in terms of climate risk assessment and management. Whilst the first sustainability statements published already constitute a substantial source of information, climate risk assessment and management procedures are not always explicitly presented. This analysis is based on feedback gathered from the seven French companies that agreed to publicly disclose certain practices for this report, as well as from 19 anonymised French and international Deloitte clients through a series of interviews and consultations, supplemented by a literature review.

4 These include EFRAG, the AMF and several audit firms. The list of studies considered can be found in [Appendix A1](#).

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Deloitte.

This report was produced thanks to the valuable support and assistance of the teams at the consultancy firm Deloitte Conseil.



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1. LESSONS FROM THE FIRST CSRD REPORTING CYCLE ON THE CONSIDERATION OF CLIMATE RISKS

The first CSRD reporting exercise for companies covered by the first wave of the directive led to the publication of several sector-specific comparative studies by various institutions. Drawing on this work (see the list of sources in [Appendix A1](#)), this report consolidates and puts into perspective the lessons learnt from this first reporting cycle, particularly regarding the degree to which climate risks have been integrated into non-financial reporting. This study thus provides an overview of corporate transparency on climate-related issues as observed through the CSRD, as well as the major trends and sectoral disparities identified.

1.1. THE THEME OF CLIMATE CHANGE IS OMNIPRESENT IN SUSTAINABILITY STATEMENTS

Summary

- 98% of companies in Europe identify climate change as a material issue. Climate change therefore plays a central role in companies' sustainability statements.
- Almost 100% of companies identify the carbon transition as a material issue (99% in France compared to 97% for the European average).
- 70% of European companies assess adaptation to climate change as material. The relative materiality rate is very high, although to a lesser extent than for the carbon transition.
- Adaptation issues are more frequently identified as material in Southern European countries, notably in Spain (93%), France (83%), Greece (80%) and Italy (75%). However, the materiality of adaptation varies across European countries, particularly in relation to the highly critical level of exposure of the Mediterranean region to climate risks.
- The gap in materiality observed between France and the European average for adaptation applies to most sectors. Only a few sectors, such as insurance or construction, have more consistent materiality rates.

Climate change emerges as one of the issues most frequently deemed material in corporate assessments, across all sectors. According to EFRAG⁵, 98% of organisations consider climate (E1) to be a material issue, a consensus that is even more pronounced in France, where this rate reaches almost 100%, in line with the regulatory obligation to report on this issue. By comparison, the company's workforce (S1) and corporate governance (G1) are also identified as highly material issues (99% and 93% respectively).

However, companies do not treat the various sub-topics of climate change uniformly. According to the same EFRAG study, on average 97% of organisations consider the carbon transition⁶ to be material, whilst only 70% of them regard adaptation as material. Significant sectoral differences are observed: in the financial sector, 85% of companies consider adaptation to be material, whereas in non-financial sectors, only 67% of companies regard adaptation as a material issue. This gap between financial and non-financial companies can be partly explained by more stringent regulations on the treatment of climate risks in the financial sector.

French companies overwhelmingly identify mitigation as a material issue, in proportions comparable to the European average (99% in France, compared with 97% on average in Europe), see Figure 1-1. Conversely, the sub-topic of adaptation is more frequently deemed material in France than the European average (83% versus 70%), a gap that is found in most sectors, except insurance, construction and information and communication, for which the materiality rate is similar between France and the rest of Europe. More generally, adaptation issues are more frequently considered material in Southern European countries (notably France, Spain and Greece) than in Northern European countries such as Finland, Sweden or Belgium.

5 EFRAG. (2025). *EFRAG 2025 State of Play Statistics Dashboard*. <https://insights.efrag.org/dashboard>

6 Or climate change mitigation, according to EFRAG's terminology, which will be used throughout the rest of the report.

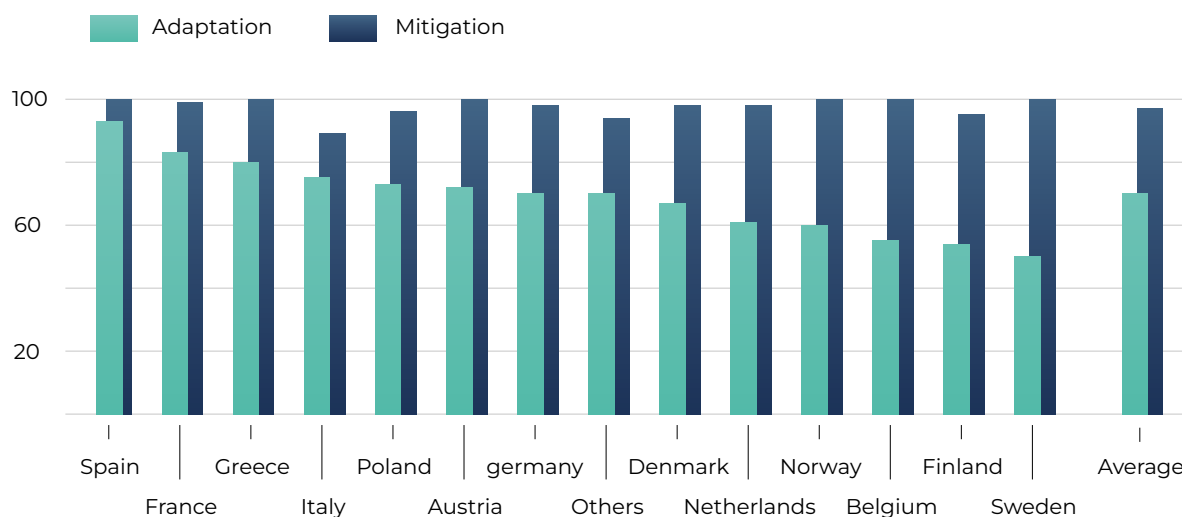


Figure 1-1 : Percentage of companies considering mitigation and adaptation as material issues. Data from EFRAG: EFRAG 2025 State of Play Statistics Dashboard

Thus, an analysis of the results of companies' double materiality assessments highlights a good level of transparency on climate change, whilst revealing significant disparities between topics and across sectors. Companies in the first wave almost universally identified climate change as a material issue, making this topic one of the most prevalent in sustainability statements. However, climate change is addressed differently depending on whether the focus is on mitigation or adaptation.

Whilst mitigation is considered material across all sectors, adaptation is less consistently so, despite the growing risks associated with the physical impacts of climate change. The differences observed between financial and non-financial sectors, as well as between countries in Northern and Southern Europe, illustrate notably, but not exclusively, differences in geographical exposure, business models or sector-specific regulations.

1.2. ASSESSMENT OF CLIMATE RISKS

Summary

- The assessment of climate change-related risks has become standard practice for companies subject to the CSRD, whether these are transition risks (assessed by 96% of them in Europe) or physical risks (assessed by 100%).
- Nevertheless, fewer than 15% of companies have, at this stage, disclosed quantified financial assessments of these risks, in a context where reporting on these indicators remains voluntary and where assessment methodologies are still in their infancy.
- Transition and physical risks are most often associated with companies' own operations, and particularly so in the energy and industrial sectors, where the exposure of the companies' physical assets to climate-related hazards is particularly critical and where production processes are sensitive to energy prices and technological disruptions arising from decarbonisation.
- The consumer goods sector is more exposed than other sectors at the upstream end of its value chain to physical risks (supply of raw materials sensitive to climate-related hazards) and transition risks (the impact of carbon pricing on suppliers).
- Overall, companies anticipate that physical risks will materialise over a longer time horizon than transition risks. The time horizon most often associated with physical risks is the long term (41%), whereas the medium term is most frequently associated (45%) with transition risks.
- Companies comply with the requirements of the ESRS standards regarding the use of 'extreme' scenarios in their climate risk assessments but often supplement their assessments by using an intermediate scenario which they consider more likely and therefore more operational for their resilience strategy.

European companies have largely integrated climate risk assessment into their analytical processes. According to an EY study⁷, 96% of them assess transition risks and all assess physical risks, illustrating the now structured and systematic nature of these efforts to gauge the materiality of mitigation and adaptation issues. In this regard, according to another EY study⁸, the financial sector appears to be ahead in terms of climate risk assessments which can be explained by regulatory frameworks addressing the issue as well as the need to map climate risks in details across its portfolios.

7 EY. (May 2025). *Key insights from CSRD reports*.

8 EY France. (10 June 2025). Webinar: « *Au regard des premières publications CSRD, où en sont les entreprises dans leur action climatique ?* »

1.2.1. CLIMATE RISKS REMAIN LARGELY UNQUANTIFIED IN FINANCIAL TERMS AT THIS STAGE

Regulations require the identification and quantification of the anticipated financial impacts of climate risks⁹. These data points were, however, in a 'phase-in' period for the first CSRD reporting year, with companies given the option not to report on these indicators at all, and to do so on a qualitative basis only for the first two years. The 'Quick Fix' delegated act extends these phase-in periods by two years. Furthermore, the EFRAG technical advice would, if adopted as it stands, require the first publication of quantitative anticipated financial impacts in 2031 for FY30. In its study of 200 companies, EY¹⁰ indicates that only 8% of reports published information on the disclosure requirement "E1-9: Anticipated financial effects from material physical and transition risks and potential climate-related opportunities". However, according to another EY analysis¹¹ covering 46 companies, 61% of companies report having conducted a qualitative or financial analysis of the impact of climate risks, and 13% of the panel publish financial metrics (e.g. Climate Value-at-Risk, estimated revenue loss due to climate change, or changes in EBITDA). This indicates that concrete initiatives exist and are being developed by certain actors, although quantifying the financial effects with the level of granularity required by the CSRD remains a challenge due to a lack of standardised methodology and available data.

In the context where the financial quantification of climate risks remains rare, a company's carbon footprint serves as a proxy for its exposure to transition risk. However, this approximation may provide an incomplete picture of exposure to transition risks. A company's carbon footprint is merely a snapshot at a given point in time *t* of its 'gross' exposure to transition risks. To estimate a company's 'net' exposure, it is also important to assess its maturity in terms of transition strategy. Furthermore, whilst Scope 3 emissions account on average for around three-quarters of a company's carbon footprint according to a CDP study¹², the calculation of these emissions remains highly approximate at this stage. The same study also shows that, for most companies, only two of the 15 Scope 3 categories generally account for the majority of these emissions. On this basis, having identified the two most significant categories by sector, MSCI Research notes that only 13% of MSCI ACWI IMI Index constituents report them¹³.

9 Disclosure Requirement of ESRS 2 SBM-3 on material impacts, risks and opportunities and their interaction with strategy and business model, as well as ESRS E1-9 on the anticipated financial effects from material physical and transition risks and potential climate-related opportunities.

10 EY. (May 2025). *EY CSRD Barometer 2025*

11 EY France. (10 June 2025). Webinar: « *Au regard des premières publications CSRD, où en sont les entreprises dans leur action climatique ?* »

12 CDP. (June 2024). *CDP Technical Note: Relevance of Scope 3 Categories by Sector*

13 MSCI Research. (9 July 2025). MSCI Blog "*Material, But Missing: Gaps in Scope 3 Reporting Persist*"

1.2.2. LOCATION OF RISKS WITHIN THE VALUE CHAIN

As part of a rigorous double materiality assessment as defined in Chapter 3 of the ESRS 1¹⁴, companies must segment their value chain. By analysing their business model, companies must identify the resulting risks with a granularity by sub-topic, in particular climate change mitigation and adaptation. They must also specify the actual risk to which they are exposed for each link in the value chain and the potential levers to reduce or mitigate it.

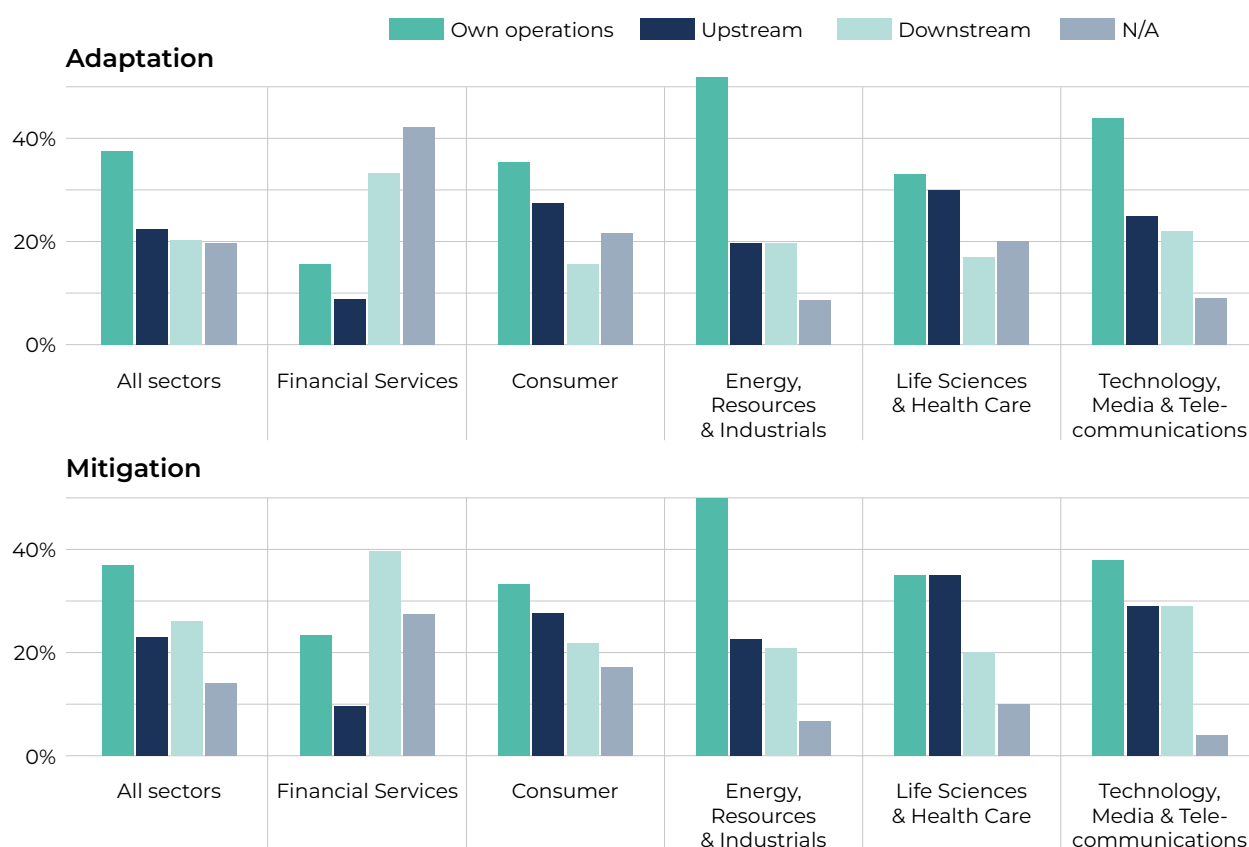


Figure 1-2 : Location of risks within the value chain – adaptation (top) and mitigation (bottom). Data from the Deloitte study (footnote 15). The 'all sectors' average is calculated by weighting the number of identified risks rather than the number of companies.

14 It should be noted that the EFRAG technical advice has simplified the double materiality assessment by favouring a topic-based approach to avoid rating each IRO (impact, risk and opportunity), using a qualitative analysis and without the need for direct input from value chain actors.

Deloitte's sector analysis¹⁵ on physical and transition risks shows that the location of these risks within the value chain varies significantly depending on the nature of companies' activities¹⁶.

→ For **adaptation**-related issues (see Figure 1-2, top), the Deloitte analysis indicates that, **across all sectors on average**, risks are more frequently identified within own operations (38%), whilst the upstream and downstream value chains account for 22% and 20% of risks respectively. However, this distribution **does not apply to the financial sector**: risks most often associated with the downstream value chain (33%), but 42% of identified risks are not clearly linked to a specific segment. This proportion of unclassified risks contrasts with the average observed across all sectors, which stands at 20%. This is likely due to the fact that the definition used in the ESRS is not fully suited to companies in the financial sector, whose risks lie primarily in their portfolios¹⁷. The consumer sector shows a more balanced distribution. Adaptation-related risks identified upstream (27%) reflect business models exposed to challenges in sourcing agricultural or natural raw materials, which are sensitive to climate-related hazards. Own operations are also significantly exposed (35%), which may be explained by a large number of production sites and business continuity concerns. In the energy, resources and industrial sector, adaptation issues are concentrated in own operations (52%), revealing high exposure of companies' physical assets to hazards, particularly networks and facilities.

→ With regard to **mitigation** (see Figure 1-2, bottom), risks are generally more frequently associated to a specific part of the value chain. On average across all sectors, only 14% of risks are not clearly identified, although this proportion is higher for the financial sector (27%). Risks related to mitigation are also slightly more frequently associated with the downstream value chain than those related to adaptation (26% versus 20%), reflecting different risk transmission channels depending on the nature of the climate challenges. The distribution of these risks between own operations and the upstream value chain is similar in the consumer sector (33% versus 28%). The challenges of passing on suppliers' carbon costs are significant, as are the challenges of energy efficiency and decarbonisation of supply chains. In the energy, resources and industrial sector, mitigation-related risks are predominantly identified in own operations (50%), which can be explained by the sector's sensitivity to energy prices, as well as to the decarbonisation of production technologies and its ability to finance its infrastructure.

15 Deloitte. (August 2025). *Beyond compliance: Enhancing trust through reporting*. This analysis covers five macro-sectors: (i) Financial Services, (ii) Consumer, (iii) Energy, Resources and Industrials, (iv) Life Sciences and Healthcare, (v) Technology, Media and Telecommunications. The breakdown of sub-sectors within each of these categories can be found in [Appendix A1](#).

16 The mapping of risks identified by companies in their CSRD sustainability statements to the value chain segment was carried out using an AI tool, with a deliberate focus on restricting the analysis to categorisations clearly published by the companies themselves, to avoid the risk of over-interpretation. For further information on the use of AI in this study, please refer to the [Appendix A1](#).

17 BCG & Quantis (March 2025). *Adaptation and resilience of companies in the face of climate change*.

1.2.3. TIME HORIZON OF THE RISK ANALYSIS

The definition of time horizons is another key methodological aspect central to the identification and assessment of risks. The method used to assess this criterion may be qualitative or quantitative. The CSRD allows for some flexibility in the definitions of short-, medium – and long-term horizons: (a) the short-term horizon corresponds to the period chosen by the firm as the reporting period in its financial statements; (b) the medium-term horizon extends up to five years from the end of the short-term horizon; (c) the long-term horizon corresponds to a period beyond five years. This flexibility allows companies to adapt the time horizons defined in the ESRS to the specific characteristics of their business model. For example, the CRD VI Directive, which came into force on 11 January 2026, requires banks to draw up prudential transition plans to manage their ESG risks. For these plans, the long-term horizon must be at least ten years¹⁸.

It should be noted that, although each company specifies the time horizons applied in its sustainability statement, the data analysed in the Deloitte study¹⁹ regarding the notions of ‘short’, ‘medium’ and ‘long’ term primarily reflect organisations’ perceptions of when their risks are likely to materialise, rather than a precise comparison of time horizons.

18 EBA. (January 2025). *Guidelines on the management of environmental, social and governance (ESG) risks*.

19 Deloitte. (August 2025). *Beyond compliance: Enhancing trust through reporting*.

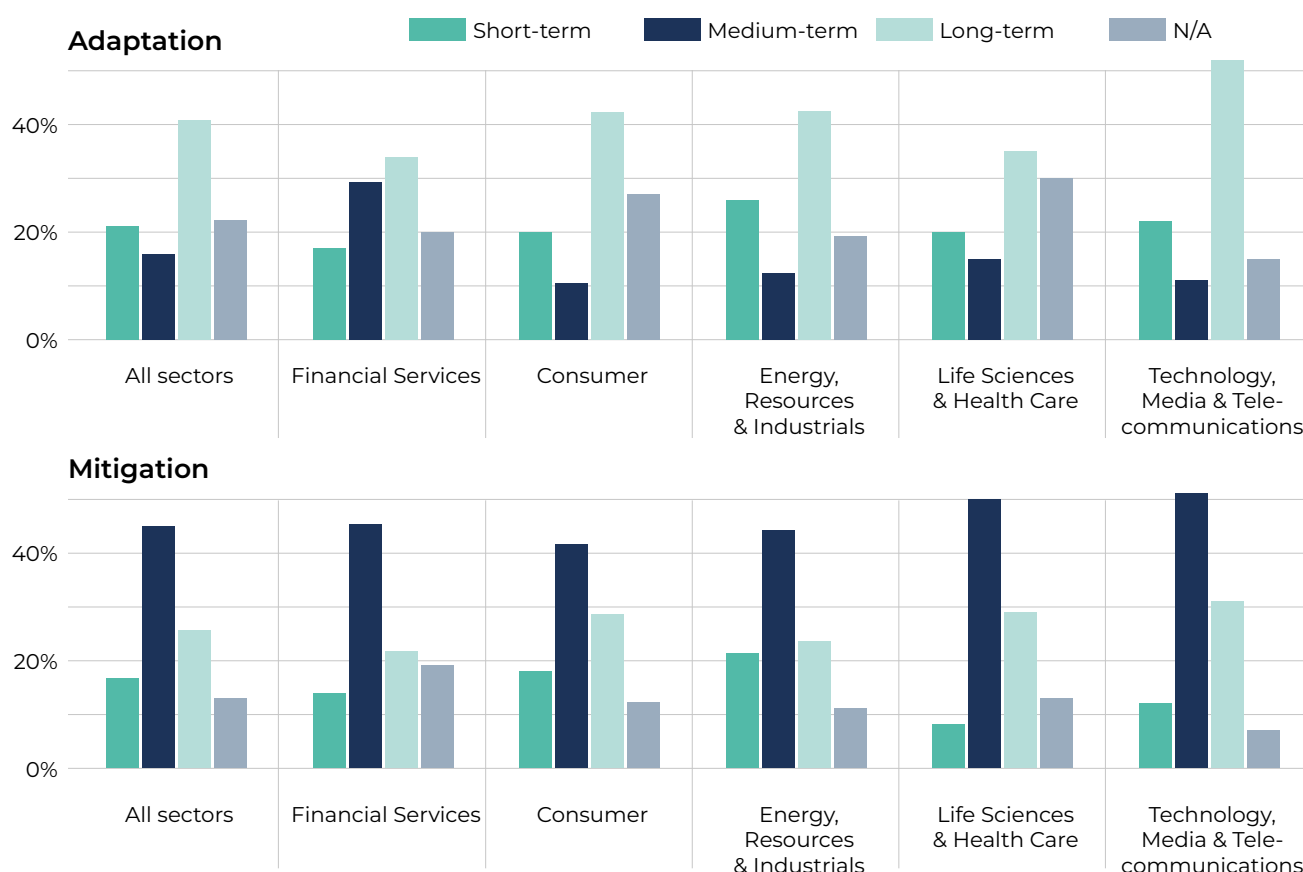


Figure 1-3 : Time horizons of risks – adaptation (top) and mitigation (bottom). Data from the Deloitte study (footnote 19). The 'all sectors' average is calculated by weighting the number of risks identified rather than the number of companies.

The analysis of climate change-related risks by sub-topic reveals significant sectoral differences. Regarding the sub-topic of **adaptation** (see Figure 1-3, top), across all sectors, physical risks are most frequently identified in the long-term (41%), compared with 21% and 16% in the short – and medium-term, respectively. The energy, resources and industrial sector identifies a higher share of physical risks in the short-term (26%) compared to other sectors (17% to 22%), due to more immediate exposures. The financial sector uses the medium-term horizon (29%) more frequently than other sectors, which tend to range between 11% and 15%. Conversely, it uses the long-term horizon less often (34%) than real economy sectors (42% to 52%), with the exception of the life sciences and healthcare sector (35%).

On the sub-topic of **mitigation** (see Figure 1-3, below), transition risks are most frequently identified in the medium-term (45%), ranging from 41% in the consumer sector to 51% in the technology, media and communications sector. In the short-term, the energy, resources and industrials and consumer sectors identify more transition risks (18% to 21%) than other sectors (8% to 14%), due to their sensitivity to fluctuations in energy prices within their business models. In the long-term, the financial sector appears to be the least exposed (22%) compared to other sectors (24% to 31%).

It should be noted that ESRS do not precisely define time horizons, and analysis of the reports indeed reveals significant diversity in approaches to defining analysis horizons. Nevertheless, these practices can be expected to converge over time, leading to greater comparability between companies within the same sector.

1.2.4. USE OF CLIMATE SCENARIOS

Under the CSRD, companies are required to specify the climate scenarios used to assess climate-related risks and opportunities. These analyses then inform the double materiality assessment. The directive specifies that organisations must consider, at a minimum, a **high-emission climate scenario** for the identification of physical risks, as well as a **scenario compatible²⁰ with limiting global warming to 1.5°C** with no or limited overshoot for the assessment of transition risks and opportunities. Whilst the CSRD is not prescriptive regarding the scenarios to be used, it does, however, cite examples: the IPCC SSP5-8.5 or NGFS Hot House World trajectories for physical risks, and the IEA NZE (International Energy Agency Net Zero Emissions by 2050) scenario for transition risks.

Analysis carried out by the Institut de la Finance Durable (IFD)²¹ reveals that 85% of companies do indeed rely on scenarios from the IPCC, the IEA or the NGFS for their climate risk assessments²². A large majority (80%) use IPCC scenarios. NGFS scenarios²³ are generally favoured by financial actors.

It should be noted that companies often use the IEA NZE scenario to develop their decarbonisation strategy, but this scenario is less commonly used for transition risk assessment (21% of the companies in the study use it for this purpose). This is likely due to the fact that risk analysis requires a high level of granularity, and the IEA's scenarios do not cover all sectors, nor do they provide results in much geographical detail.

According to the IFD study, over 65% of companies use the **SSP5-8.5 / RCP 8.5** scenario (+4.4°C by 2100) to assess physical risks, followed by the intermediate **SSP2-4.5 / RCP 4.5** (+2.7 °C by 2100) for nearly half of the panel. Whilst the use of an SSP5-8.5 scenario complies with regulatory requirements, an intermediate scenario such as SSP2-4.5, i.e. a central 'business-as-usual' scenario, is also frequently used. Some companies justify the use of a median scenario to build their resilience strategy on the basis of a climate trajectory deemed more likely. According to the results of BL Évolution²⁴, 25% of companies have conducted a risk analysis using at least three climate scenarios. Overall, these findings highlight a genuine adoption of scenario analysis.

20 Note that there is no legislative or regulatory definition of this term at EU level.

21 See [Appendix A2](#) for further details.

22 Not limited to scenarios corresponding to ESRS requirements.

23 These can be considered a 'subset' of the IPCC scenarios.

24 BL Évolution (April 2025). *CSRD 2025 et SBTi20 : comment la première vague s'est-elle approprié l'exercice pour renforcer ses politiques RSE ?*

Focus: Mapping between the main scenarios used and the levels of global warming

The IPCC **SSP2-4.5 / RCP 4.5** scenario corresponds to an intermediate trajectory, aiming for an average increase of around +2.7 °C by 2100, characterised by moderate socio-economic growth and partial efforts to reduce emissions.

The IPCC **SSP5-8.5 / RCP 8.5** scenario describes a world with very high emissions, leading to a temperature rise of around +4.4 °C by the end of the century, in a context where fossil fuels remain dominant and subject to few constraints.

The **NZE**²⁵ scenario, IEA's carbon-neutral trajectory, forecasts a peak warming of around +1.65 °C in 2050, before converging towards +1.5 °C by 2100, assuming a rapid energy transition incorporating increased deployment of low-carbon technologies and measures to reduce emissions, including methane.

25 Note that the NZE scenario evolves and changes with each World Energy Outlook (WEO), an annual report published by the IEA. This description corresponds to the NZE scenario in the WEO 2025 report. The NZE scenarios considered in the CSRD sustainability statements published in 2025, based on older analyses, may therefore differ from this one.

1.3. OVERVIEW OF THE ACTIONS PRESENTED BY COMPANIES TO ADDRESS CLIMATE RISKS

Summary

Regarding the management of climate risk, the standardisation of transition plans for climate change mitigation in ESRS E1 has highlighted areas for improvement, particularly unaccounted-for scopes, such as Scope 3 or certain activities in the case of multi-activity companies.

The completeness of transition plans varies across countries and sectors, with French companies generally appearing more advanced than the European average (60% of companies in France have transition plans vs 55% for the European average).

The actions reported by companies to address climate risks mainly concern the carbon transition. Whilst physical risks are now systematically analysed and adaptation issues are deemed material by a very large majority of companies, action plans for adaptation remain rare (25% for SBF 120 companies).

1.3.1. UNEVEN PROGRESS IN THE DEVELOPMENT OF TRANSITION PLANS

The extent to which a company takes transition risks into account can be assessed through its transition plan²⁶, which aims to transform its strategy and business model in order to reduce its exposure to high-carbon activities and decarbonise all its operations in line with the Paris Agreement. Transition plans, as defined by the ESRS, summarise this aspect of the company's overall strategy dedicated to climate change mitigation.

26 In this section, we adopt the term 'transition plan' as used by companies, regardless of whether these plans fully meet the requirements set out in the ESRS. According to the ESRS (Annex II, Table 2), a transition plan for climate change mitigation is 'an aspect of an undertaking's overall strategy that lays out the undertaking's targets, actions and resources for its transition towards a lower-carbon economy, including actions such as reducing its GHG emissions with regard to the objective of limiting global warming to 1.5 °C and climate neutrality'. It differs from a decarbonisation action plan, which is more operational and concerns the implementation of actions enabling the company to achieve its targets and through which it seeks to address significant impacts, risks and opportunities.

An analysis of the main available benchmarks highlights a significant increase in the publication of climate transition plans among European companies subject to the first wave of the CSRD. For companies that were already publishing decarbonisation pathways or climate strategies for part of their operations, the standardisation of the transition plan has improved the structure of communication around decarbonisation strategies, integrated within a publication that brings together elements of governance, resources, and the strategic vision for corporate transformation. Indeed, the AMF's initial analyses²⁷ highlight a general improvement compared to previous non-financial disclosures, in terms of both relevance and reliability as well as comparability: greater terminological consistency, clarification of trajectories and removal of ambiguous statements. The adoption of the ESRS framework has thus helped to standardise certain key concepts and formalise these plans, but marked differences persist across sectors, countries and assessment methodologies.

For example, according to EFRAG data²⁸, 55% of European companies report having a transition plan, a slightly higher rate in France (60%), with a gap of around ten percentage points between financial (50%) and non-financial (62%) companies. Within a subset of European companies analysed by EFRAG, nearly 70% of those with a transition plan report to be compatible with a 1.5°C global warming limit for Scope 1 and 2 emissions, and 40% for Scope 3 emissions, reflecting the still partial coverage of transition plans across the value chain. French companies perform better than their European peers, as 61% of the subset of companies studied by BL Évolution²⁹ include Scopes 1, 2 and 3, whilst 8% are still limited to Scopes 1 and 2, highlighting differing practices in the consideration of the value chain.

When it comes to the level of ambition of emission reduction targets, the European reporting standards³⁰ require companies to provide a 'science-based' justification for the compatibility of their targets with a pathway limiting global warming to 1.5 °C. In this regard, according to BL Évolution, 81% of these companies publish short-term GHG emission reduction trajectories that comply with the Science-Based Targets initiative (SBTi) standards, which is one of the methodologies frequently used in the market. A quarter of the companies even adopt trajectories that are more ambitious than the SBTi. By comparison, among the European companies studied by EFRAG with targets covering Scopes 1 and 2, 60% have these targets validated against external benchmarks, such as the SBTi³¹. These findings highlight a relatively more advanced level of progress among French companies on climate-related issues.

27 AMF. (October 2025). *Corporate sustainability reporting: The way forward. Insight on the first sustainability statements published by French listed companies under the Corporate Sustainability Reporting Directive (CSRD)*.

28 EFRAG. (2025). *State of Play 2025: Implementation of the European Sustainability Reporting Standards (ESRS): Observed practices based on statements issued as of 20 April 2025*.

29 BL Évolution. (April 2025). *Étude CSRD 2025 et SBF 120 : Comment la première vague s'est-elle approprié l'exercice pour renforcer ses politiques RSE ?*

30 EFRAG technical advice submitted to the Commission in November 2025

31 Whilst the SBTi carries out a formal validation of GHG emission reduction targets, other frameworks, such as Moody's Net Zero Assessment, Carbon4 Finance's CIA or the ACT methodology of ADEME and CDP, enable the ambition of the targets to be assessed. For example, the ACT methodology analyses, beyond the targets themselves, various aspects of companies' transition plans. However, the assessment of targets within this framework is, in practice, based on the methodology defined by the SBTi.

The analyses converge in highlighting a lack of information on operationalisation. According to EY, only 22% of published plans identify all the levers necessary to achieve their targets. The most frequently cited levers relate to renewable energy, energy efficiency, technological substitutions and the decarbonisation of Scope 3 (suppliers, logistics, mobility). Whilst 67% of companies publishing a climate transition plan disclose associated Capex/Opex data, practices remain highly varied in terms of the level of detail, as noted by the AMF, making it difficult to assess the tangibility of the actions implemented³². BL Évolution's analysis confirms this finding: only 28% of SBF 120 companies publish transition plans detailed enough to allow an assessment of the feasibility of achieving the set targets. The AMF³³ also notes highly variable practices in terms of decarbonisation levers, ranging from simple lists of actions to more structured plans incorporating timeframes, scopes and expected outcomes, as well as a still emerging consideration of locked-in emissions.

In summary, the various sources point to a wider adoption³⁴ of transition plans for climate change mitigation, but also to differences across sectors and countries. Assessments of the quality, completeness and operational credibility of the plans indicate that the quality of the data varies considerably. The AMF has noted progress in the quality of information relating to transition plans following the implementation of CSRD requirements; these will continue to drive further progress.

32 Appendix B of IFRS S2 defines, in particular, the level of granularity of information deemed sufficient for the analysis of trajectories.

33 AMF. (October 2025). *Corporate sustainability reporting: The way forward. Insight on the first sustainability statements published by French listed companies under the Corporate Sustainability Reporting Directive (CSRD)*.

34 It should be noted that not all sectors need to adopt a transition plan for climate change mitigation, as not all sectors need to transition their business model (e.g. a company in the renewable energy sector).

1.3.2. CONFRONTED WITH PHYSICAL RISKS, ADAPTATION MEASURES REMAIN INSUFFICIENTLY INTEGRATED INTO CORPORATE STRATEGY

An analysis of the adaptation measures disclosed by companies in their first CSRD sustainability statement reveals a paradox: whilst physical risks are now systematically assessed and adaptation issues are deemed material in 70% of cases, adaptation action plans remain rare. According to a study by BL Évolution on SBF 120 companies³⁵, only 25% of companies have a resilience plan to address physical risks (compared to 82% with a transition plan for climate change mitigation). This disparity merely reflects a broader situation where the climate issue has primarily been addressed through mitigation by public authorities and economic actors in general. The absence of a regulatory framework to structure communication around adaptation actions in CSRD reporting, unlike the detailed reporting framework for the transition plan, also makes comparisons between organisations more difficult. Certain sectors, such as logistics, infrastructure, insurance and agriculture, nevertheless stand out for providing more precise data and actions, reflecting their direct exposure to hazards and an already well-established risk management culture. The EFRAG technical advice places greater emphasis on adaptation measures in a more explicit manner (e.g. E1-1-AR1, E1-5), and future sustainability statements should therefore provide greater insight into companies' overall strategies for addressing physical risks.

35 BL Évolution. (Avril 2025). *Étude CSRD 2025 et SBF 120 : Comment la première vague s'est-elle approprié l'exercice pour renforcer ses politiques RSE ?*



CLIMATE RISKS
WHAT LESSONS CAN BE LEARNT FROM THE
FIRST CSRD SUSTAINABILITY STATEMENTS?

2. FEEDBACK FROM COMPANIES ON THE ASSESSMENT AND MANAGEMENT OF CLIMATE RISKS

Whilst the first sustainability statements published already constitute a substantial source of information, companies' internal processes and the full scope of their initiatives regarding the assessment and management of climate risks are not necessarily intended to be disclosed in CSRD sustainability statements, particularly for reasons of readability. This section aims to provide an overview of the practices of both financial and non-financial companies in this regard. It is based on feedback gathered from seven French companies, as well as 19 anonymised French and international Deloitte clients through a series of interviews and consultations, supplemented by a literature review.

2.1. FEEDBACK FROM A PANEL OF ANONYMISED COMPANIES

In this sub-section, five sectors are examined: financial, logistics and transport, agri-food, real estate, and industry and energy, each facing specific challenges likely to influence the strategies adopted for climate risk management. For each sector, the summary of feedback is based on a review of the practices of three or four anonymised companies, examined along three axes: climate risk assessment, climate risk management, and associated governance mechanisms.

2.1.1. FINANCIAL SECTOR

The financial sector companies studied in this panel are as follows:

- Company 1: French bancassurance firm with an extensive network across the country.
- Company 2: International reinsurance group specialising in risk management and pooling.
- Company 3: French mutual insurance group providing complementary social protection, including life, pension and health insurance services.
- Company 4: International bancassurance group with significant operations in retail banking and financing.

1. METHODS FOR ASSESSING CLIMATE RISKS

Company 1 <i>Bank</i>	Company 1 conducts climate stress tests in accordance with regulatory recommendations, consolidated at group level. The time horizons of the projections are short-term (1–3 years) and long-term. The NGFS reference scenarios are used and supplemented to incorporate uninsured climate hazards (e.g. clay shrinkage and swelling). The main metric assessed to quantify climate risk on loans varies depending on the portfolio segment: for example, deterioration in the value of the real estate asset in the event of default for real estate assets, or the probability of default for corporate portfolios.
Company 2 <i>Reinsurer</i>	Company 2, as a reinsurer, is exposed to physical climate risks, which it models prior to entering into short-term contracts using in-house expertise. These models are frequently updated based on historical trends and scientific advances. The company also incorporates ORSA stress tests covering both physical and transition risks. Projections of technical losses and an estimate of the potential impact on capital over the 2025–2050 horizon have been conducted. For investment activities, the company combines several sources of scenarios (MAS, 2Dii, CRREM) with internal modelling capabilities (Cat Nat models applied to physical assets to assess potential losses). In parallel, Company 2 conducts an analysis of the vulnerability of its buildings to chronic climate hazards, using exposure and sensitivity indicators. Finally, it assesses its exposure to natural hazards using the WWF Biodiversity Risk Filter, which enables it to identify geographical areas or portfolio sectors exhibiting significant dependence on or pressure on ecosystems.
Company 3 <i>Mutual Insurer</i>	Company 3 assesses the exposure of its listed portfolio to physical risks, taking into account a wide range of hazards such as drought, floods, frost, severe storms, tropical cyclones, fires, winter storms or hailstorms, as well as the effects associated with higher temperatures and rising sea levels. At the same time, Company 3 analyses the exposure of its listed and unlisted portfolios to transition risks, notably through the presence of sectors considered sensitive, the potential future cost of CO₂, the carbon intensity of buildings and the calculation of a climate value-at-risk (Climate VaR).
Company 4 <i>Bank</i>	Company 4 conducts climate stress tests covering short-term (one year), medium-term (five years) and long-term (2040–2050) horizons. It is also developing internal rating tools to assess climate vulnerability by sector, by company and by country. Company 4 has also created an internal tool for rating nature-related vulnerability, applied at sectoral level. Finally, an assessment is carried out at the level of each business unit to analyse the impact of ESG factors, including climate, on the commercial conditions in which the business operates or may be required to operate.

Feedback on climate risk assessment

- Adaptation of climate risk analysis methodologies according to the type of portfolio and business under consideration
- Conducting cross-analyses between acute and chronic physical risks to obtain a more comprehensive view of exposures and improve risk management
- Consolidation of assessments at the business unit level, starting from a more granular 'bottom-up' approach, enabling a better understanding of the specific characteristics of each asset
- Improving the modelling of the actual financial impact of climate risks on investments in order to develop a robust investment strategy
- Development of an internal climate risk rating tool, enabling the integration of the factors most relevant to the company

2. CLIMATE RISK MANAGEMENT ACTIONS

Company 1 <i>Bank</i>	Company 1 has defined a remediation plan based on the identified climate risks. The development of sector-specific risk management policies, the review and adjustment of the bank's internal processes, and the strengthening of control and monitoring mechanisms are climate risk governance tools highlighted by the actor. Climate commitments, embodied in a transition plan³⁶ across all the group's activities, are also presented as actions that address the identified climate risks.
Company 2 <i>Reinsurer</i>	Company 2 integrates climate risk management into its insurance business. It applies climate risk management processes to its activities: portfolio management, asset-liability management, diversification and a prudent approach to climate-exposed activities. Furthermore, it has defined and is implementing a transition plan to achieve carbon neutrality by 2050. Dedicated insurance products and services help mitigate and anticipate climate risks.
Company 3 <i>Mutual Insurer</i>	Company 3 is implementing a transition plan covering both its own operations and its investments. It is implementing a socially responsible investment strategy, which involves excluding companies active in sectors deemed incompatible with climate policy and creating savings products dedicated to the climate transition. The group also emphasises the renovation of its property assets. Providing financial support to employees affected by natural disasters also helps to increase the resilience of the group's operations.

³⁶ In this section, we use the term 'transition plan' as employed by companies, regardless of whether these plans fully meet the requirements set out by the ESRS.

Company 4 Bank

Company 4 describes the stages of its climate risk management: identification, quantification, definition of risk appetite, monitoring, reporting, control and mitigation. It incorporates ESG factors into the valuation of real estate and movable collateral and incorporates climate risk metrics in credit risk ratings. Company 4 also offers insurance products covering climate-related damage, is committed to a Net Zero pathway, and manages ESG risk metrics that include cross-cutting indicators as well as indicators specific to certain risk categories, with associated escalation processes.

Feedback on climate risk management

- Development of an ambitious climate transition plan, tailored to all the group's activities and client types, serving as a tool for transformation and for reducing exposure to transition risk across the entire group
- Implementation of escalation procedures, both as a preventive measure and in the event of a climate risk materialising, enabling better coordination and an appropriate response to climate events
- Development of financial products designed to be resilient to transition risks and/or physical risks, in order to support clients in an uncertain climate context
- Coverage of sectors at risk of transition (energy, transport, real estate, industry) through sector-specific climate policy guidelines or via decarbonisation targets
- Supporting clients to help them understand, anticipate and manage their climate risks

3. CLIMATE RISK GOVERNANCE

Company 1 <i>Bank</i>	The climate risk assessment feeds into the group's double materiality analysis. As it is updated annually, it enables the integration of non-financial reporting and risk management. A commitment to aligning the TCFD and TNFD approaches is emphasised, in order to identify synergies and to prevent climate risks from being managed in silos. The climate transition plan serves as a steering and mitigation tool, enabling the monitoring of the trajectory at group level and its integration with the bank's strategic plan. Furthermore, the adoption of a common framework facilitates the alignment of practices and the 'bottom-up' reporting of risks by business line, including the identification of IROs and stakeholder engagement. Finally, the highest levels of governance are involved in reviewing the climate risk management strategy.
Company 2 <i>Reinsurer</i>	Company 2 relies on a dedicated risk committee within the Executive Committee, which meets regularly to address climate risks and submits topics to the Board of Directors' committees dedicated to sustainability and risk, which oversee climate risks. Furthermore, Company 2 participates in industry-wide initiatives aimed at developing products that incorporate uncertainties linked to climate hazards. A 'best effort' approach is adopted to identify nature-related risks, pending the development of more advanced methodologies. Internal stakeholders are engaged in pilot risk analyses, helping to embed the culture within teams and prepare for changes in practice.
Company 3 <i>Mutual insurer</i>	Company 3 integrates climate risks within the administrative body responsible for audit and risk management, including a review of material risks and an assessment of the risk management framework and associated policies. An annual review of major and operational risks is systematically conducted with the relevant business divisions. The results of these assessments are shared with the CSR department, the non-financial performance management department, the business divisions, the Executive Committee and the governing bodies. Climate change resilience is also taken into account in the transition plan covering the scope of operations.
Company 4 <i>Bank</i>	Company 4 aligns with the TCFD recommendations to structure the reporting of its climate strategy. The climate strategy is approved by the Board of Directors, ensuring its legitimacy and strategic consistency. Climate risks are integrated into the overall risk management framework, at both the first and second levels of control. The climate risk management framework developed by the group includes the group's sector-specific policies: identified risks are analysed against existing policies, and updates to these policies are incorporated into a control mechanism. Finally, exposures to portfolio segments with a specific risk profile are analysed regularly at group and business unit level in order to adapt monitoring and management.

Feedback on climate risk governance

- Annual climate risk assessment to ensure that double materiality assessment remains up to date and relevant
- Progressive alignment between the TCFD and TNFD approaches to facilitate the identification of synergies and prevent climate risks from being addressed in silos, by adopting an integrated approach. For example, structuring business segments in the same way for the analysis of climate risks and natural risks can facilitate the identification of natural risks amplified by climate hazards.
- Consolidation of (i) climate risk analyses at the level of each business activity (a 'bottom-up' approach) and (ii) the detailed identification of IROs enables the definition of a relevant framework at group level and facilitates the harmonisation of practices
- Involvement of the highest levels of governance in the review of the climate risk management strategy to enhance the consistency and legitimacy of decisions

2.1.2. LOGISTICS AND TRANSPORT SECTOR

The companies in the logistics and transport sector studied in this panel are as follows:

- Company 5: International logistics and express transport group specialising in delivery and supply chain solutions.
- Company 6: International shipping group specialising in containerised freight and global logistics.
- Company 7: Maritime transport group specialising in container transport, the operation of shipping fleets, and port and logistics services.
- Company 8: French delivery, logistics and digital services group with a nationwide network.

1. METHODS FOR ASSESSING CLIMATE RISKS

Company 5 <i>Road transport</i>	Company 5 identifies short-, medium – and long-term climate risks as part of its TCFD work, excluding upstream and downstream value chains. An initial qualitative analysis identifies the transition and physical risks likely to affect its activities, asset portfolio and main operational sites. The identified risks are selected based on their sectoral and geographical relevance, then assessed quantitatively depending on whether they are transition or physical risks. For physical risks, the time horizons used for the analyses are longer-term (2030, 2050 and 2100). Three RCP scenarios with varying levels of physical intensity (RCP 2.6, RCP 4.5 and RCP 8.5) are used to assess risks. For transition risks, the time horizons are more granular and concentrated in the near future (2025, 2030, 2040 and 2050). A scenario with strong transition pressures (IEA's 1.5°C NZE scenario) is used to assess risks and the scope includes commercial activities as well as the value chain.
Company 6 <i>Maritime transport</i>	Company 6 focuses its climate risk assessment on physical risks, using time horizons appropriate to its industry and guided by IPCC recommendations. For physical risks, identification is based on the mapping of exposed geographical areas and infrastructure. The company has thus identified 60 key geographical areas, including port terminals, shipping routes and administrative offices. The short-term horizon is defined as the period from 2025 to 2034. The medium-term horizon covers 2035 to 2064, whilst the long-term horizon extends to 2099. The key sites were assessed across these timeframes, using around twenty different climate models. For transition risks, Company 6 conducted interviews with internal experts on regulatory issues to identify and assess key transition events.
Company 7 <i>Maritime transport</i>	Company 7 assesses the exposure of its activities to physical risks by analysing hazards such as heatwaves, floods, storms and water stress, amongst others. Of more than 100 sites and assets, five were identified as being highly exposed to physical risks and underwent a quantitative assessment of potential financial losses under the SSP2-4.5 scenario (+2.7 °C by 2100), as well as the SSP5-8.5 (+3 °C) and SSP1-1.9 (+2 °C) scenarios. For each of these scenarios, the company publishes the annual estimate of revenue loss and damage to assets, as well as the expected triggering risks.

Company 8

Road transport

To assess physical and transition risks, Company 8 uses two time horizons (2030, 2050) and three scenarios: RCP 2.6 and NGFS “Current Policies” for transition risks, and RCP 8.5 for physical risks. Four main physical hazards are examined (floods, storms, fires, landslides) based on a geospatial vulnerability analysis of assets. Under RCP 8.5, three risks present a maximum level of criticality. By 2030, 3.6% of assets are identified as highly exposed, mainly in France.

Regarding transition risks, Company 8 identifies eleven risks linked to regulatory, technological, market and reputational changes. Six of these reach the highest level of criticality.

Feedback on climate risk assessment

- Integration of all activities to identify functional links and interdependencies between assets and services, as well as potential knock-on effects
- Adaptation of the assessment timeframes according to the type of climate risks involved
- Use of multiple scenarios, including extreme scenarios as required by the standard, supplemented by one or more intermediate scenarios
- Analysis of assets with precise geolocation for fixed sites and a broader grid for mobile assets
- Prioritisation and quantification of the most exposed assets, via criticality analyses and, where possible, financial estimates of potential losses

2. CLIMATE RISK MANAGEMENT ACTIONS

Company 5 <i>Road transport</i>	Company 5 integrates climate risks into its standard risk management processes. The response to climate risks is based primarily on emissions reduction, thereby focusing mainly on transition risks. The decarbonisation of assets (vehicle fleet and buildings) is presented as the main mitigation measure, with the company stating that it has not identified any activities incompatible with the transition. The transition plan sets out a reduction in logistics emissions with SBTi targets: -42% for Scopes 1 and 2 (1.5°C) and -25% for Scope 3 (below 2°C), in absolute terms, by 2030. The targets are based on the GHG Protocol and the methods of the Global Logistics Emissions Council. Key actions include the use of sustainable aviation fuels, the electrification of collection and delivery fleets, and the construction of carbon-neutral buildings equipped with sustainable technologies, including photovoltaic installations. The financial resources dedicated to this decarbonisation are categorised for these levers between Capex and Opex.
Company 6 <i>Maritime transport</i>	Company 6 states that the integration of transition risks into its processes is currently being developed, notably through the creation of a transition plan designed to formalise its mitigation strategy. The company presents its climate trajectory for 2030, which sets a target to reduce its fleet's absolute emissions by one-third compared to 2022, as well as a reduction of more than 50% in its Annual Efficiency Ratio (AER). These targets are assessed by Det Norske Veritas (DNV) as compatible with a 1.5°C pathway, a sectoral methodological framework developed with the Net-Zero Banking Alliance and applied to the specific pathways of the maritime industry. The company highlights several levers for action: fleet renewal towards more efficient vessels, retrofitting existing vessels, route optimisation, and the use of alternative fuels. The quantification of financial resources remains incomplete, however, as only a broad estimate of the future capital expenditure required is provided.
Company 7 <i>Maritime transport</i>	Company 7 incorporates climate risk assessment into its processes through various analyses, including an in-depth assessment of physical risks carried out in 2022 with the support of external consultants. The company indicates that it is continuing to identify the need for adaptation measures at site level. It includes all of its majority-owned terminals and its main warehouses in a loss prevention programme that incorporates an assessment of exposure to climate-related hazards. Risk engineering reports are being carried out at the most vulnerable sites, leading to local adaptation measures, such as raising electrical infrastructure or reinforcing equipment to withstand storms and floods. The company does not yet have a comprehensive adaptation policy or centralised measurable targets. However, the organisation does have a structured transition plan and quantified decarbonisation levers. These levers are divided into two main categories: efficiency measures (for networks and assets) and energy alternatives (electrification of assets and the value chain, alternative fuels). They are quantified up to 2030. This is also the timeframe given for the financial quantification of the few levers of action that are quantified. For example, for measures to improve the energy efficiency of assets, a total investment of approximately €11 billion is planned.

Company 8

Road transport

In terms of adaptation, Company 8 is still working on defining its objectives and has not set any measurable targets at this stage. Several initiatives are nevertheless in the pilot phase, particularly for employees. A comprehensive adaptation plan at group level is to be produced in 2025. Furthermore, nearly 1/5 of the property sites have undergone resilience audits, enabling an adaptation plan to be drawn up for each one and the necessary works to be scheduled. Full integration into risk management processes is to take place once the adaptation plans have been formalised and climate assumptions incorporated into the financial statements.

On the transition front, Company 8 has presented a plan consistent with a goal of carbon neutrality by 2040, with targets validated by the SBTi for Scopes 1 and 2 (consistent with a 1.5°C pathway) and Scope 3 (consistent with a pathway below 2°C). The main adaptation levers identified are the electrification of the vehicle fleet, procurement, energy efficiency improvements in buildings, and the optimisation of logistics schemes. Taken together, these levers will result in a reduction of approximately 1.8 million tonnes of CO₂e by 2030, with over €1 billion in planned investments.

Feedback on climate risk management

- Integration of all climate objectives covering the entire value chain into the transition plan
- Operational approach to adaptation: site resilience audits, development of adaptation and crisis management plans, as well as local adaptation measures such as elevating infrastructure

3. CLIMATE RISK GOVERNANCE

Company 5 <i>Road transport</i>	Company 5 organises climate risk management through a governance structure combining group-level and operational division-level responsibilities. Transition risks are first identified within each division during internal workshops and through materiality analysis, then aggregated at group level. Climate policies are developed by a department reporting to the CEO, whilst the Finance department centralises environmental data, monitors performance, assesses risks and opportunities, and oversees internal and external reporting. Climate-related IROs are also assessed by the divisions' sustainability experts, reflecting a decentralised yet coordinated approach. Climate risks are also monitored by senior management on an ad hoc basis when a significant change occurs; they are incorporated into standard risk management processes, reviewed by the Board of Directors and assessed by the Risk Committee.
Company 6 <i>Maritime transport</i>	Company 6 establishes its climate governance on a consolidated basis, with a scope identical to that of its financial statements. The entire process of identifying, assessing and managing climate-related risk indicators is carried out without any autonomy on the part of subsidiaries. This centralisation constitutes a limitation in this company's approach.
Company 7 <i>Maritime transport</i>	The Executive Committee and the Board of Directors of Company 7 oversee the climate transition plan and progress against targets, thereby integrating the energy transition into strategic planning. Responsibility for its implementation lies with the Chief Operating Officer. Progress towards key strategic performance indicators is reviewed quarterly by the executive management team and the Board of Directors, ensuring regular and structured monitoring. The Risk and Compliance Committee contributes to the quarterly update of priority strategic objectives and forms part of the climate governance framework, which will be strengthened in 2024.
Company 8 <i>Road transport</i>	Company 8 organises its climate governance around a climate committee that meets quarterly. This body brings together the group's functions (finance, risk, insurance, operations, etc.) and is responsible for defining, steering and monitoring the group's climate strategies. This committee brings together representatives from the main business lines and group functions (finance, HR, risk, insurance, property, fleet) on a quarterly basis. The Executive Committee monitors its work. The Risk Management Department remains responsible for risk management, including sustainability risks.

Feedback on climate risk governance

- Clear allocation of responsibility for implementing the climate transition plan, combined with oversight by governance and administrative bodies, promotes its integration into the company's long-term strategic planning and prevents it from remaining a siloed project
- Involvement of Executive Committees in the assessment of risks and market trends to align ESG governance with strategic decision-making and coordination within a group
- Clear articulation of climate risk governance between the group level and individual sites, with risk identification at the operational level followed by central consolidation

2.1.3. AGRI-FOOD SECTOR

The agri-food sector companies studied in this panel are as follows:

- Company 9: French agri-food company specialising in the manufacture and marketing of dairy and plant-based products.
- Company 10: French retail group operating a network of hypermarkets, supermarkets and convenience stores.
- Company 11: Multinational group that produces, bottles and markets non-alcoholic beverages.
- Company 12: International hard-discount supermarket group selling fast-moving consumer goods.

1. METHODS FOR ASSESSING CLIMATE RISKS

Company 9 <i>Dairy and plant-based product processing</i>	Company 9 presents a structured integration of climate risks, incorporated into its risk mapping, with a prioritisation of potential financial impacts in accordance with the recommendations of the TCFD. It is also based on a resilience analysis using two RCP climate scenarios (+1.5 °C and +4 °C) and two time horizons (2035 and 2050), covering the entire value chain. Transparency is ensured through the systematic identification of the value chain segments and stakeholders affected by climate risks and impacts, whether actual or potential. Finally, the assessment includes a detailed quantification of physical and transition risks. Indeed, the company calculates the additional cost of raw materials (milk and apples) linked to climate change, which reduces agricultural yields or destroys crops within the group's upstream value chain. These data are drawn from the company's TCFD exercise, dated 2022. Furthermore, the group quantifies the cost of the carbon tax anticipated up to 2050 relative to the group's turnover. The internal cost of carbon is aligned with the recommendations of the IPCC's 1.5°C scenario and evolves over the years (€150/t in 2024, projected to reach €270/t by 2030).
Company 10 <i>Mass Retail</i>	Company 10 identifies, for each climate risk, the associated time horizon and the relevant part of the value chain. The climate risk assessment exercise is integrated into the annual risk management review. These complement the TCFD analysis and are broken down into the categories of physical risks, market risks and regulatory risks. The scenarios used are those of the IEA (Net Zero and Current Policies), supplemented by criteria relating to the historical occurrence of physical climate hazards, as well as as vulnerability analyses of energy markets.

Company 11 <i>Beverage processing</i>	Company 11 has a structured assessment framework based on differentiated time horizons: short term (2025), medium term (2030) and long term. The resilience analysis conducted in 2024 is based on several climate scenarios (RCP 1.9, RCP 4.5 and RCP 8.5). Impacts are identified using the LEAP approach mentioned by the ESRS, and climate risks are integrated through risk and vulnerability analyses. Where exposures are identified, a second analysis examines asset vulnerability and adaptation measures. The assessment covers potential impacts on the financial position, performance, cash flows, cost of capital and access to finance. For physical risks, the organisation analysed 100% of its sites (exposure to flooding, fire, drought and precipitation), identifying 20 high-risk sites, five of which require additional investment. The potential financial impacts are quantified: climate-related resilience investments by 2030, and a potential increase in insurance premiums by 2040. A significant part of the assessment concerns water-related risks, using several tools and methodologies: WWF Water Risk Filter, WRI Aqueduct, ENCORE. These analyses cover the site, the catchment area and local communities, and assess risks relating to availability, quality, water stress, biodiversity and socio-economic dependencies. Regarding transition risks, the company identifies the management of its carbon footprint as the major risk in the medium – and long-term and quantifies the cost of its carbon emissions by 2030 and 2040 based on the RCP 1.9 and RCP 4.5 scenarios. To reflect the diversity of commitments across the geographical areas where it operates, the company has classified countries into 'leaders', 'followers' and 'laggards' to assess the probability of transition risks linked to the cost of carbon. The main risks assessed are the price of carbon, disruption to production and/or distribution, and the costs and availability of agricultural ingredients.
Company 12 <i>Mass retail</i>	Company 12 assesses its climate risks using a multi-criteria rating system based on historical probability, sector-specific probability, potential impact on sales, EBITDA, strategy, regulatory compliance, operations and reputation. For physical and transition risks, the company provides a high level of transparency by disclosing the monetary ranges of potential financial impact, from <€3.7 million to >€7.4 million. Analyses of physical risks are based on the RCP 4.5 and RCP 8.5 scenarios, with projections for key time horizons in 2025, 2030 and 2050. The proportion of sites exposed to flooding and heatwaves is published using data from local databases, the Copernicus programme and IPCC scenarios. The analyses for transition risks are based on the IEA's 1.5°C Net Zero 2050 scenario, with a financial quantification of potential impacts.

Feedback on climate risk assessment

- Integration of climate risks into risk management processes, with structured mapping and financial prioritisation (for example, based on TCFD recommendations)
- Adoption of reference methodological frameworks such as LEAP or specialised water tools (WWF Water Risk Filter, WRI Aqueduct, ENCORE) to capture critical dependencies, particularly those related to water and ecosystems
- Conducting site exposure analyses and identifying priority sites for adaptation investments
- Publication of climate risk quantification criteria such as financial impact ranges and precision regarding the indicators assessed (turnover, EBITDA, etc.)
- Detailed 'bottom-up' analysis of the supply chain, enabling resilience to be strengthened

2. CLIMATE RISK MANAGEMENT ACTIONS

Company 9

Dairy and plant-based product processing

Company 9 has defined an emissions reduction pathway compatible with a 1.5°C target, with absolute targets for 2030 and 2035 validated by the SBTi in accordance with the sectoral methodology. Decarbonisation action plans have been established for certain brands and products, covering approximately three-quarters of the group's carbon footprint. The financial resources allocated to some of the actions are published by the group, but the quantification does not cover all actions. These are mainly Capex: investments up to 2035 for carbon sequestration, for example, are quantified (~€6 million).

The group highlights adaptation levers: diversification of raw material supplies, reduction of water extraction, water management, and development of plant-based products. These are not incorporated into a quantified adaptation plan.

Company 10*Mass Retail*

Company 10 outlines its adaptation actions, detailing the steps already taken to formalise an adaptation plan as well as upcoming steps. In particular, the company has analysed its climate risks and dependencies on highly vulnerable raw materials within its value chain and is developing its own production chains. The next steps outlined involve formalising adaptation actions based on scenarios to reduce these risks, leading to the definition of an adaptation policy.

Regarding transition risks, the company has formalised a transition plan and demonstrates transparency regarding the contribution of decarbonisation levers to the objectives and their integration into the strategy, to achieve a Net Zero target for Scopes 1 and 2 and 90% of Scope 3. The company also describes in detail the elements missing from a comprehensive transition plan according to the definition of the ESRS, notably the associated expenditure. The transition plan is defined taking into account the group's business growth projections up to 2040.

Company 11*Beverage processing*

Company 11 outlines a series of adaptation measures covering its sites and supply chains. The 20 high-risk sites have business continuity plans in place, and the five sites requiring climate-related investments are being reinforced with physical measures (resilience Capex). Business continuity plans are currently being updated following analyses carried out in 2024.

For risks related to ingredients, Company 11 anticipates the effects/consequences on key agricultural regions (sugar, a strategic ingredient), and is working with suppliers on geographical diversification, yield monitoring and the implementation of resilience strategies. Proactive measures are planned where future water stress exceeds local renewable capacities.

For transition risks, the company anticipates cost increases linked to carbon policies (+9.2% in 2030 and +1.3% in 2040 under RCP 1.9, also quantified under RCP 4.5). Mitigation measures are being implemented through 1.5°C SBTi targets, collaboration with suppliers to reduce agricultural emissions, and the diversification of ingredient sources. The company also has a Net Zero 2040 target, covering Scopes 1, 2 and 3 across the entire value chain, validated by the SBTi.

Company 12*Mass retail*

Company 12 integrates climate risk management into an annual sustainability risk management process. For adaptation and reduction of physical risks, each identified climate risk is accompanied by a specific explanation detailing the management measures implemented, allowing for structured but primarily descriptive monitoring. The company presents a transition plan with targets defined in accordance with the SBTi methodology, including an absolute reduction of 42% in Scope 1 and 2 emissions between 2020 and 2030, as well as a 49% reduction in Scope 3 emissions intensity between 2023 and 2030. The levers identified for the decarbonisation of sites are primarily the renovation and replacement of refrigeration equipment that emits high levels of refrigerants. For Scope 3, the company highlights the use of an electric vehicle fleet, energy renovation of sites, a waste reduction action plan and supplier engagement.

The abatement cost of the main levers (decarbonisation of refrigeration systems, renewable electricity, decarbonisation of transport and waste reduction) is calculated per tonne of CO₂.

Feedback on climate risk management

- Quantification of the exposure of assets to climate risks and the associated levers for action under different scenarios
- Communication on actions to mitigate existing physical risks, as well as their integration with ongoing work on formalising an adaptation action plan
- Inclusion of the entire value chain in transition plans and adaptation measures
- Diversification of suppliers and restructuring of value chains as levers for adaptation, as well as engagement with suppliers as a lever for decarbonising Scope 3
- Use of the SBTi methodological framework, already widely used, to set decarbonisation targets prior to the CSRD framework

3. CLIMATE RISK GOVERNANCE

Company 9 <i>Dairy and plant-based product processing</i>	Climate risk governance is based on structured coordination between several key functions, involving the direct participation of the Sustainability, Risk Management, Quality and Environment departments, as well as consultation with external stakeholders such as NGOs, sector experts, distributors and suppliers. This structure provides a cross-functional overview of the issues at stake and enables the integration of market and civil society expectations into strategic planning. Risk management actions are based on collective initiatives: the company carries out carbon assessments at farm level and is also involved in several key sector-wide initiatives, including the Consumer Goods Forum and the Dairy Methane Action Alliance, thereby strengthening its collective contribution to the agri-food sector's transition. The partial indexing of buyers' variable compensation to suppliers' SBTi commitments demonstrates an advanced integration of climate considerations into the group's governance.
Company 10 <i>Mass Retail</i>	Company 10 outlines the governance framework for the oversight and implementation of the climate transition plan, incorporating climate risk management. The executive and management bodies are responsible for oversight. Implementation is shared across the business divisions. The Finance department is specifically involved in defining a Capex trajectory to implement decarbonisation initiatives. The Risk department and the department responsible for the energy consumption of entities at country level are brought together within a technical committee to work on climate-related risks.

Company 11 <i>Beverage processing</i>	Climate risk management is integrated into the group's resilience programme. The Chief Risk Officer facilitates biannual discussions with regional teams, and ESG risk is managed by a cross-functional group comprising the Risk, Finance, Quality and Sustainability departments. Twice a year, the Business Resilience Conference brings together risk managers, insurance coordinators and resilience managers to share trends and emerging risks and to calibrate risk assessments at group level.
Company 12 <i>Mass retail</i>	Company 12 organises its climate risk governance around a comprehensive risk framework, overseen by the Board of Directors. Risk Management is defined as a strategic process supervised by the Board, with a central role for the Audit and Compliance Committee, which is responsible for assessing the adequacy of risk identification and response systems. The Risk and Internal Control Committee sets the risk tolerance and oversees the implementation of risk mitigation measures, whilst the Communications and Sustainability department supports the identification and assessment of risks and opportunities related to climate change.

Feedback on climate risk governance

- Structuring of a climate risk internal control report based on cross-functional coordination involving the Sustainability, Risk, Quality, Environment and Finance departments
- Regular consultation with external stakeholders, enabling the integration of market and societal expectations
- Implementation of incentive schemes such as indexation of variable compensation to suppliers' climate commitments

2.1.4. INDUSTRY AND ENERGY SECTOR

The companies in the industrial and energy sectors examined in this panel are as follows:

- Company 13: French multinational specialising in industrial minerals, with operations spanning extraction, processing and commercialisation.
- Company 14: International chemical company specialising in gas and related industrial services.
- Company 15: French group in the chemical sector that designs, manufactures and markets specialty materials for industry.
- Company 16: Energy sector company active in the production, transport and commercialisation of electricity and gas.

1. METHODS FOR ASSESSING CLIMATE RISKS

Company 13 *Industrial materials*

Transition risks linked to regulations and carbon pricing mechanisms are assessed. The company primarily identifies an increase in the carbon tax on its operations, as well as a rise in raw material prices in its downstream value chain for the same reason. Carbon prices are projected based on estimates of site production volumes, the anticipated carbon footprint of the sites, and carbon price projections under two IEA scenarios: the Stated Policies (STEPS) scenario and the Net Zero by 2050 scenario. These analyses are used to inform the group's financial projections in the financial statements. The quantified transition risk metric is that of the annual additional costs on the group's operations; this same quantification is also planned for the upstream value chain.

Physical risks linked to climate change are assessed for the group's assets and sites over the time horizons of 2030, 2040 and 2050 using three RCP scenarios (RCP 2.6, RCP 4.5 and RCP 8.5). The analyses use geographical data and categorise asset types into several classes: production sites, quarries, mines, ports and research laboratories. The quantification of physical risks is expressed as a percentage of the value at risk of the insured asset.

Company 14*Industrial chemicals*

The identified transition risks relate to operations (production sites) and the group's upstream value chain, with rising production or raw material costs. These risks are assessed across several time horizons: in the very short term for year N+1, over the strategic plan's time horizon, and against the climate targets for 2035 and 2050. The company uses the IEA's 1.5°C scenario to identify these risks qualitatively, by cross-referencing macro risks with a 'bottom-up' view of the risks identified by the divisions in each region. The quantification of transition risks, expressed as additional costs for final products, is reflected in the prices of products sold.

Physical risks are assessed according to two climate scenarios (SSP2-4.5 with a temperature rise of +2.7 °C and SSP5-8.5 with a temperature rise of +4.4 °C) by 2040. Risk exposure is analysed in absolute and relative terms, i.e. both by examining the effects of climate change on operations and by comparing these effects with historical data from 1980 to 2010. The climate hazards covered are droughts, heatwaves and wildfires. This assessment enables the prioritisation of the types of assets most at risk, such as biogas sites and electronic infrastructure.

Company 15*Industrial materials*

Company 15 maps its activities to identify the risks and opportunities associated with the climate transition, drawing on scenario analyses, notably the IEA's Net Zero by 2050 scenario. This analysis was supplemented by a study on the group's activities' exposure to carbon pricing, based on location and the carbon intensity of the supply chain.

The Group assesses its physical climate risks using Swiss Re's 'CatNet' tool. The assets analysed include industrial sites, R&D centres (own assets), and critical logistics hubs (value chain). Their exposure to hazards such as extreme rainfall, cyclones, storms, water stress, coastal and river flooding, heatwaves and thermal stress is identified. The climate risks for each site are determined by combining exposure and criticality, the latter taking into account EBITDA and the specific, non-transferable nature of the site's production.

Company 16*Energy*

To assess its transition risks, Company 16 has implemented a methodology for each operational activity, which is examined in light of climate transition events likely to impact markets, regulations, products or business models. The identification of these risks is based on the TCFD framework and is supplemented by an analysis of sector-specific standards and regulations, industry trends and internal business expertise. The risk assessment is carried out for the years 2030, 2040 and 2050. The climate scenarios used are the IEA's STEPS, APS and NZE scenarios.

The physical risk assessment covers all of the company's assets, but excludes underground gas transmission and distribution activities, for which the company does not identify any significant exposure to climate risks. The gross vulnerability of each asset is thus assessed, and the exposure of each asset is quantified over the short/medium term (2021–2040), the long term (2060) and the very long term (2100). The SSP1-2.6, SSP2-4.5 and SSP5-8.5 scenarios are used. A material risk emerges under the high-emissions scenario (frequent climate hazards affecting assets such as cyclones).

Feedback on climate risk assessment

- Risk analysis across multiple time horizons consistent with the strategy and the lifespan of the assets (short, medium and long term), in order to capture both immediate impacts and long-term structural risks
- Cross-referencing macroeconomic and regulatory analyses with a detailed assessment of risks at the level of business activities, sites and geographies
- Quantification of the financial impacts of climate risks where relevant, translating transition and physical risks into economic indicators (additional costs, value at risk, impacts on prices or profitability), and ensuring consistency with financial projections
- Prioritisation of risks by assessing the criticality of assets and activities, taking into account climate exposure, economic significance (EBITDA, business continuity) and whether assets are substitutable or not

2. CLIMATE RISK MANAGEMENT ACTIONS

Company 13

Industrial materials

To manage its transition risk, Company 13 has set SBTi-validated decarbonisation targets for Scope 1 and 2, with a 42% reduction by 2030. For Scope 3, the target is 25%. Both are compatible with a 1.5°C pathway. The organisation also states that it has drawn on the recommendations of the AMF and CDP. The contribution of the levers in the transition plan is quantified in tCO₂e: renewable electricity, alternative fuels, energy efficiency, electrification, and process innovation. For this estimate of decarbonisation for Scopes 1 and 2, a 'bottom-up' approach was favoured by reviewing existing decarbonisation initiatives and historical contributions. Finally, the Capex required up to 2030 has also been calculated (e.g. ~€45 million for the use of alternative fuels), although this quantification of resources has not been carried out for the Scope 3 decarbonisation levers.

Regarding adaptation, the organisation has implemented processes to assess the sensitivity of industrial sites to climate-related risks. The results enable the definition of appropriate business continuity plans for the assets that make the most significant financial contribution to the group. The risk of water stress, identified as critical to the group's activities, is managed through the development of water management plans and measures aimed at improving the efficiency of water resource management.

Company 14

*Industrial
chemicals*

Company 14 has set out a climate pathway aligned with a scenario well below 2°C. It plans to begin reducing absolute CO₂ emissions from 2025, with a target of reducing Scope 1 and 2 emissions by 33% by 2035, compared to a 2020 baseline, as well as maintaining the carbon intensity reduction target.

Transition risk management relies on decarbonisation levers, as emissions are heavily concentrated in a limited number of sites and geographical areas. Decarbonisation plans are developed by country cluster, incorporating local technological, industrial, commercial and regulatory specificities. These plans identify the most relevant levers and lead to dedicated studies and concrete projects, notably CO₂ capture and storage projects. Finally, the company incorporates transition risk into its investment decisions through regulatory monitoring, the use of an internal carbon price and CO₂ price sensitivity analyses. All new industrial projects undergo an assessment of their impact on the emissions trajectory and include sensitivity tests based on carbon price assumptions. For existing assets, passing on the carbon price to customers limits the risk of impairment.

Regarding adaptation, the company incorporates physical risks into the assessment of all investment proposals, in particular to design suitable equipment and production sites. For operations regularly exposed to acute risks, operational risk management and systems are in place to adopt appropriate preventive measures, protect people and facilities, and manage crises in close cooperation with customers. Finally, losses resulting from natural disasters are covered by the group's property and business interruption insurance programme, thereby limiting physical climate risks.

Company 15

*Industrial
materials*

To manage its transition risks, the company has defined a transition plan with targets for 2030 aligned with a 1.5°C pathway, validated by the SBTi: a reduction of just under 50% in GHG emissions compared to 2019 for Scopes 1 and 2, and just over 50% for Scope 3, in absolute terms. The main drivers of decarbonisation are the optimisation of production processes (around 25% of the expected reduction), the use of low-carbon energy (more than half of the reduction) and improvements in the energy efficiency of sites. For Scope 3, the company is notably continuing to develop recycling streams within its value chain. This plan is quantified by an overall investment budget (around €400 million up to 2030), but the breakdown by action lever is not available.

For adaptation, the company is implementing targeted adaptation plans for the most vulnerable sites, whilst strengthening existing measures at group level. In the most exposed regions, particularly the Americas, a systematic approach to analysing physical risks and identifying adaptation measures has been rolled out. For example, infrastructure is being adapted to improve its resilience to extreme weather events, and climate projections are incorporated into the design of new facilities and asset refurbishment projects. Business continuity is a central pillar of the strategy at group level. Indeed, for the majority of sites, alternative production capacities exist within the group to absorb all or part of production in the event of a disruption. For single-site production facilities, operational preventive measures have been implemented. These include, for example, the protection of electrical substations, the insulation of critical equipment, and the improvement of winter protection for fire-fighting systems. Finally, the company quantifies environmental provisions explicitly dedicated to protecting against physical climate risks.

Company 16

Energy

To manage its transition risks, Company 16 incorporates anticipated regulatory changes into its strategic plans. In particular, in-house expertise has been developed in this area. Furthermore, the company considers that its at-risk activities are naturally covered by the potential passing on of costs to end customers.

The group's decarbonisation levers are not quantified, despite having decarbonisation targets based on the SBTi methodology. The main levers cited are increasing electricity storage capacity, as well as the development of digitalised and more efficient electricity grids.

Regarding adaptation, the company states that it is progressively renewing its assets to modernise them and diversify technologies and geographies. Furthermore, the sites most vulnerable in high-emission scenarios are incorporated into existing resilience plans. Finally, analyses of exposure to physical climate risks form part of the factors considered when constructing new sites.

Feedback on climate risk management

- Quantification of decarbonisation levers for Scopes 1 and 2, as well as planned capital expenditure (Capex), and a rough estimate of the scale of Scope 3 emissions if information by decarbonisation lever is not available
- Adaptation of decarbonisation plans to the energy mixes of sites and the regulatory maturity of the geographical areas in which they are located
- Use of an internal carbon price aligned with reference scenarios to anticipate transition risk
- Structuring a group-wide approach to business adaptation, based on asset vulnerability analysis, the definition of business continuity plans, the strengthening of critical infrastructure resilience, and the integration of climate projections into the design of new projects
- Anticipating the financial impacts of climate risks by combining economic mechanisms (cost transfer, insurance), resilience investments and the creation of provisions dedicated to physical risks
- A redundancy strategy within the supply chain, enabling its resilience to be strengthened

3. CLIMATE RISK GOVERNANCE

Company 13 <i>Industrial materials</i>	The Executive Board oversees climate-related issues through two internal committees. The Audit Committee oversees climate risks and is responsible for data quality. The Strategy and Sustainability Committee oversees the climate transition plan and climate performance. The results of the climate risk assessment are presented to the group's Sustainability Committee, which includes the CEO, the Head of Industrial Operations and the Head of Finance.
Company 14 <i>Industrial chemicals</i>	The trajectory of climate targets is managed centrally via a carbon budget allocated to the various regions, which is reviewed annually in line with interim targets. The Environment and Society Committee of the Board of Directors meets three times a year, including at least one joint session with the Audit and Accounts Committee, to monitor the trajectory of the targets and assess the associated risks. Governance of transition risk assessments is embedded across business lines: these factors are taken into account in sectoral and geographical project studies, whilst technological innovations are monitored through dedicated R&D, and regulatory developments are tracked by the Public Affairs teams, in coordination with the relevant business lines and operational entities.
Company 15 <i>Industrial materials</i>	Climate risks are managed by two committees of the Executive Board. The Innovation and Sustainable Development Committee reviews the regulations applicable to the business lines and the necessary strategic and technological adaptations, whilst the Audit and Risk Committee assesses and quantifies the transition and adaptation issues. These two committees thus pool their expertise to identify and manage the group's climate risks.
Company 16 <i>Energy</i>	Environmental risks associated with operations are integrated into the group's governance and risk control system. This is overseen by a risk committee and the risk department. The company is working towards greater integration between the risk and sustainable development functions. Indeed, the Executive Committee's Risk Committee is being trained in climate risk management, whilst the Sustainable Development Committee is being trained in compliance and reputational risks. Furthermore, the company includes the monitoring of decarbonisation targets in the remuneration of the group's senior management.

Feedback on climate risk governance

- Promoting climate risk governance across business lines, by integrating transition and adaptation issues into project studies, regulatory monitoring, technological innovation and investment decisions
- Strengthening coordination between the risk and sustainable development functions, in particular through training programmes and joint bodies
- Aligning executive remuneration with climate objectives, by incorporating the monitoring of decarbonisation targets into incentive schemes

2.1.5. REAL ESTATE SECTOR

The real estate companies examined in this panel are as follows:

- Company 17: Property company specialising in the acquisition, development, management and letting of residential properties in Europe.
- Company 18: French group involved in the development, construction, renovation and commercialisation of residential and commercial property, as well as associated services.
- Company 19: French group active in construction, civil engineering and the development of residential and commercial property projects.

1. METHODS FOR ASSESSING CLIMATE RISKS

Company 17 *Residential property*

Company 17 assesses its climate risks using a methodology that combines external factors (climate projections) and internal factors (financial projections). The analysis is based on a distinction between sensitivity (potential for gross damage) and vulnerability (potential for net damage after adaptation measures have been taken into account, thereby integrating adaptation from the identification stage). Sensitivity is determined using damage classes specific to each building (target rents, expected turnover, construction costs), supplemented by expert assessments. The integration of existing adaptation measures enables climate risks to be assessed qualitatively by asset, hazard and scenario. The scope covers all of the group's operations, with separate analyses for portfolio development by geography.

For physical risks, the analysis covers the 2030 and 2045 time horizons, in line with investment planning and the lifespan of real estate assets. It is based on the RCP 2.6, RCP 4.5 and RCP 8.5 scenarios and examines seven climate hazards.

For transition risks, an in-depth analysis was conducted in 2023 based on four climate narratives ranging from a baseline scenario to a 'worst-case' scenario.

Company 18

Residential and commercial property

Company 18 assessed its climate risks by detailing, for each one, the impact on the value chain, the stakeholders affected, the relevant time horizons and the potential financial impact on a scale of one to four.

For physical risks, the company has adopted the OCARA methodology, developed by Carbone 4. It uses a high-emission IPCC scenario, RCP 8.5, projected over the time horizons of 2050, 2070 and 2100. To incorporate a specifically French perspective tailored to the location of its assets, the company also uses the TRACC scenario, developed by the French government for the PNACC-3. This scenario highlights hazards such as clay shrinkage and swelling, which are not covered by RCP 8.5, demonstrating the company's commitment to identifying risks in a relevant manner.

A qualitative risk assessment was first carried out to identify the vulnerabilities and adaptive capacities of the projects in the face of high temperatures, heavy rainfall, flooding, strong winds, droughts, and clay shrinkage and swelling. For each hazard, the potential impacts on human capital, property and business were assessed. A quantitative analysis was then carried out using the geographical resilience assessment and the Bat-ADAPT tool, developed by the Observatory of Sustainable Real Estate (OID), to estimate the proportion of projects exposed to certain climate hazards. The scope covered includes construction sites, whose vulnerability to climate-related hazards was analysed; completed buildings, for which resilience during the operational phase was studied; and property portfolio management services.

For transition risks, the assessment is based on the ADEME Transition(s) 2050 scenarios, aligned with national objectives (SNBC, PPE). Risks specific to the value chain were identified, their probabilities were estimated across four scenarios, and an average probability and the potential effects on the business model were then assessed.

Company 19

Construction, residential and commercial property

Company 19 assesses exposure (probability of occurrence) and vulnerability (level of materiality and, separately, adaptive capacity) to climate change. Each parameter is assigned a score, and two scores are then calculated: the gross score and the net score, obtained by factoring in adaptive capacity.

With regard to physical risks, the organisation distinguishes between three categories: risks associated with project implementation (short term), risks affecting long-term assets, and risks further upstream in the value chain. The analyses are based on the SSP5-8.5 scenario and across several time horizons (2021–2040, 2041–2060, 2081–2100), with reference years of 2030, 2050 and 2100. Twenty-eight hazards are assessed. An exposure score is assigned to each asset based on its geographical coordinates, and impacts are examined from several angles: potential physical damage, changes in operating costs, possible business interruptions, and effects on employee health and safety. Vulnerability is currently being rated. For transition risks, it uses an NGFS +1.5°C scenario, with reference years of 2026, 2030 and 2050. Five risks have been identified at a global level, across the entire value chain, without quantitative metrics but within a structured qualitative analysis framework.

Feedback on climate risk assessment

- Integration of the entire value chain, distinguishing between operations, owned assets, construction sites, associated services and, where possible, upstream and downstream factors (supply, market environment)
- Incorporation of national or sector-specific scenarios (e.g. TRACC) alongside 'general' climate scenarios (IPCC, NGFS, IEA), enabling specific risks and local regulatory frameworks to be taken into account
- Use of multiple scenarios, including extreme scenarios as required by the standard, supplemented by one or more intermediate scenarios
- Combining qualitative analyses (identification of sensitivity points, impacts on human capital, assets and processes) with quantitative tools (scoring, geospatial diagnostics)
- Use of gross exposure assessment to identify risks, whilst also managing the company's resilience through a net risk assessment to identify adaptation priorities

2. CLIMATE RISK MANAGEMENT ACTIONS

Company 17 *Residential property*

Company 17 integrates climate risk management into its activities by identifying and assessing adaptation solutions for physical risks deemed to be material. Potential adaptation measures are analysed and evaluated at the level of assets and neighbourhoods.

Furthermore, the company's transition plan is based on the gradual decarbonisation of its operations, prioritised by country through short-, medium – and long-term actions. These levers for action include, for example, energy-efficient refurbishment, building modernisation and the replacement of heating systems with renewable solutions. Nevertheless, the company's transition plan remains incomplete. In one geographical area, it is aligned with national 1.5 °C targets (reduction in emissions of 7 kg CO₂e/m²/year by 2045), with a dedicated investment programme of over €600 million. However, a significant portion of the group's activities is covered by reduction targets that are not aligned with the 1.5°C goal.

Company 18

Residential and commercial property

To manage its physical risks, Company 18 incorporates the Bat-ADAPT analysis from the earliest stages of development in order to adapt to climate hazards. The OID's guide to adaptive actions also serves as a reference for integrating measures tailored to the identified risks right from the design stage. These actions therefore depend on each project: adjustments to teams' operating procedures, adaptation of tools, selection of alternative materials or redesign of building elements to enhance resilience. These practices are not yet systematic, but the group's adaptation strategy, currently being developed, will be based on these existing elements.

To decarbonise its operations, the company has set targets to reduce absolute Scope 1 and 2 emissions by 47% by 2030, as well as a 42% reduction in emissions per square metre linked to the life cycle of delivered buildings (partial Scope 3). These targets, validated by the SBTi, are consistent with the Paris Agreement and a 1.5°C pathway.

Company 19

Construction, residential and commercial property

Company 19 integrates climate risks into the group's broader risk management processes. Adaptation measures are insufficiently developed. Nevertheless, the actor has decarbonisation targets validated by the SBTi.

Feedback on climate risk management

- Defining adaptation measures at the level of sites, projects and geographical areas by drawing on operational expertise, whilst developing group-wide management of climate change adaptation.
- Focusing adaptation actions on the health and safety of stakeholders, business continuity and the resilience of assets, based on the location of risks within the value chain

3. CLIMATE RISK GOVERNANCE

Company 17 <i>Residential property</i>	Company 17's climate risk governance is integrated into the group's risk management framework. Climate risks are identified, assessed and monitored on an ongoing basis by risk managers, as part of a group-wide quarterly reporting process. The results are then incorporated into existing risk management processes.
Company 18 <i>Residential and commercial property</i>	Company 18's climate risk governance is centralised at group level, with full integration of subsidiaries. The CSR department, which leads this area, is part of the Risk Management Committee, ensuring the link between climate strategy and the overall risk management framework. Climate risks are not directly monitored by the Risk Committee, but their identification follows a methodology aligned with that of the Risk department. Indeed, the framework of the Risk and Internal Control department is reused for this purpose, based on joint work between an external consultancy and internal experts. This exercise is conducted at group level by a cross-functional committee comprising the CSR, Finance, Legal and HR departments.
Company 19 <i>Construction, residential and commercial property</i>	Climate governance for Company 19 is defined at group level. Climate risks are identified by the business lines and then monitored by the group's Sustainable Development department, supported by the Risk, Finance and Strategy departments. The committee dedicated to environmental strategy meets four times a year and coordinates the harmonisation of the entities' climate plans and their implementation.

Feedback on climate risk governance

- Incorporation of the climate risk review into the Risk department's quarterly reporting
- Inclusion of the department responsible for climate-related issues (CSR department, Sustainable Development department, etc.) in risk management committees
- Alignment of the methodology used for climate risk assessment with that of the Risk department, particularly where this is led by a department other than the Risk department
- Identifying climate risks by drawing on the expertise of business lines, whilst monitoring and managing these risks by leveraging climate and risk expertise at group level

2.2. GOOD PRACTICES IDENTIFIED IN THE PARIS FINANCIAL CENTRE

In this sub-section, a number of good practices observed within the Paris financial centre are identified and highlighted. These are illustrated through a series of case studies focusing on seven companies based in the Paris financial centre, drawn from the sectors analysed in the previous section. These practices are organised around the same three key areas as before: climate risk assessment, climate risk management, and the associated governance framework.



CLIMATE RISK MEASUREMENT AND MANAGEMENT APPROACH

Caisse des Dépôts has developed a climate risk scoring tool that forms one of the key components of its climate risk measurement and management framework.

All work on climate risks is jointly carried out by the group Risk department and the Finance and Sustainable Policy department, with a view not only to effectively measure and manage financial risks, but also to serve as a lever for achieving Caisse des Dépôts' strategic objective of ecological transformation.

This tool, now integrated into the information systems and structured as a line of defence, is used for several purposes:

- **Analysis at the time of the financing or investment decision (flow):** climate risk analysis is now carried out systematically whenever a case is submitted to the committee, regardless of the amount involved. A high level of risk triggers additional due diligence and a dialogue with the client to verify that the detected risk is indeed material and to consider risk reduction measures (through adaptation to climate change in the case of physical risks, or through climate change mitigation in the case of transition risks).
- **Portfolio analysis (stock):** using this internal tool, Caisse des Dépôts has been able, since late 2023, to produce analyses of its portfolios' exposure to climate risks, to publish this information in external reports (sustainability, Article 29), and to inform business units of the main risk concentrations within the portfolios.
- **Monitoring of climate risks** within risk mapping and within the risk appetite framework. Monitoring the exposure of Caisse des Dépôts' balance sheet also enables the definition of thresholds or limits in terms of exposure to climate risks.

→ **Conducting climate stress tests** to calculate a climate surcharge, defined as the difference in capital requirements between a scenario with no climate change and scenarios involving climate transition or global warming. The climate surcharge is calculated for each stress scenario, based primarily on modelled default probabilities by applying successive shocks, directly linked to the counterparties' climate scores and credit ratings, depending on the severity and timing of risk materialisation in the various scenarios.

To manage these climate risks, Caisse des Dépôts adopts the following strategy:

→ **Physical risks: no formal limits are set on physical risks out of a concern for territorial equity, with risk reduction pursued through adaptation.** Caisse des Dépôts' risk appetite framework does not establish limits for physical risks. Certain regions of France are highly vulnerable to specific hazards (heatwaves, floods, clay shrinkage and swelling, and wildfires in particular). From a territorial equity perspective, it is not feasible to limit the appetite for physical risk in the most exposed areas.

To mitigate climate risks, which are now better measured, Caisse des Dépôts has chosen to utilise the strategic lever of physical risk reduction as much as possible, through adaptation, as this is the approach that directly enhances the resilience of the economy and regions to climate change, in line with Caisse des Dépôts' raison d'être of contributing to their development. The adaptation component of the climate policy is primarily aimed at reducing the physical risks linked to the impacts of climate change that affect the Group's activities, both directly and indirectly. It also aims, by providing financial or operational adaptation solutions, to reduce third-party risks affecting the group's clients and partners.

→ **Transition risks: risk management and risk reduction through mitigation.** The risk appetite framework sets a limit on outstanding exposures to high or very high transition risk. The mitigation component of the climate policy helps to reduce transition risks through three key measures: (i) providing substantial funding for sectors undergoing ecological transformation, (ii) aligning the group's emissions with a 1.5°C pathway, (iii) divesting from the highest-emitting sectors. The sectors in the portfolio most at risk of transition are covered by the climate policy's sector-specific guidelines (energy, transport and real estate). The industrial sector, which is also at risk of transition, is addressed through portfolio decarbonisation targets.

PARTNERSHIP WITH ACADEMIC INSTITUTIONS TO IMPROVE MODELLING OF THE FINANCIAL IMPACT OF CLIMATE RISKS

Climate risk analysis aims to estimate the future impact of physical and transition risks, but it generally relies on the climate scenarios used, which themselves are based on a series of interconnected climate, macroeconomic and financial models, each with its own assumptions and limitations. Furthermore, modelling the financial implications of climate risks remains an emerging field. For investors, it is essential to accurately quantify the actual financial impact of these risks in order to develop a robust investment strategy.

In partnership with the MIT Joint Programme on the Science and Policy of Global Change, Amundi has studied financial impacts such as credit spreads applied to companies across different sectors and countries under various transition scenarios. This analysis is crucial for identifying potential stock market shocks and implicit credit risks as regulatory frameworks evolve, thereby ensuring resilient investment strategies. Work is currently underway to extend this study to physical climate risks.

A SYSTEMIC APPROACH INTEGRATING THE INTERDEPENDENCIES BETWEEN ASSETS AND SERVICES TO BETTER QUANTIFY FINANCIAL IMPACTS

A previous study conducted by the SNCF group highlighted five major hazards: the intensification of extreme heatwaves and periods of drought, wildfires, landslides, floods, and the phenomenon of clay shrinkage and swelling. In 2024, all entities were mobilised to assess the vulnerability of all physical assets to these hazards.

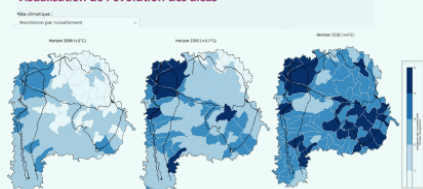
SNCF's objective is to define pragmatic adaptation plans, covering both Opex and Capex, tailored to the costs of adaptation solutions and the expected service level. To achieve this, it is necessary to quantify the cost of inaction (or insufficient action), including its direct and indirect impacts, in order to carry out a more accurate cost-benefit analysis.

At the request of the Executive Committee, a systemic approach has been launched, building on a proof of concept carried out in the first half of 2025 within a limited area of the Rhône-Alpes region, with the support of Blunomy. The mandate covers the development of a method to identify, characterise and quantify (in euros) the main impacts of climate change on the system, as well as the provision of a tool designed to inform investment decisions regarding adaptation at critical points in the system.

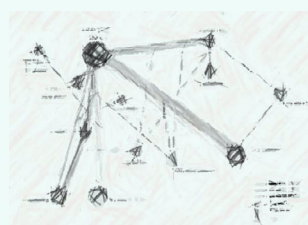
A systemic approach has been adopted. The entire SNCF system (stations, passengers, infrastructure, freight) is integrated into a model that identifies the functional links and interdependencies between assets and services, as well as potential knock-on effects. This was achieved through significant involvement from operational staff. This modelling then enables the projection of service indicators such as delays or train cancellations, and the calculation of the associated financial impacts.

Harmonisation and modelling of hazard and vulnerability data: TRACC alignment, 5 major hazards, 7,000 assets.

Visualisation de l'évolution des aléas



Modelling interdependencies: functional links between assets and services provided and identification of potential knock-on effects.



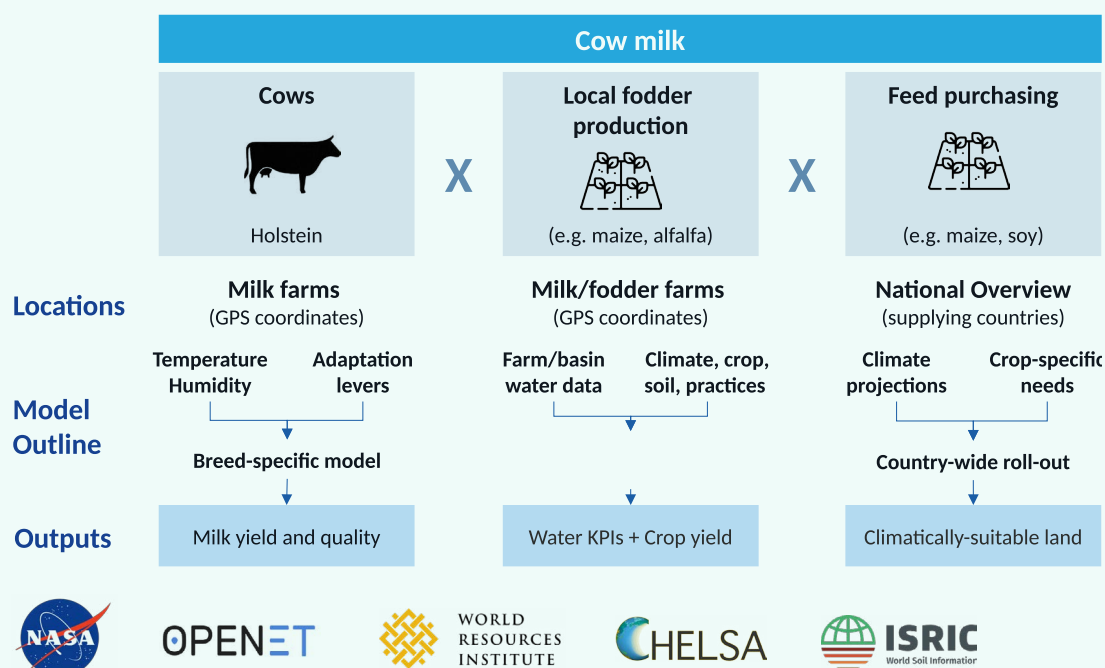
Cost calculation: multi-criteria analyses by type of hazard, railway activity, type of traffic and territory



DETAILED BOTTOM-UP ANALYSIS TO ENHANCE RESILIENCE OF SUPPLY CHAIN

As a global player in the Food and Beverages industry, Danone places strong emphasis on identifying and addressing potential climate risks and opportunities, with a strategic focus on enhancing supply chain resilience—particularly in its milk supply chain, which is central to its business.

To better understand and quantify the impact of climate risks on its milk supply chain, Danone conducted a comprehensive bottom-up study in collaboration with Blunomy. Leveraging a purpose-built web application, Danone analyzed data from individual dairy farms across multiple countries, such as precise location, herd size, and feed composition, while integrating detailed climate projections and datasets from various sources, including the World Resources Institute and ISRIC.



Notes: The climate model results are calculated for 3 time horizons (Baseline, 2030 and 2050) based on the IPCC SSP3 RCP7.0 scenario (deemed to be the most relevant for the last and next decade; Approx +3,6 °C by 2100) and leverage state-of-the-art climate, agronomy and hydrogeology knowledge and databases.

Logos are illustrative and do not provide an exhaustive view of data sources mobilized for this assignment.

The most significant climate risk identified for Danone's milk supply chain is water stress, which can affect feed crop yields in certain regions. Additionally, heat stress poses a threat to milk productivity, particularly during the summer months. This farm-level analysis enables Danone to capture the complexity of local conditions, quantify associated climate risks, and provide actionable recommendations to the Executive Committee, as illustrated in the figure below.



REDUNDANCY STRATEGY TO STRENGTHEN SUPPLY CHAIN RESILIENCE

Schneider Electric assesses climate risks within its supply chain using a multi-level mapping approach that incorporates various factors: suppliers' geographical location, transport and logistics vulnerability, and the availability of critical resources for manufacturing its products.

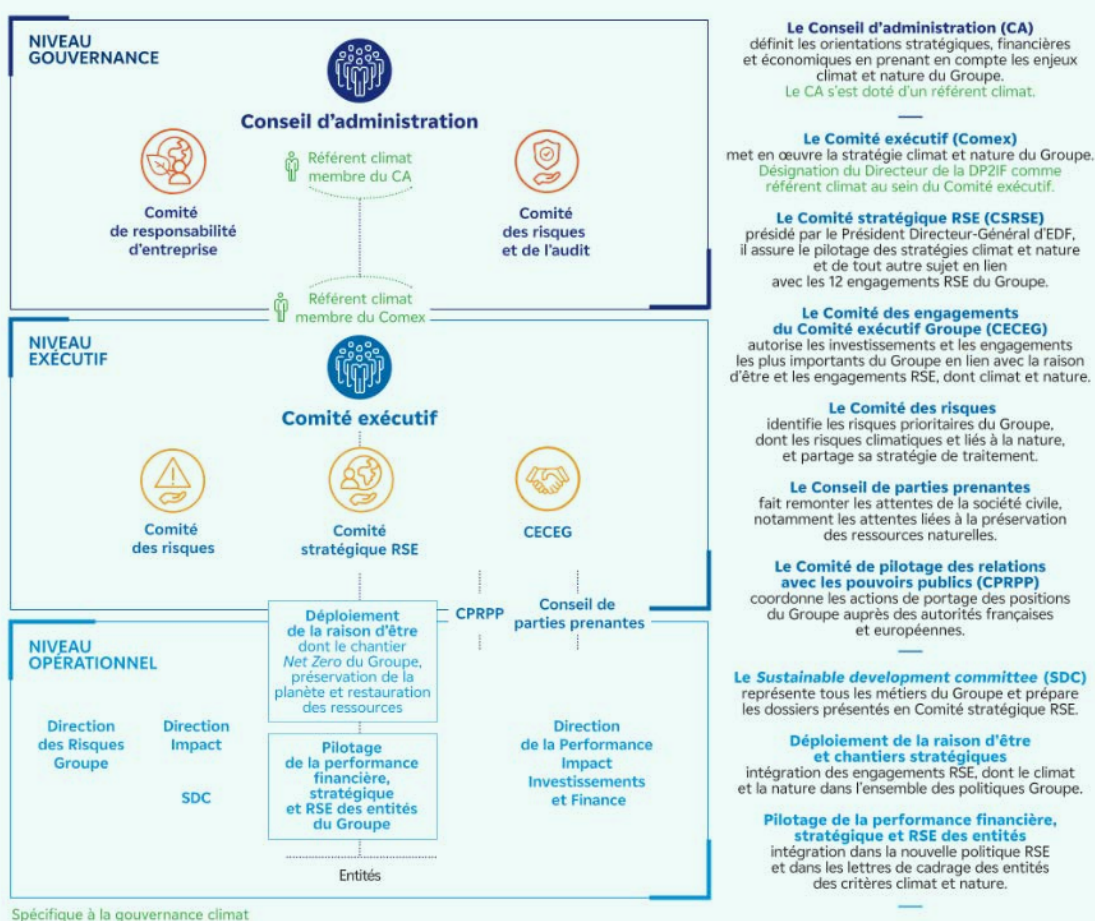
To anticipate and mitigate these risks, the group rolled out the 'STRIVE' programme in 2021, which includes a target to strengthen the resilience of its supply chain. Schneider Electric works closely with its suppliers and R&D teams to identify and qualify alternative components capable of meeting growing demand and improving supply continuity. These components are classified according to their risk level and impact on operations.

By the end of 2024, this mapping covers nearly three-quarters of global revenue, and all components presenting a medium or high commercial risk will have a mitigation plan in place. Furthermore, the multi-year resilience plan aimed at establishing a redundant production network has been significantly expanded to encompass all critical operations.

STRONG CLIMATE GOVERNANCE, WITH ADAPTATION AND MITIGATION ADDRESSED EQUALLY

Adapting infrastructure and processes to physical risks related to climate change is a priority on the same level as mitigation actions and forms part of a governance framework that fully integrates climate issues. This governance is reflected, in particular, by linking a portion of executive remuneration to environmental performance.

Carbon trajectories and adaptation challenges are regularly monitored by the Executive Committee and the Board of Directors. They are integrated into the group's strategic deliberations and investment guidelines, with a view to long-term resilience. This governance is further strengthened by the presence of a climate lead on the Board of Directors and the Executive Committee, as well as through stakeholder dialogue mechanisms. Within this framework, the Stakeholder Council benefits in particular from the expertise of two IPCC authors, who help shed light on the group's climate challenges.





A CENTRAL SCENARIO FOR STRATEGIC PLANNING

Accor conducted its first scenario-based climate risk analysis in 2021. This study examined the physical impacts and their likely consequences in a +4°C world by 2100 (IPCC RCP 8.5), as well as transition risks and opportunities under scenarios consistent with a +1.5°C world by 2100 (IPCC RCP 2.6). Following discussions with the Executive Committee, the use of a central scenario was considered appropriate to better calibrate the group's strategic responses to climate risks. The Sustainable Development, Strategy and Risk teams therefore expanded their analysis by incorporating a central scenario deemed more probable (IPCC SSP2-4.5), in collaboration with Axa Climate and Blunomy. This strategic exercise involves co-constructing a credible climate scenario with internal stakeholders and focusing the analysis on commercial, financial and strategic implications, in order to identify the most appropriate strategic responses to the resulting risks and opportunities.





CLIMATE RISKS
WHAT LESSONS CAN BE LEARNT FROM THE
FIRST CSRD SUSTAINABILITY STATEMENTS?

APPENDICES

A1. LIST OF STUDIES

The main studies considered in drawing up these analyses are:

	Number of companies	Publication date	Access
AMF	20 publications	October 2025	Study_CSRD_reporting_the_way_forward_2025
BL Évolution	78 publications	April 2025	Etude CSRD 2025 et SBF 120: comment la première vague s'est-elle approprié l'exercice pour renforcer ses politiques RSE ? <i>The analysis of the ambition of climate transition plans was conducted on a subset of 45 companies.</i>
Deloitte*	200 publications	August 2025	Beyond compliance: Enhancing trust through reporting <i>Some conclusions are drawn from a manual analysis of a subset of 50 companies.</i>
EFRAG*	656 publications	July 2025	EFRAG_State of Play 2025 Report final Statistics Dashboard <i>Some conclusions are drawn from a manual analysis of a subset of 50 companies.</i>
EY	200 publications	April 2025	EY CSRD Barometer 2025
EY	137 publications	May 2025	Key insights from CSRD reports
EY	46 publications	June 2025 (webinar)	Au regard des premières publications CSRD, où en sont les entreprises dans leur action climatique ?
IFD*	89 publications	August 2025	<i>Analysis produced specifically for the purposes of this report</i>

(*) These studies are conducted using generative artificial intelligence (GenAI). Consequently, all summary statistics derived from these studies should be interpreted as market trends, and not as a detailed analysis on a company-by-company basis.

DETAILS REGARDING THE DELOITTE ANALYSES PRODUCED FOR THIS REPORT

The analysis is based on data collected using generative artificial intelligence, which was then processed and analysed by human consultants for the purposes of this study. All findings and conclusions are inherently subjective and based on professional judgement.

SCOPE OF THE STUDY

The data covers 200 companies from Wave 1 of the CSRD. The companies selected were those with CSRD reports for financial periods starting on or after 1 January 2024, available in English or officially translated, and published by 23 April 2025.

Within each sector, organisations were first chosen based on the highest market capitalisation. To promote geographical diversity, additional organisations from under-represented jurisdictions were selected, also based on highest market capitalisation. The methodology aimed to provide both sectoral and geographical balance.

The sectors considered for this study are as follows:

Macro-sectors	Sectors
Consumer	Retail, wholesale and distribution
	Automotive
	Transportation, hospitality and services
	Consumer products
Energy, Resources and Industrials	Industrial products and construction
	Power, utilities and renewables
	Energy and chemicals
	Mining and metals
Financial Services	Real Estate
	Banking and capital markets
	Insurance
Life Sciences and Healthcare	Life sciences
	Health care
Technology, Media and Telecommunications	Technology
	Telecommunications, media and entertainment

The data extracted was limited solely to whether the selected reporting organisations made certain disclosures, not whether such disclosures complied with ESRS or any other applicable reporting requirements. Deloitte Global expresses no view on the accuracy, completeness, quality or materiality of any disclosures analysed.

LIMITATIONS RELATED TO THE MAPPING METHODOLOGY AND DATA SOURCES

The mapping of IROs across ESRS topics, the value chain and time horizons is based solely on the information contained in the reports analysed. It was guided by the names of the related material topics and the disclosed ESRS topics reported by the organisation. The accuracy of these mappings has not been independently verified.

COMPLETENESS OF DATA

Information that was not clearly disclosed or that could not be explicitly linked to the relevant parts of the value chain and time horizons was considered 'unspecified' and excluded from the IRO calculations.

A2. DEVELOPMENT OF AN AI TOOL BY THE IFD TO EXTRACT INFORMATION FROM SUSTAINABILITY STATEMENTS

The first CSRD reporting cycle offers a unique opportunity to assess the maturity of companies in terms of climate risk assessment and management. Due to the unstructured nature of the published information and the often-considerable length of sustainability statements, analysing these documents is particularly time-consuming. At the same time, artificial intelligence (AI) tools, particularly those based on natural language processing (NLP) techniques, have made significant progress, with the implementation of frameworks designed to minimise well-known issues such as hallucinations. They thus offer promising prospects for automating and accelerating this analytical work.

In this context, the IFD has launched an internal project aimed at developing an AI tool to analyse sustainability statements from the perspective of climate risk assessment, notably through the recruitment of an intern dedicated to this objective. An initial version of the tool has been developed based on a tool created by the Swiss Finance Institute³⁷, which is available as open source. This tool is based on the RAG ('Retrieval-Augmented Generation') approach, commonly used to improve the performance of large language models (LLMs) such as GPT-5, particularly to limit the risk of hallucinations. This approach involves directing the LLM to retrieve relevant information from predefined, authoritative knowledge sources. Building on this same architecture, the questions posed to the LLM and the response guidelines were adapted to specifically extract information relating to climate risks. This internal tool was used to extract information from 89 companies, mainly from the SBF 120 index, covering 10 sectors of activity (see Figure A2-1).

37 Researchers at the Universities of Zurich and Oxford have developed an AI tool capable of assessing companies' transition plans according to user-defined criteria (64 indicators drawn from 28 transition plan frameworks) by replicating the reasoning of a human analyst.

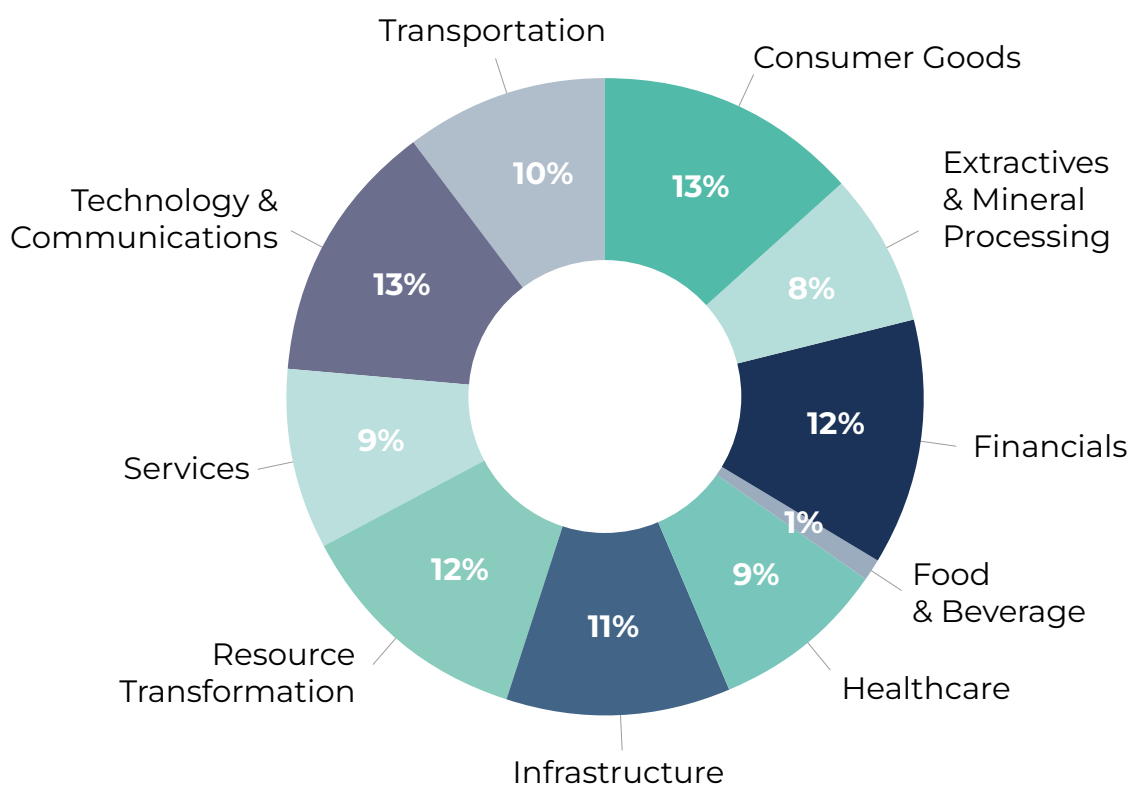


Figure A2-1 : Business sectors, expressed as a percentage of the sample.

In order to verify the reliability of the results produced by this internal tool, the verification methods adopted in various studies (notably those of EFRAG³⁸, the Swiss Finance Institute and the Gaia project) were examined (see the summary in the table below). For this internal study, responses for a subset representing 10% of the sample (9 out of 89 companies) were verified manually. Only questions for which the answers were correct for at least 89% of the subset (at least 8 out of 9 companies) were retained. Among these selected questions, where possible, a statistical verification was carried out by comparing the results obtained with those of other studies not based on AI (see [Appendix A1](#)), for example regarding the percentage of companies with a climate transition plan.

38 EFRAG (July 2025), *State of Play 2025. Implementation of the European Sustainability Reporting Standards (ESRS): Observed practices based on statements issued as of 20 April 2025*.

EFRAG	Swiss Finance Institute ³⁹	Projet Gaia ⁴⁰
The results were manually verified on a subset of 50 reports for each question asked. Customised 'prompts' were developed to guide the AI in identifying relevant content within each disclosure and to format its output consistently to facilitate interpretation. The prompts were then tested on the same set of 50 reports, with the AI-generated responses compared against the manually established benchmarks. The prompts were refined until they reached a quality threshold deemed acceptable (fewer than 5 errors per question for each test), in line with the Acceptable Quality Level (AQL) approach.	Their LLM-based tool was manually verified. They enlisted 28 experts from 26 institutions for the evaluation, obtaining 28 evaluations of the tool and 396 evaluations of individual indicators. High level of satisfaction with the quality of the responses. 81% of participants felt that the model accurately summarises the relevant content. Although many were impressed by the tool's reliability, a significant number remained unsure about whether to place their full trust in it (11 out of 28). The majority gave positive feedback on how easy it was to understand the results provided by the AI.	They evaluated the results using a test set comprising publicly available corporate reports from 187 financial institutions worldwide. As a statistical comparison approach, their results were compared with TCFD analyses. For a more granular comparison, they drew on three sources of commercial data, which they manually compared with the results obtained by the AI. A third level of comparison involved cross-checking against manual data extraction on a random sample of 163 examples. Gaia's results were accurate in 79.8% of the tests.

39 Colesanti Senni, C., et al. (2024). *Combining AI and domain expertise to assess corporate climate transition disclosures*.

40 BIS Innovation Hub. (2024, mars). *Project Gaia. Enabling climate risk analysis using generative AI*.

A3. LIST OF MEMBERS OF THE INSTITUT DE LA FINANCE DURABLE'S 'EXTRA-FINANCIAL ANALYSIS - CLIMATE RISKS' WORKING GROUP

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