ANALYSIS GUIDE ON HOW TO ASSESS CARBON PERFORMANCE OF COMPANIES

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This document puts forward a number of recommendations. Recommendations introduced by "can" or "may" can be considered as being relevant in general, subject to data availability and an assessment of materiality by the stakeholders themselves. Some analysis recommendations may not be relevant for all companies. These are then introduced by "could" or "for example", and are not intended to be exhaustive.

FOREWORD

The primary mission of the financial sector in implementing the ecological transition is to allocate capital in line with the transition objectives. For this allocation to be relevant, it is essential to have a common reference framework. The concerted development of analytical approaches and key indicators, as occurred for financial analysis in the 1980s, is therefore needed.

The analysis guide from the Institut de la finance durable contributes to this, while capitalising on the emergence of reporting frameworks for corporate sustainability data, notably the CSRD in the European Union.

Yves Perrier

President of Institut de la finance durable

This document presents, in a pedagogical manner, the key steps in assessing a company's performance in terms of the carbon intensity of its activities, emissions reduction targets, the transition plan including dedicated financial resources and its governance mechanisms.

It was produced within the IFD's multi-stakeholder working group on the standardisation of non-financial analysis, chaired by Philippe Setbon, President of the French Asset Management Association (AFG). The drafting of this guide involved the communities of financial analysts, professional federations and associations, regulators, advisory services and climate transition experts, through the group's work or via interviews.

We hope that this guide, as a reference for the financial ecosystem, will help define the foundations of a common language and therefore contribute to the emergence of a new market discipline on climate. However, it is only the first step in a longer process of achieving data maturity and producing the methodologies needed for analysis. Standardisation efforts must therefore continue, and the IFD will remain mobilised in contributing to this effort.

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EXECUTIVE SUMMARY

The climate targets set under the Paris Agreement call for a far-reaching and rapid transformation of the economic system. Effective operational implementation of these targets by countries and all stakeholders in society is therefore necessary. As far as the financial sector is concerned, the aim is to allocate resources to companies that are effectively implementing their transition or providing decarbonisation solutions.

In this context, it is necessary to assess a company's performance in the carbon transition with as much robustness as its financial performance. The aim is therefore to **foster the emergence of best practices as soon as possible regarding the assessment of transition performance**, similar to what has been developed in the financial analysis of companies.

In concrete terms, climate-related company performance indicators, such as the carbon footprint[1], the emissions reduction target or carbon transition investments, must now be considered by financial analysts (credit and equities) with the same diligence as EBITDA, ROI and cash flow. Ultimately, the aim is to redefine the creation of financial value by companies in a fairer and more relevant way, with the integration of carbon externality.

As such, this guide identifies **the components of analysis that, following the IFD's work, appear relevant to assessing a company's performance in the carbon transition**, in line with **the methods used to assess low-carbon strategies already used by organisations, such as the ADEME's ACT method, the Grantham Institute "TPI[2]" method and the Carbone 4 "CIA" method.** As such, the IFD's approach is largely inspired by the work carried out by the ADEME and referenced in particular by Banque de France in the deployment of its climate indicator for companies.

As a reference guide for the Paris financial centre, this document identifies the foundations of a common language for those involved in rating, analysis, financing and investment, and for companies in steering their strategy. It proposes an analytical approach based on a limited number of indicators, which are themselves constructed from carbon transition data from reporting frameworks that apply to companies, particularly the European ESRS standards.

The analysis framework, presented in Part I, lists the key indicators used to assess a company's carbon performance as well as the resources and costs associated with its transition. After a presentation of the non-financial statements in Part II in order to situate the data necessary for the analysis, the methods of this analysis are then presented in Parts III and IV depending on whether they relate to past or future performance, respectively. Finally, Part V focuses on assessing the governance mechanisms put in place within a company pertaining to the carbon transition.

1 A company's carbon footprint is defined in this guide as the sum of its scope 1, 2 and 3 emissions (see Part I.A). A country's carbon footprint is a different concept that includes emissions produced on national territory but also emissions imported through foreign trade (see, for example, this definition from the French Ministry of the Environment)

2 Transition Pathway Initiative

I. ANALYSIS FRAMEWORK FOR ASSESSING COMPANIES' CARBON TRANSITION

To assess companies in their carbon transition, it is essential to set a certain number of key performance indicators (KPIs) that can serve as a benchmark. The KPIs presented in this analysis framework, grouped into three categories, can be considered as relevant for all sectors. Other KPIs not included in the framework may nevertheless prove useful depending on the different sectors considered (e.g. the composition of the electricity production mix for companies in the electricity sector).

→ **Accounting for greenhouse gas (GHG) emissions is one of the pillars of the transition analysis.** The carbon footprint calculation must cover scope 1 corresponding to a company's direct emissions, scope 2 corresponding to indirect emissions related to energy consumption and scope 3 corresponding to other indirect emissions along the value chain (upstream and downstream). **The carbon footprint can also be assessed dynamically, including past reductions, the current footprint and short-, medium – and long-term reduction commitments.**

→ The assessment may then focus on the dedicated resources and costs associated with the decarbonisation process. During their assessment of the transition plan proposed by the company[3], **the analyst may in particular study the financial resources allocated by the company to support the deployment of the plan**. The **capex and opex dedicated to the transition**[4] deserves particular attention and may be assessed in relation to other company expenditure items in order to highlight their actual impact, especially in comparison to the capex and opex dedicated to carbon-intensive activities. In addition to the overall amount of investments dedicated to the transition, **the analyst may conduct a cost study of the solutions mobilised by the company to decarbonise its activity and its ability to prioritise its actions based on the abatement cost**.

→ The analyst can also conduct a qualitative assessment of the resources put in place by the company to achieve its decarbonisation targets, in its organisational structure and the monitoring of the actions put in place. The analyst may ensure that the **organisational structure** places **climate issues** at the **heart of its governance bodies and remuneration system**, that it **encourages key players in governance to develop their climate skills** and that it **establishes systems for monitoring climate risks and managing the emission pathway**.

3 It is specified in the ESRS reporting standards (E1-1 para 17) that a company must communicate its intention to develop a transition plan (and the timetable if any) in the event that such a plan is not yet in place.

4 For example, an investment in solar panels represents a capex for the carbon transition.

II. DATA COLLECTION FOR ANALYSIS IN NON-FINANCIAL STATEMENTS

This guide aims to establish an analysis framework consistent with the Corporate Sustainability Reporting Directive (CSRD), the European regulation that came into force on 1 January 2024 making it mandatory[5] to publish sustainability reports. These reports will include information on the climate impact of companies, as well as other environmental, social and governance (ESG) aspects. However, it is expected that the data provided by these reports will initially lack maturity and be incomplete and unevenly reliable. Therefore, analysts should approach these data with caution, questioning the underlying methodologies, their quality and integrity, and anticipating the improvement of their quality over time. In this way, analysts may remain attentive to changes in best practices and the best available data sources.

The analysis framework presented in this guide is therefore set within a context of limited data maturity and supporting methodologies. The analytical approaches proposed can only be fully operational when the reporting framework resulting from the CSRD has been stabilised. As the quality of available data and tools improves, the guide can help to more effectively identify the need for developing analytical capabilities for financial actors.

Until the new reporting system is fully operational and stabilised, analysts should refer to existing company communications such as the non-financial report from the NFRD, and in the case of non-European companies their annual activity reports. It is important to note that certain data reported by companies, particularly those relating to emissions, are estimated and are currently not very comparable (variable scopes) or incomplete. This reported data must be critically examined to ensure its accuracy and completeness, using internal or external estimates (data providers).

III. ASSESSMENT OF PAST PERFORMANCE

The decarbonisation efforts to be made by the company as part of its transition plan depend on the efforts that have already been made, individually and collectively. It is therefore necessary to assess not only the forward-looking aspects but also the company's past pathway from a climate perspective. This work allows the analyst to understand where the assessed company stands when the study is conducted. As in financial analysis, the **company's carbon performance** should be (i) **analysed in light of past results** and (ii) **compared with that of comparable companies**.

5 See Table 3 for the scope and timing of application of the CSRD. It should also be noted that the obligation already existed through the NFRD (Non-Financial Reporting Directive) for a large proportion of companies.

In the same way that the financial analyst uses pro forma accounts for comparability of historical financial statements, they can identify and understand changes in carbon emissions attributable to changes in the scope of the company. Changes in business model may involve disposals, acquisitions or joint ventures. **The different scopes with or without acquisition may be analysed separately to identify changes in performance that result from structural actions or changes in scope**.

→ **To contextualise the level of a company's current carbon footprint, it may be useful to analyse the trend underlying past developments**. Ideally, this requires having time series data that extend as far back as possible – at least five years if feasible. **However, analysing past trends requires caution.** Methodological changes in estimating emissions can have a significant impact on annual variations in the accounting of GHG emissions. In any case, the analyst may adjust the time span of the analysis to ensure the robustness of the resulting assessment.

→ **The comparative analysis of the company's carbon footprint with its sector peers is a key step** in assessing performance. The level of sectoral granularity is important in this respect, as companies belonging to the same highly aggregated sector may have heterogeneous business models, depending particularly on their position in the sector's value chain. This comparison may be based on the **production intensity indicators**, which are the most relevant to situate the company in relation to its sector. For this comparison exercise, it is recommended to **prioritise production in physical units**, which is less volatile than revenue. Furthermore, the share of taxonomy-aligned revenue, capex or opex (in the European context) are also indicators that may be useful for comparative analysis.

IV. ASSESSMENT OF THE TRANSITION PLAN

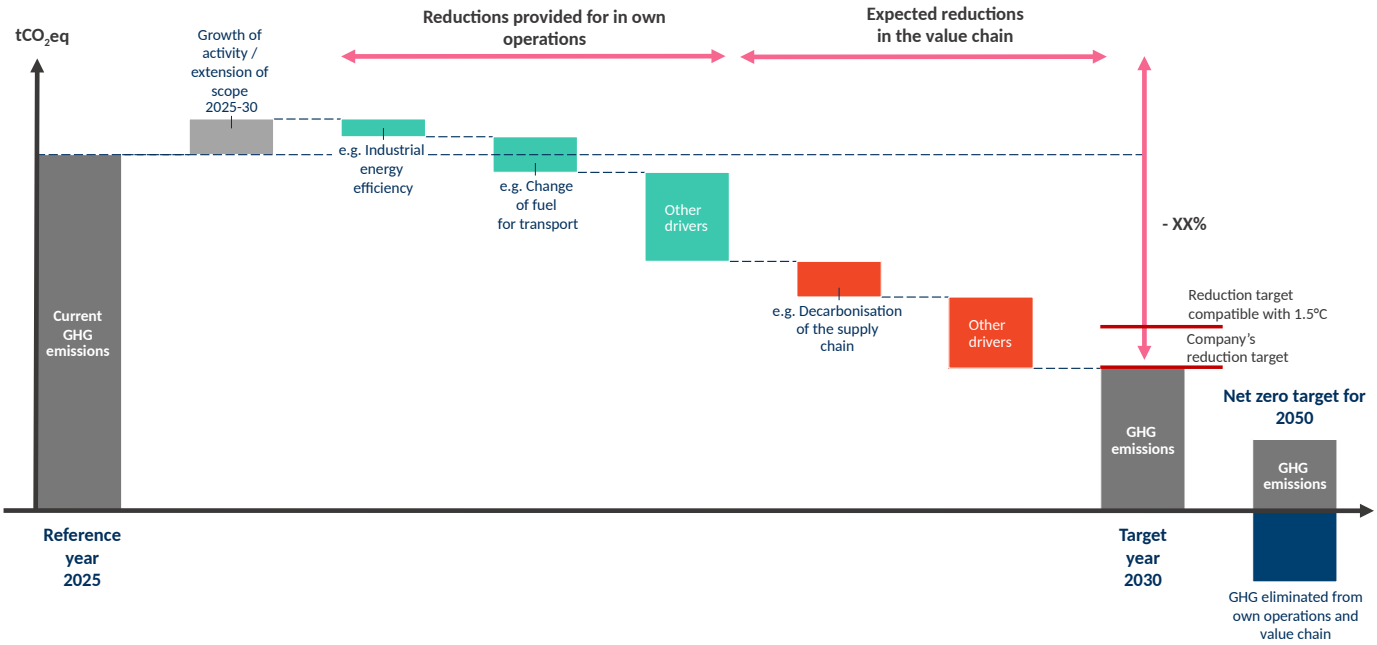
The analyst then assesses **the overall ambition of the transition plan,** the **planned actions to reduce the carbon footprint and the financial resources allocated to their implementation, the efforts in implementing and the strategic monitoring, as well as the consistency of the assumptions used in the planning process.**

The ambition of the emissions pathway committed by the company is thus the first area of analysis to consider in the context of the transition plan. This pathway corresponds to the emissions reductions that the company commits to achieve at regular intervals, while staying compatible with a benchmark pathway aligned with the target of limiting global warming to 1.5°C.

However, the targets set by companies are not enough to show that companies are in transition. Achieving targets depends on the operational and financial resources mobilised and their effective implementation.

→ **The analyst can first assess whether the decarbonisation levers identified by the company can enable it to achieve the targets that it has set.**

- Assessing the credibility of decarbonisation levers requires **verifying** (i) **that the main types of levers have been identified** (energy efficiency, electrification, use of renewable energies, decarbonisation of the supply chain and manufacturing processes, etc.), (ii) that the **sum of the contributions quantified by the company is indeed consistent with the achievement of the targets** (see chart below for illustration), and (iii) that the **action plan to mobilise these levers is robust** (modification of the supply of goods and services by the company, adoption of new technologies, engagement with players in the value chain, etc.).



- Note that any use of carbon credits and the valuation of emissions avoided by the company's activity must be transparent and accounted for independently of the achievement of targets.

- The relevance of the levers can be put into perspective and assessed by the analyst by comparing the levers identified by the company and their implementation schedule with the levers described by the relevant transition scenarios.

→ **The analyst can then assess whether the action plan of the company is accompanied by a coherent allocation of capex and opex within an integrated approach aligned with the financial strategy.** This assessment can be supplemented by a comparative analysis of the company's performance relative to its peers in terms of structural transformation.

- Initially, the analyst **may ensure that the quantification of the company's investment and financing needs is broken down according to decarbonisation lever**, prior to **assessing the robustness of the financial strategy relative to the transition plan**. As a corollary, it is important to check the consistency between the components of the transition plan and the company's financial statements.

- In the event of communication by the company on **the management plans for its GHG-intensive assets, the analyst may favour restructurings over asset disposals.**

- The analyst may also **examine the level of resources (capex, opex) allocated to the transition in relation to the company's other growth drivers and other financial items**. The objective is to analyse the credibility of the transition financing plan with regard to the company's financing capacities.

- **Changes in the company's economic structure (capex, opex, revenue) induced by its transition plan may be compared with peers in its sector in order to assess its performance in terms of speed of transformation**. A sectoral comparison of the company's **abatement costs** will also help ensure that the company's decarbonisation process is carried out under cost-effective conditions.

→ Implementation monitoring and regular oversight are **necessary** when deploying a transition plan in order to verify that the company's pathway is indeed converging towards the targets. The analyst can thus ensure that the **observed rates of change in emissions are in line with the targets set by the company in its commitment pathway, while remaining compatible with the benchmark pathway identified and the best standards in its sector,** and that the company **regularly reviews the relevance of its overall strategy** in the light of this assessment.

→ To assess the **robustness and credibility of the company's climate strategy**, the analyst can finally assess the consistency of the assumptions used to develop the transition plan, particularly with regard to the reference transition scenario, as well as transition risks (regulations, markets, technologies, reputation etc) and other physical risks. The relevance of the transition assumptions can also be analysed with regard to the implicit financial risks: stranded assets, financing capacity, debt ratio, cost of debt, etc.

V. ANALYSIS OF CARBON TRANSITION GOVERNANCE WITHIN THE COMPANY

Governance plays a crucial role in the success of companies' carbon transition. Effective governance ensures that sustainability commitments are integrated and driven at the highest level of management and translated into concrete actions at all levels of the organisation.

Responsibilities may be shared, assigned, and clearly defined among different committees. This includes preparatory work within a dedicated CSR committee or a distribution of work across several board committees, board involvement, and responsibility assigned to senior management for the implementation of the transition. The analyst can also ensure the transparency and quality of communication with the administrative, management and supervisory bodies regarding the **monitoring and alignment of the emission pathway**.

The analyst may also verify that the members of the governance bodies already have or are developing **specific competence** on the issues related to climate change and the impact of this change on the company in order to monitor the associated risks and opportunities.

The financial incentive mechanisms in executive remuneration plans can then be identified and deemed credible, i.e. linked to concrete and measurable climate targets.

Lastly, strong governance in carbon transition can include systems for monitoring and mitigating risks related to transition issues. Regarding the **management of the pathway,** the analyst may seek to understand **whether the company ensures that the pathway remains aligned** with its transition targets by checking that the organisation and the **internal monitoring process** are consistent with climate considerations and that **corrective measures** are put in place if the targets are not met.

INTRODUCTION

The climate targets set under the *Paris Agreement** [6] require a far-reaching and rapid transformation of the economic system. **Effective operational implementation** of these targets by countries and all stakeholders in society is therefore necessary. As far as the financial sector is concerned, the aim is to allocate resources to companies that are effectively implementing their transition or providing decarbonisation solutions.

In this context, it is necessary to assess a company's performance in the carbon transition with as much robustness as its financial performance. The aim is therefore to **foster the emergence of best practices as soon as possible regarding the assessment of transition performance**, similar to what has been developed in the financial analysis of companies.

In concrete terms, climate-related company performance indicators, such as the carbon footprint, the emissions reduction target or carbon transition investments[7], must now be considered by financial analysts (credit and equities)[8] with the same diligence as EBITDA, ROI and cash flow. Ultimately, the aim is to compare the creation of financial value by companies with their impact on the climate through their greenhouse gas (GHG) emissions[9].

As a reference guide for the Paris financial centre[10], this document identifies the foundations of a common language for those involved in rating, analysis, financing and investment, and for companies in steering their strategy. It proposes an analytical approach based on a limited number of indicators, which are themselves constructed from carbon transition data from reporting frameworks that apply to companies, particularly the European ESRS standards[11]. As such, this guide identifies **the components of analysis that, following the IFD's work, appear relevant to assessing a company's performance in the carbon transition**[12], in line with **the methods used to assess low-carbon strategies already used by organisations[13], such as the ADEME's ACT method, the Grantham Institute "TPI" method and the Carbone 4 "CIA" method.** As such, the IFD's approach is largely inspired by the work carried out by the ADEME and referenced in particular by Banque de France, which, as part of the mandate it received from the Ecological Transition Financing Committee and the accreditation received under the "Green Industry" law, deploys its climate indicator to serve businesses.

6 Terms in italics followed by a * are defined in detail by the AMF and are available in the glossary of this guide.

7 The use of the term "carbon transition" in this guide should be understood as the reduction of greenhouse gases recorded as "carbon equivalent".

8 The term financial analyst should be understood as credit and equity analyst throughout the rest of the document

9 These gases include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulphur hexafluoride (SF_6), nitrogen trifluoride (NF_3), hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs).

10 As the main target of this guide is Paris-based financial actors, the analysis methods proposed apply in particular to companies subject to the CSRD. The proposals may nevertheless remain broadly relevant, subject to the availability of data.

11 European Sustainability Reporting Standards (see Part II for more detailed presentation)

12 While the assessment of carbon performance cannot be carried out without taking into account the main major impacts generated elsewhere, within the meaning of DNSH (Do No Significant Harm) of the Taxonomy and the CSRD, other sustainability issues, notably relating to adaptation to climate change, are not addressed in this guide and will be the subject of future work by the IFD.

13 See Appendix 2 for a more complete list of the methods identified as relevant to support analysts in their assessment.

The analysis framework presented in this guide is set within a context of limited data maturity and supporting methodologies. As such, the analytical approaches proposed can only be fully operational when the reporting framework resulting from the CSRD has been stabilised. As the quality of available data and tools improves, the guide can help to more effectively identify the need for developing analytical capabilities for financial actors. Until the new reporting system is fully operational and stabilised, analysts should refer to existing company communications such as the non-financial report from the NFRD, and in the case of non-European companies their annual activity reports.

The guide focuses mainly on the quantitative indicators of the assessment, in particular by establishing the **key indicators to robustly examine companies' transition plans**[14]**, through the targets set and the means of implementation to achieve the targets**. **The analysis also covers more qualitative aspects such as assessing governance processes to steer the company's pathway or the quality of human capital and training on climate issues**. The analysis frameworks presented in this guide are generic and, while applicable to most companies, may be verified by the analyst to ensure they best correspond to the realities of the company under review.

The analysis framework, presented in Part I, lists key indicators used to assess a company's carbon performance as well as the resources and costs associated with its transition. After a presentation of the non-financial statements in Part II in order to situate the data necessary for the analysis, the methods of this analysis are then presented in Part III and IV depending on whether it relates to past or future performance, respectively. Finally, Part V focuses on assessing the governance mechanisms put in place within a company pertaining to the carbon transition.

This document was produced as part of the IFD's multi-stakeholder working group on the standardisation of non-financial analysis, chaired by Philippe Setbon, President of the AFG and Chief Executive Officer of Natixis IM. The drafting was carried out by the IFD team with the contribution of Kearney and PwC, the community of financial analysts (SFAF etc.) and, more broadly, professional federations and associations (AFG, FBF, France Assureurs, AFEP, MEDEF, etc.) and other stakeholders (ANC, ADEME, Carbon 4 Finance, AMF, ILB, etc.). The composition of the working group and more specific acknowledgements are available in Appendix 12. The working group also conducted interviews with rating agencies and data providers (Axylia, Carbon4Finance, Ecovadis Ethifinance, Iceberg Data Lab, MSCI, S&P Global), public agencies and foundations (ADEME, CDP) and consulting services (Axa Climate, Blunomy). Discussions between the teams of the IFD, Germany's SFB (Sustainable Finance-Beirat) and the UK's TPT (Transition Plan Taskforce) also improved the quality of the document.

14 It is specified in the ESRS reporting standards (E1-1 para 17) that a company must communicate its intention to develop a transition plan (and the timetable if any) in the event that such a plan is not yet in place.

I. ANALYSIS FRAMEWORK FOR ASSESSING COMPANIES' CARBON TRANSITION

The tables presented in Part I contain the main indicators that the analyst may use for their assessment, within the limits of the available data. Most of the data used to construct the analysis will come from the sustainability reports provided by the companies as part of the CSRD requirements (see Part II for a presentation of the structure of the non-financial statements for collecting these data). The KPIs (Key Performance Indicators) presented in this analysis framework can be considered as relevant for all sectors. Other KPIs missing from the tables below may nevertheless prove useful depending on the different sectors considered. The electricity mix – of production or consumption – is, for example, a relevant indicator for companies in the electricity sector or energy-intensive companies.

A. PRESENTATION OF CARBON PERFORMANCE INDICATORS RELATING TO THE COMPANY'S ACTIVITY

Accounting for greenhouse gas (GHG) emissions is one of the fundamental components of the transition analysis. Ultimately, the carbon footprint remains the only indicator that allows the verification if the company is implementing actions with effective impacts. However, this indicator is not sufficient on its own, as it only provides a static view of the company's situation. It can be supplemented by other indicators enabling an assessment of the company's dynamics and its transition pathway.

Establishing a carbon inventory, in accordance with recognised international standards and guidelines in force[15]**, is also a prerequisite for the company to draw up a transition plan and define emission reduction targets, in line with the ambition of the *Paris Agreement**.** As such, the carbon footprint can be assessed using a dynamic approach: past reductions, current footprint and future reduction commitments. The targets are one-off or short-term commitments (over a five-year period) and are based on a technical and financial business plan. These targets make it possible to build a decarbonisation commitment pathway in five-year increments, generally extending to a maximum of 2050, the date by which the EU has committed to achieving carbon neutrality.

Scope 1 and 2 emissions and significant scope 3 emissions (due to the company's activity) and scope 4 emissions (emissions avoided thanks to the solutions offered by certain companies[16]) should be analysed separately. To more accurately assess the carbon performance of a company developing transition solutions (e.g. a wind turbine manufacturer), the analysis of its own emissions can be supplemented by the emissions that it allows other companies to avoid. However, it would not be appropriate to offset its own emissions by the emissions it helps to avoid, as the company's performance must be assessed on each of these axes.

15 International standards provided for by the GHG Protocol or ISO 14064-1 standards (https://www.iso.org/en/standard/66453.html)

16 See in particular the ADEME technical sheet: "Avoided emissions: what does this mean?".

Indicator	Calculation	Analysis and limits
Carbon footprint	**Total gross emissions ($tCO_2eq.$)** = Scope 1 gross emissions + Scope 2 gross emissions + Scope 3 gross emissions	• The detail of emissions for each category – or scope – is necessary in order to understand the distribution of carbon emissions across the company's value chain and to assess with sufficient accuracy the robustness of the actions implemented. • Regarding scope 2, a distinction must be made between the estimate according to the location-based and market-based methodology[17]. The reporting for the current year must be presented using these two methods. • Particular attention must be paid to significant scope 3 emissions[18], whose calculation methods are critical to the relevance of the carbon footprint indicator. • In addition to the analysis of the carbon footprint relating to induced emissions, a study could be carried out on avoided emissions, known as Scope 4, in the case of companies offering transition solutions (see Appendix 9). **The analyst can refer to Appendix 4 for detailed explanations**
Carbon intensity of the activity	**Physical intensity per unit of production:** Total gross GHG emissions ($tCO_2eq.$) Production volume (tonne of steel, KWh, etc.) **Monetary intensity relative to revenue:** total gross GHG emissions ($tCO_2eq.$) Revenue (monetary unit)	• The emissions intensity indicator is particularly useful in judging a company's performance relative to companies in the same sector • When the data is available, it is recommended to prioritise production in physical units, which is less volatile than revenue • The intensity by added value may also be studied as an indicator complementary to revenue • The data collection of physical intensities per unit of production requires a nuanced understanding of sectoral issues, as production volumes are specific to each sector and require different levels of granularity for their analysis.

17 According to the AMF, the company must indicate the method used to calculate scope 2 emissions targets (ESRS E1 AR-24), either **by location** (location-based), i.e. the emission factors applied are the average electricity production factors of a geographical area, whether national, regional or local, or **by market** (market-based), i.e. based on the GHG emissions produced by the power plants from which the company contractually purchases electricity (this information must then be requested from the energy supplier). See Appendix 4 for more information.

18 Only these significant emissions have to be taken into account in the application of ESRS E1.

Indicator	Calculation	Analysis and limits
Compatibility of the commitment pathway and the emissions forecasted by the transition plan with the benchmark pathway	**Commitment gap** = Emissions of the commitment pathway ($tCO_2eq.$ or $tCO_2eq./unit\ of\ activity$) – Emissions of the benchmark pathway ($tCO_2eq.$ or $tCO_2eq./unit\ of\ activity$) **Action gap** = Emissions forecasted by the transition plan ($tCO_2eq.$ or $tCO_2eq./unit\ of\ activity$) – Emissions of the commitment pathway ($tCO_2eq.$ or $tCO_2eq./unit\ of\ activity$)	• The company must have communicated a benchmark pathway, preferably sector-specific when available (see Appendix 5), and consistent with the overall target of 1.5°C. This pathway must have been chosen from established sources: official national pathway, IEA, NGFS, OECM, IRENA, etc. (the choice must be justified) [19]. • The benchmark pathway may be in absolute emissions or intensity and should correspond to the latest version available in order to take into account the most up-to-date data, particularly in terms of the remaining carbon budget. • The gap between the company's commitment pathway and the benchmark pathway it has communicated must be monitored. When the pathway is expressed in intensity, the recommended approach for the analyst is to ensure that this gap decreases as much as possible; see chart 4 for an illustration. • The gap between the emission pathway forecast in the transition plan and the commitment pathway must be close to 0 upon the communication of the transition plan. • Commitment and action gaps are key variables in assessing the implementation of the transition strategy. **The analyst can refer to Part IV.A and Appendix 5 for a discussion on methodologies for assessing the commitment pathway.**

Table 1: Carbon performance indicators relating to the company's activity

B. ASSESSMENT OF DEDICATED RESOURCES AND COSTS ASSOCIATED WITH THE DECARBONISATION PROCESS

During the assessment of the transition plan proposed by the company, the analyst may in particular study the financial resources allocated by the company to **support the deployment of the plan**. The **capex and opex dedicated to the transition**[20] deserve particular attention and may be assessed in relation to other company expenditure items in order to highlight their actual impact. At the same time, the analyst can ensure that capex and opex not dedicated to the transition are not dedicated to activities that increase dependence on fossil fuels (see *Locked-in Emissions, Part IV, B-2 – Quantification and consolidation of the emission pathway induced by the transition plan).*

19 See Appendix 2

20 The capex and opex dedicated to the transition change according to the company's activities, but must be clearly defined by the company. According to the AMF, they must not contain activities related to the production, transport, conversion or use of fossil fuels.

In addition to the overall amount of investments dedicated to the transition, **the analyst may conduct a cost study of the solutions mobilised by the company to decarbonise its activity**.

Indicator	Calculation	Analysis and limits
Share of capex and opex dedicated to the transition	Capex dedicated to the transition (monetary unit) / Total capex (monetary unit) Opex dedicated to the transition (monetary unit) / Total opex (monetary unit)	• Capex and opex dedicated to the transition are those communicated by the company as part of the reporting of their transition plan (particularly in the ESRS format) • Capex and opex dedicated to the transition can also be compared with other expenditure items: capex and opex related to fossil fuel activities, amount of dividends paid, share buybacks, etc. • The credibility of the transition plan may also be assessed in terms of the impact on its financial sustainability, as well as the capex and opex projected by the company for the transition. • The alignment of capex and opex with the European Taxonomy is also an important indicator, the dynamics of which provide useful information about the speed of transformation of the company's model. **The analyst can refer to Appendix 6 for a discussion on the use of the European Taxonomy in analysing the evolution of the company's capex and opex in the context of the transition.**
Cost of emission reductions (i.e. Abatement cost)	Cost of a decarbonisation solution(monetary unit) / Emissions reduced by this solution ($tCO_2eq.$)	• The abatement cost is an indicator of the economic performance of a company's transition in order to verify that it is being carried out in a cost-effective manner. The analyst can also take into account the evolution of the abatement cost over the long term, insofar as certain technologies present a high abatement cost over the short and medium term, due to their low maturity. • This data is not requested directly in the ESRS and can be calculated based on capex/opex to assess the cost of the decarbonisation solution[21] • If the breakdown per solution is not available, the capex/opex aggregates for the entire transition plan may be used to calculate the average abatement cost.
Profitability ratio of decarbonisation solutions	Cost of a decarbonisation solution (monetary unit) / Value of emissions reduced by this solution (monetary unit)	• Used to calculate the profitability of the implemented solutions from a perspective complementary to that of abatement costs • The lower the ratio, the higher the profitability of the solution • In a granular analysis, this ratio makes it possible to rank solutions by merit and to select the most effective ones at €/tCO_2 avoided (also taking into account key feasibility factors such as access to the resource or the maturity of the solution)

Table 2: Indicators for analysing dedicated resources and costs associated with the corporate decarbonisation process

21 See the work of the Criqui commission for more details on abatement costs https://www.strategie.gouv.fr/publications/coûts-dabattement

C. ASSESSMENT OF THE GOVERNANCE OF THE COMPANY'S TRANSITION MANAGEMENT

In addition to the quantitative assessment of the company, provided by physical indicators (carbon performance) and monetary indicators (assessment of decarbonisation resources – capex, opex dedicated to the transition), the analyst may also conduct a qualitative analysis of the resources put in place by the company to achieve its decarbonisation targets, in terms of its organisation and the monitoring of the actions implemented. A presentation of the qualitative indicators that the analyst can use is available in Part V of this guide (*Analysis of carbon transition governance within the company*).

D. EXAMPLES OF APPROACHES FOR ANALYSING TRANSITION PERFORMANCE AS PART OF THE FINANCIAL ASSESSMENT

Company data from sustainability reporting frameworks (in particular the CSRD) allow for the juxtaposition of traditional financial assessment with performance in terms of carbon transition. The aim is therefore not to judge companies' performance solely based on their financial value, but also to take into account their impacts on the climate. Banque de France's climate indicator, the ADEME's ACT method, the consideration of "monetised" carbon externality and the translation of "climate scores" results into a financial variable (with the example of the Green Weighting Factor) are thus recent or developing approaches that could be useful for better consideration of transition performance in the financial analysis (see the boxes presenting these approaches in Appendix 7 for more details).

It should be noted that academic work on "integrated" accounting frameworks more generally, which take into account the physical flows of materials more directly[22], is also under development. Depending on the available data, these methodologies could eventually be used by analysts to assess the sustainability of companies' business models.

22 See the C3D and ORSE report, which lists several methods in this regard: www.orse.org/file/535ed8c38476b32dc5a1aea25e0abecd.pdf

II. DATA COLLECTION FOR ANALYSIS IN NON-FINANCIAL STATEMENTS

A. REPORTING FRAMEWORK FOR DATA USEFUL FOR ANALYSIS: CONTEXT OF THE CSRD

The analytical structure of the guide is built in line with the European ESRS standards, which constitute the reporting framework for companies subject to the CSRD directive[23]. This directive has been in force since 1 January 2024, and the first sustainability statements will be published in 2025. While this guide is not intended to help stakeholders comply with the CSRD[24], it provides, for information purposes, a correspondence table between the indicators it establishes and the ESRS standards in order to facilitate a more exhaustive approach to compliance with regard to the carbon transition (see the summary version of this table in Section D and the long version in Appendix 3).

The ESRS reporting framework, result of the work by EFRAG[25], is intended to establish a common language, standards and framework to promote the quality of the published information and greater transparency. The main objective of the CSRD is to harmonise corporate sustainability reporting and improve access to publicly available ESG data. The EFRAG has also worked together with the ISSB[26] to achieve a high degree of interoperability between their respective standards in order to facilitate reporting by non-European resident entities[27] and to enable European companies applying the ESRS to meet the needs of international investors.

Climate-related indicators must be reported by companies as part of the ESRS, as soon as they have been assessed as material* (based on the **double materiality principle*, considering both financial materiality and non-financial materiality, known as impact materiality**). If they are deemed non-material, the company must publish, in accordance with the ESRS, a detailed explanation of the conclusions of its assessment. The ESAP platform, which must be in place latest by 10 July 2027, will provide access to all the information published as part of the CSRD from 2028, and additional voluntary information may be filed from January 2030. The new sustainability statement published will replace the current DPEF[28] applied to French companies, non-financial report from the NFRD.

23 Corporate Sustainability Reporting Directive

24 For this, please refer to the AMF guide

25 European Financial Reporting Advisory Group

26 The ISSB is the International Sustainability Standards Board, an organisation created in 2021 and tasked with developing the international sustainability reporting equivalent of IFRS standards

27 An interoperability guide, published jointly by the EFRAG and the IFRS Foundation, enables precise identification of the correspondence between the various reporting elements. See https://www.ifrs.org/content/dam/ifrs/supporting-implementation/issb-standards/esrs-issb-standards-interoperability-guidance.pdf

28 DPEF (Déclaration annuelle de performance extra-financière) or Non-Financial Performance Declaration, is a legal framework applied in France to govern the publication of non-financial and diversity-related information by companies, particularly on the environmental, social and governance policy and its results in the form of key performance indicators.

SCOPE AND IMPLEMENTATION TIMELINE OF THE CSRD

The scope of companies subject to this new reporting is broader than that of the DPEF. Specifically, this will apply to all companies listed on European regulated markets (except micro-enterprises) and other large European companies meeting at least two of the following three criteria: 250 employees or more, €50 million in revenue and €25 million in total assets. Lastly, certain non-European companies fall within the scope through their subsidiaries or branches if the revenue within the EU exceeds €150 million.

Furthermore, **reporting on sustainability data must in general be aligned in scope and timing with the company's financial reporting**, as part of the sustainability statement integrated in the management report. The entities to be included encompass the parent company, as well as subsidiaries under financial control – 100% consolidated, for which the sustainability indicators must be fully consolidated. Certain indicators are subject to a scope adjustment: the GHG emissions indicator must be reported in a scope extended to entities under the company's operational control[29], when the company has a direct influence on the management of GHG emissions.

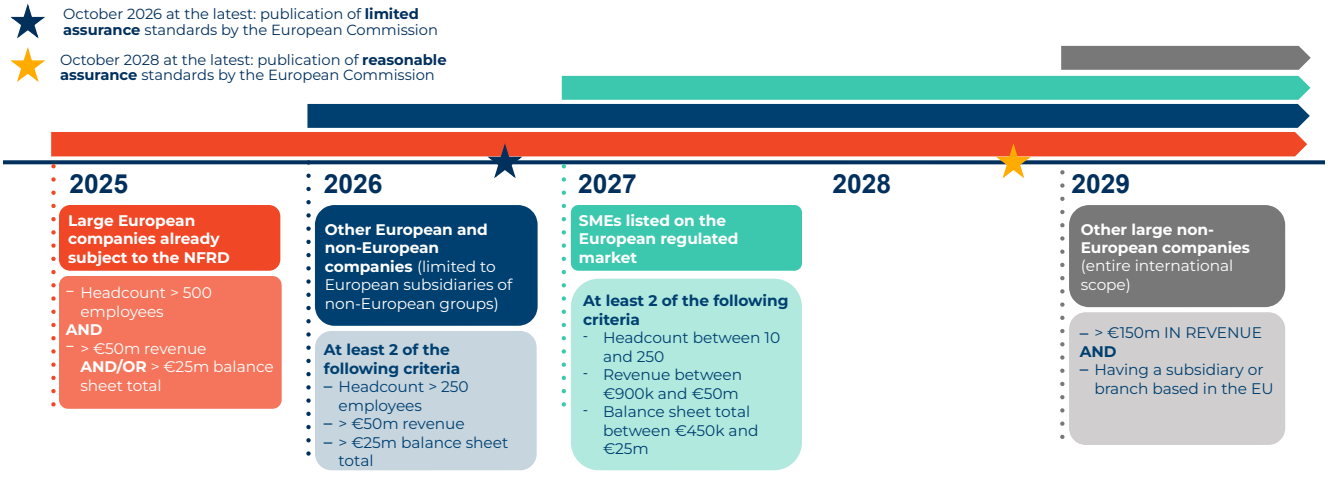


Table 3: Timetable for the publication of the first reports required under the CSRD according to company category
Source: IFD based on the notice of the French Treasury

Like financial publications, the first sustainability statements will be subject to an **external audit**. At this stage, and in view of the uncertainty over the reliability of the data and the indicators, their authentication may only be subject to ***limited assurance****, for which the Commission will provide standards for auditors no later than October 2026. From 2028, reasonable assurance could be introduced if the Commission considers it to be relevant[30].

29 Operational control refers to the ability to direct the operational activities and relationships of the entity, site, operation or asset (i.e. control over sustainability-related operations). The concept of operational control applies outside of financial control situations (i.e. subsidiaries), within the framework of a contractual relationship (e.g. concession, service, franchise, etc. agreements) to manage assets or activities

30 See in particular the technical opinion published by H3C on the limited assurance mission in terms of sustainability published on 4 July 2023, available at https://h2a-france.org/publications/le-h3c-publie-un-avis-technique-sur-la-mission-dassurance-limitee-en-matiere-de-durabilite/.

B. MOBILISATION OF DATA FOR ANALYSIS

Like revenue, gross margin or EBITDA in financial statements, a certain number of **KPIs illustrating the company's non-financial performance** will need to be presented in corporate sustainability statements, with reporting guidelines regulated in the European Union **by the ESRS**. As with financial analysis, this information will be used to evaluate companies.

Prior to any analysis, the user of this guide may first collect the documents published by the company under review that present its climate performance data. Financial information is typically accessible in the annual financial statements available online. Non-financial information published in accordance with the CSRD, in particular GHG emissions data, will be compiled in the **Sustainability Statement**, which is itself a part of the management report. The analyst may seek to obtain the **Universal Registration Document**[31], which contains all the company's documentation for a given financial year.

Any analysis conducted on the indicators defined in the analysis framework presented in Part I may take into account the **quality of the primary data used for the calculations**. It should be noted that these indicators (e.g. emissions, intensities) are estimated and calculated by the company, which has varying resources and methodologies. **The question of obtaining data (capacity and resources) and their robustness is indeed the main issue for the development of sound and relevant analyses**. In the context of a regulatory framework still under development, the analyst may therefore adopt a **cautious approach** and scrutinise the primary data used to calculate performance. The consequences of the decision by the SEC[32] not to include significant scope 3 emissions in the reporting obligations of US listed companies are still difficult to assess, but this illustrates the potential problem of data being unavailable in certain geographical areas, for example. Nevertheless, initiatives to build GHG emissions inventories, whether by companies themselves (emission sensors etc.) and by third parties (new market solutions proposed by innovative start-ups[33] or established players[34]), along with the implementation of the CSRD, are factors that should progressively improve access to more reliable data.

Until the new reporting system becomes is fully operational and stabilised, analysts should refer to existing company communications such as DPEFs, and for non-European companies their activity reports. In the absence of data directly communicated by companies, data providers can also support analysts with estimated data.

31 Only for the largest French issuers.

32 US Securities and Exchange Commission

33 For example, Sweep, founded in 2020, offers innovative solutions to map companies' emissions, define decarbonisation targets and collect carbon emissions data. Greenly, founded in 2019, conducts digital carbon assessments for companies and offers solutions to engage the ecosystem (employees, customers, suppliers) around the company's climate strategy.

34 IBM has developed software for companies to monitor GHG emissions. The IBM tool Envizi makes it possible to calculate, monitor and report scope 1, 2 and 3 emissions according to different levels of granularity. Lastly, since 2016, Carbon4 Finance has been offering methodologies for assessing induced and avoided emissions for scopes 1, 2 and 3, with a dedicated sectoral approach.

C. GENERAL PRESENTATION OF THE STRUCTURE OF THE SUSTAINABILITY STATEMENT AS PROVIDED FOR IN THE EUROPEAN REPORTING STANDARDS (ESRS)

According to European Union regulations, companies must add a section dedicated to non-financial issues in their management report. This section will be called the **Sustainability Statement** by convention and consists of four parts: general information, environment, social and governance. The GHG data appears in the second part of the report in the **chapter on *Climate Change*** (see illustration below) and is detailed by **ESRS E1**.

In addition to these general documents, **sectoral ESRS** presenting sector-specific reporting requirements are being developed. In particular, some indicators that are only relevant for a given sector will be detailed (e.g. for the construction sector: emissions linked to the production of construction materials vs. emissions linked to the company's energy consumption). This additional specialised information, which is not expected in the next few years, will be a relevant source of information for the analyst.

Part of Management Report	ESRS Codification	Title
1. General Information	ESRS 1	General Disclosures, including information provided under the Application Requirements of topical ESRS listed in ESRS 2 Appendix C
2. General Requirements	ESRS 2	Disclosures pursuant to Article 8 of Regulation (EU) 2020/852 (Taxonomy Regulation)
3. Environment Information	ESRS E1	Climate Change
	ESRS E2	Pollution
	ESRS E3	Water and Marine resources
	ESRS E4	Biodiversity and ecosystems
	ESRS E5	Resource use and circular economy
4. Social Information	ESRS S1	Own workforce
	ESRS S2	Workers in value chain
	ESRS S3	Affected communities
	ESRS S4	Consumers and end-users
5. Governance Information	ESRS G1	Business Conduct

Table 4: Overview of ESRS
(Source: European Commission, European sustainability reporting standards – first set (europa.eu), ESRS1, page 32.)

In the appendix to ESRS1, the European Commission has published an illustrative example of a Sustainability Declaration (see below) that is compliant with the expected reporting requirements (for a company that has deemed the data covered by ESRS E2, E3 and E4 to be non-material).

Management report

Analysis of the development and performance of the undertaking's business and its position

The undertaking's likely future developments

Description of the principal risks and uncertanties

Corporate governance statement

Sustainability statement

1. General information

ESRS 2 General Disclosures

- Specific topical DR from topical ESRS
- Additional DR from sector specific ESRS
- List of Disclosurere Requirements complied with
- Table of all the datapoints deriving from other EU legislation

2. Environmental information

Disclosures pursuant to Article 8 of Regulation 2020/852 (Taxonomy Regulation)

ESRS E1 Climate change

- Impact, risk and opportunity management and Metrics and targets DR from ESRS E1
- Additional DR from sector specific ESRS
- Potential additional entity specific information

ESRS E5 Resource Use and Circular Economy

- Impact, risk and opportunity management and Metrics and targets DR from ESRS E5
- Additional DR from sector specific ESRS
- Potential additional entity specific information

3. Social information

ESRS S1 0wn workforce

- Impact, risk and opportunity management and Metrics and targets DR from ESRS S1
- Additional DR from sector specific ESRS
- Potential additional entity specific information

ESRS S2 Workers in the value chain

- Impact, risk and opportunity management and Metrics and targets DR from ESRS S2
- Additional DR from sector specific ESRS
- Potential additional entity specific information

ESRS S4 Consumers and end-users

- Impact, risk and opportunity management and Metrics and targets DR from ESRS S4
- Additional DR from sector specific ESRS
- Potential additional entity specific information

4. Governance information

ESRS S1 Business conduct

- Impact, risk and opportunity management and Metrics and targets OR from ESRS G1
- Additional DR from sector specific ESRS
- Potential additional entity specific information

Table 5: Illustration of a Sustainability Statement

D. NON-FINANCIAL STATEMENTS RELATING TO THE CARBON TRANSITION – CORRESPONDENCE TABLE ON THE INDICATORS IN THE GUIDE AND ESRS E1 ON CLIMATE CHANGE

In this section, the analyst will find a table presenting the main **indicators, requested in ESRS-E1**[35]**, useful for the analysis relating to the company's carbon transition. A more detailed table is presented in Appendix 3.**

Disclosure requirement (DR)*	Paragraph	*Application Requirement (AR*)*	Name of the indicator in the ESRS	Guide indicator related to ESRS indicators
Governance				
GOV-3 (ESRS 2)	13		Percentage of variable remuneration linked to achievement of GHG emission reduction targets)	Link between remuneration and achievement of climate targets
Strategy – Transition plan				
E1-1	16a	AR 2	Explanation of how targets are compatible with limiting of global warming to one and half degrees Celsius in line with Paris Agreement	Compatibility of the pathway with the Paris agreement
	16b		Disclosure of decarbonisation levers and key action	Identification of the main levers deployed by the company
	16c		Explanation and quantification of investments and funding supporting the implementation of transition plan	Share of capex and opex dedicated to the transition
	16j		Explanation of progress in implementing transition plan	Monitoring of the pathway of actual emissions in relation to the targets set
Impact, risk and opportunity management – Policies				
E1-2	22	AR 16, AR 17	Description of policies adopted to manage material impacts, risks and opportunities related to climate change mitigation and adaptation	Assessment of the governance of the company's transition management
Impact, risk and opportunity management – Actions and resources				
E1-3	29b		Achieved GHG emission reductions	Monitoring of the pathway of actual emissions in relation to the targets set
E1-3	29b		Expected GHG emission reductions	

35 Sections E1-7 (GHG removals and GHG mitigation projects financed through carbon credits) and E1-8 (Internal carbon pricing) of the ESRS include data that may be useful for the analysis but have not been included in this table, as they are less central in the assessment of transition performance.

Metrics and targets – Targets				
E1-4	33		Disclosure of how GHG emissions reduction targets and (or) any other targets have been set to manage material climate-related impacts, risks and opportunities	Monitoring of the pathway of actual emissions in relation to the targets set
E1-4	34a, 34b		Absolute value and, if applicable, intensity value of Scope 1, 2 and 3 GHG emissions reduction (separately or combined)	
E1-4	34c		Disclosure of past progress made in meeting target before current base year	
E1-4	34f, 16b	AR 30	Description of expected decarbonisation levers and their overall quantitative contributions to achieve GHG emission reduction target	
Metrics and targets – Energy consumption & mix				
E1-5	36		Understanding of the undertaking's total energy consumption in absolute value, improvement in energy efficiency, exposure to coal, oil and gas-related activities, and share of renewable energy in overall energy mix.	Monitoring of the pathway of actual emissions in relation to the targets set
E1-5	37		Total energy consumption related to operations disaggregated by fossil, nuclear and renewable sources	
Metrics and targets – Gross scopes 1, 2, 3				
E1-6	44	AR 39, AR 48	Gross Scopes 1, 2, 3 and Total GHG emissions	Carbon footprint and activity intensity in GHG
E1-6	44, 52	AR 47, AR 48	Total GHG emissions	
E1-6	53	AR 53	GHG emissions intensity (total GHG emissions per net revenue)	Activity intensity in GHG
Metrics and targets – Anticipated financial effects				
E1-9	67a		Assets at material transition risk before considering climate mitigation actions	Consideration of transition risks
E1-9		AR 73a	Estimated amount of potentially stranded assets	
E1-9		AR 74e	Monetised total GHG emissions[36]	Carbon adjustment in the financial statements
E1-9		AR 76b	Disclosure of anticipated financial effects in terms of margin erosion for business activities at material transition risk	Consideration of transition risks

Table 6: Correspondence table between the indicators in the guide and ESRS E1 on climate change (summary version)

36 Non-mandatory reporting

III. ASSESSMENT OF PAST PERFORMANCE

The transition is a dynamic process that involves not only achieving carbon neutrality by 2050, but also following an emissions reduction pathway sufficiently steep for the total amount of global emissions to remain below the estimated "carbon budget" to limit global warming to 1.5°C[37].

As such, the efforts to be made in the future will depend on the efforts made to date, both individually and collectively. It is therefore necessary to assess not only the forward-looking aspects but also the company's past pathway from a climate perspective, as well as its ability to meet its climate commitments. This work can help analysts to understand where the company being evaluated stands at the time of the study. As in financial analysis, the **company's carbon performance should be (i) analysed in light of past results (see modalities presented in Section A below), (ii) put in perspective with that of comparable companies (see Section B).**

It is also very important to monitor gaps between commitment and action (as defined in Section IV.D) based on data observed on the company's past actions (see Appendix 11 for more details).

A. MODALITIES FOR ANALYSING PAST DEVELOPMENTS: CHANGES IN THE SCOPE OF THE COMPANY, IDENTIFICATION OF TRENDS IN THE TIME SERIES, ACHIEVEMENT OF PREVIOUS TARGETS

The first step for the analyst will be to identify the reporting scope[38] chosen by the company that is relevant from a climate perspective. In this respect, an approach based on operational control[39] may be preferred. In the same way that financial analysts use pro forma financial statements to compare with historical financial statements, they can identify and understand the contribution of any changes in scope to the variation in carbon emissions.

The different scopes, with or without acquisition, may be analysed separately to identify changes in performance that result from structural actions or changes in scope. Indeed, changes in a company's scope of activity (both reduction and expansion) inevitably affect its carbon footprint and therefore, ultimately, its GHG reduction pathway. In the case of an acquisition, for instance, the analyst may verify that the acquiring company takes into account potential differences in transition maturity with the acquired company by adjusting the targets, levers and actions to reduce GHG emissions and by harmonising the calculation methodologies.

37 The 1.5°C climate threshold, as defined in the ESRS, assumes a temporary overshoot* of the target, which must remain limited ("with no or limited overshoot").

38 In this section, a company's scope of analysis covers structural changes such as disposals and acquisitions, regardless of the geographical dimension.

39 See footnote 29 on operational control.

The company should also be given a period of adaptation (at least one accounting year) to rectify its actions, timeline and pathway, or even to separate analyses between the two entities. If it is difficult to assess on a like-for-like basis, the analyst may also refer to activity intensity indicators, which are usually less sensitive to changes in scope than volume indicators. However, attention may be paid to the homogeneity of products and segments between the acquiring company and acquired company to identify possible upward or downward biases (for example, if a general cement producer acquires a cement producer specialising in products with a lower carbon intensity).

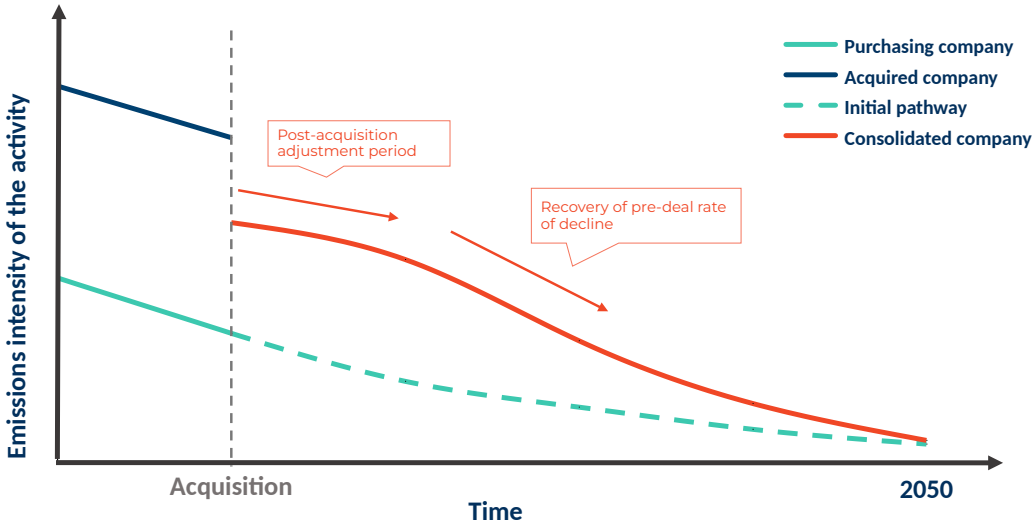


Chart 1: Illustration of changes in GHG emission reduction targets in the event of scope expansion

To put a company's current carbon footprint into perspective, it is useful to analyse the underlying trend of past developments. **Depending on the availability of data, the analysis of past performance should cover a sufficient period to identify performance trends**, ideally over at least five years if possible.

Analysing past trends, however, requires caution. The analyst may encounter issues with data inaccuracies or data gaps, or with high variability in the methodologies used to calculate GHG emissions[40]. Emission calculation methodologies evolve over time (with items not covered or emission factors not updated from one year to the next), which makes it difficult to compare data between companies in the same sector or even from year to year for the same company. Information on the methodologies used remains limited at this stage. In any case, the analyst may adjust the time frame to ensure the robustness of their assessment.

40 The NGFS published a recent note on improving GHG emissions data: NGFS publishes an information note on "Improving Greenhouse Gas Emissions Data" | NGFS

Furthermore, if the company includes CO_2 removals in its carbon footprint, a distinction between *net* and gross* emissions* is necessary to enable the analyst to access the efforts made and to better ensure comparability among companies in the same sector regarding their own activities or value chain. Any CO_2 removal solutions used may also be analysed (credibility, reliability of accounting, etc.).

In the context of this analysis, the past pathway of the indicators presented in the framework of Part I may thus be studied (format suggested in Table 7 below). To put into perspective the current level of a company's performance, it is important to **analyse the underlying trend of past developments and to understand the rationales for the evolution of the indicators.**

Lastly, the achievement of targets set in the past (if applicable), as well as the implementation of effective actions to reduce emissions, are important contextual elements for the analyst, as these elements can lend credibility to the company's commitments for the future. It should be noted that the valuation of these targets and past efforts may be carried out in accordance with the reporting modalities for emission targets (*see* Part IV.A).

		History			Current	Projection of transition plan			
		n-3	n-2	n-1	n	n+1	n+2	n+3	n+4
Carbon performance indicators relating to the company's activity									
Total GHG emissions	$tCO_2eq.$								
Reduction targets	$tCO_2eq.$								
GHG intensity of production (revenue if unavailable)	$tCO_2eq.$ / production unit								
Reduction targets	$tCO_2eq.$ / production unit								
Sectoral reference trajectory (e.g. IEA)	$tCO_2eq.$ / production unit								
Dedicated resources and costs associated with the decarbonisation process									
Transition Capex / Total Capex	%								
Transition Opex / Total Opex	%								
Average abatement cost	€/$tCO_2eq.$								
Profitability ratio of decarbonisation solutions									

Table 7: Summary of key indicators for the analysis – focus on past developments

B. PUTTING PAST PERFORMANCE INTO PERSPECTIVE WITH THAT OF COMPARABLE COMPANIES IN THE SECTOR

Just as a financial analysis compares a company's results with those of its competitors, carbon performance can be studied in relation to comparable peers. In the case of carbon performance, the **sector of activity is typically used as a criterion for comparability among at least two companies.** Comparative sectoral analysis is a key step in assessing the company's past performance. All the indicators presented in *Table 7* may thus be analysed in relation to those of comparable companies that the analyst has deemed relevant. The results of the actions taken by the company in the past may be assessed in light of the best performances in the sector and sectoral averages. This analysis makes it possible to understand whether the company being assessed has started its decarbonisation efforts before its competitors. The level of sectoral granularity is important in this respect, as companies belonging to a highly aggregated sector may have heterogeneous business models, particularly depending on their positioning in the sector's value chain. **The analyst may pay close attention to the relevance of sectoral groupings to ensure sufficient comparability.** Certain methodologies, such as those of Blunomy[41] and Carbon4Finance[42], make it possible to compare companies with benchmarks of very fine granularity, facilitating these groupings.

Comparison of the carbon performance of two similar companies by sector for year N

Carbon intensity of activity

	Company A	Company B
Total GHG emissions ($tCO_2eq.$)	40 000	70 000
Production volume (physical unit)	1 000	1 400
Carbon intensity of the activity ($tCO_2eq./unit$)	40	50

Share of capex and opex dedicated to the transition

	Company A	Company B
Capex dedicated to the transition (€)	4 000 000	3 000 000
Total capex (€)	10 000 000	10 000 000
Share of capex dedicated to the transition (%)	40%	30%
Opex dedicated to the transition (€)	6 000 000	7 000 000
Total opex (€)	20 000 000	45 000 000
Share of opex dedicated to transition (%)	30%	16%

Compatibility of the carbon trajectory with the objectives set for year N+5

	Company A	Company B
Emissions of the reference trajectory ($tCO_2eq./unit$)	18	18
Emissions of the commitment trajectory ($tCO_2eq./unit$)	20	25
Emissions induced by the transition plan ($tCO_2eq./unit$)	25	35
Commitment gap ($tCO_2eq./unit$)	-2	-7
Action gap ($tCO_2eq./unit$)	-5	-10

Economic cost associated with the transition

	Company A	Company B
Average abatement cost (€/$tCO_2eq.$)	110	150

Table 8: Fictitious illustration of a comparative transition performance analysis

41 See https://theblunomy.com/tools

42 See https://www.carbon4finance.com/our-latest-carbon-impact-analytics-methodological-guide2

Note: A is a company that has made greater efforts than B in decarbonising its production process. A and B operate in the same sector of activity. Despite A's greater progress in its transition, which should lead it to implement more costly emission reduction solutions than B, we can see in this example a higher average abatement cost for B, which is using solutions that are too expensive compared to those available on the market.

To the extent that data is available, **indicators on production intensity** should be given priority in sectoral comparisons. Indeed, they are the most relevant for positioning the company in relation to its sector, as emissions volumes can stem from differences in company size, regardless of their performance in terms of carbon footprint. It is also recommended to **prioritise production in physical units**, which is less volatile than revenue. Moreover, analysis of production intensity requires a strict adjustment of the boundaries between emissions and revenue, particularly in the case of multi-sector companies.

To perform sectoral comparisons for multi-activity companies, the analyst can assess the performance of each activity separately.

IV. ASSESSMENT OF THE TRANSITION PLAN

The purpose of this section is to provide the **different steps to assess the robustness of the transition plan** communicated by the company. The analyst assesses **the overall ambition of the transition plan,** the **planned actions to reduce the carbon footprint and the financial resources allocated to their implementation, the efforts in implementing and the strategic monitoring, as well as the consistency of the assumptions used in the planning process (see Parts A to E of this section)**. It should also be noted here that the **prerequisite for the credibility of a transition plan is the transparency and clarity of the information it contains**, in particular in accordance with ESRS standards. The analyst may take this point into account in their assessment. In addition to this guide, the analyst may refer to other reports to identify the various key elements to consider when assessing transition plans[43].

It should be noted that the European Corporate Sustainability Due Diligence Directive (CS3D)[44], which is complementary to and consistent with the CSRD, will require companies[45], progressively from 2027, to adopt and implement a transition plan including, among other things, science-aligned emissions reduction targets[46], a clear decarbonisation strategy, robust governance mechanisms, and transparent and regular reporting (see Appendix 10).

A. ANALYSIS OF THE AMBITION OF THE COMPANY'S EMISSION REDUCTION COMMITMENT PATHWAY

The analyst should identify the company's short – and medium-term decarbonisation targets and verify that:

→ they are set, **in absolute emissions and, where applicable, emission intensity**, relative to a **clearly identified reference year**[47] for which the data has been communicated;

→ they **cover all scopes**[48] ***of gross GHG emissions****[49], 1, 2 and 3;

43 See for example Cookbook 2 (ILB) and Corporate Climate Transition Plans (Reclaim Finance)

44 Directive (EU) 2024/1760 of the European Parliament and of the Council of 13 June 2024 on corporate sustainability due diligence and amending Directive (EU) 2019/1937 and Regulation (EU) 2023/2859, OJEU No. L. 2024/1760, 5 July 2024, available at https://eur-lex.europa.eu/legal-content/FR/TXT/HTML/?uri=OJ:L_202401760.

45 Article 2 of the CS3D states that companies with an average of over 1,000 employees and net revenue of over €450,000,000 worldwide in the last financial year for which annual financial statements were adopted or should have been adopted will ultimately be concerned.

46 Article 22 of the CS3D states that *"(...) Member States shall ensure that companies (...) adopt and put into effect a transition plan for climate change mitigation which aims to ensure, through best efforts, that the business model and strategy of the company are **compatible** with the transition to a sustainable economy and with the limiting of global warming to 1.5°C in line with the Paris Agreement and the objective of achieving climate neutrality as established in Regulation (EU) 2021/1119, including its intermediate and 2050 climate neutrality targets, and where relevant, the exposure of the company to coal-, oil – and gas-related activities".*

47 For illustration, the reference year is 2020 if a company undertakes to reduce its emissions by 50% in 2030 compared to 2020.

48 Relevant justifications are necessary to explain a lack of coverage. For example, the SBTi standard usually requires a minimum coverage rate of 95% for scope 1 and 2 emissions, and 67% for scope 3 in order to validate decarbonisation targets. In practice, various reasons may legitimately explain a lack of coverage: for scopes 1 and 2, some data may be very complex and costly to retrieve, with very low materiality for certain emission items or insignificant organisational perimeters for the company; and for scope 3, certain emission items may not objectively have any tangible decarbonisation lever at the company level, including through commitment.

49 Not including emissions eliminated*, offset* or avoided. Regarding the emissions that some companies enable others to avoid by offering them goods and services related to the transition (e.g. a wind turbine manufacturer), it will be necessary to distinguish between the potential recognition of these avoided emissions and the recognition of emissions due to their activities (scopes 1, 2 and significant scope 3 items). In accordance with the ESRS, it would also not be appropriate to offset a company's emissions with emissions that it helps to avoid, as the company's performance must be assessed on each of these fronts (see Appendix 9).

→ they are part of a commitment pathway that includes **long-term targets (2030, 2050) and intermediate targets consistent with its strategic and financial plans**. As financial and climate targets are usually defined under time horizons that are not compatible, a perfect alignment seems unlikely. The analyst may value companies seeking convergence in this area;

→ that they are **clearly presented in comparison with a relevant benchmark pathway compatible with 1.5°C warming**.

The pathway formed by all the targets is called the **commitment pathway** and corresponds to **the emission reductions that the company commits to achieve. When expressed in intensity, the approach recommended for the analyst is to ensure that this pathway converges as much as possible**[50] **towards the benchmark pathway** (see illustration below and Appendix 5 for a more in-depth methodological discussion).

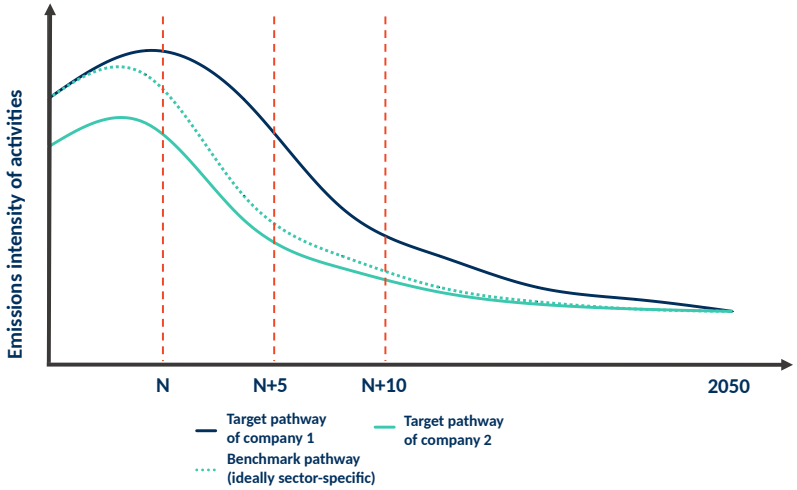


Figure 2: definition of the commitment pathway

Note: commitment pathways are illustrated here via the convergence approach (see Appendix 5 for more details)

The details of the methodological framework used by the company to define emission targets are necessary for the analysis, particularly the reference scenario chosen by the company and why it was chosen. This scenario must have been **selected from sources recognised as scientifically robust** (see Appendix 2 for examples of reference scenario sources). These sources include the IEA, NGFS, OECM and government-defined pathways[51]. It should also be noted that other initiatives are under way, such as the Carbone 4's "IF" initiative, which aims to develop sectoral forward-looking scenarios that take into account planetary resource limits (biomass, metals, energy) and competing uses. If less recognised scenarios are used, assessing their robustness requires a deep understanding of the issues at stake by the analyst. In the future, these scenarios could also take into account political trade-offs between sectors (which sectors will be more or less constrained depending on the politically defined priority issues).

50 Not all companies start at the same level of carbon intensity, so they cannot immediately converge towards the benchmark pathway. However, they must gradually move towards it as soon as possible, as the goal of limiting warming is based on the logic of a carbon budget and its consumption depends not only on long-term emissions targets but also on all interim milestones along the way.

51 In the case of government pathways, the analyst may supplement their assessment by assessing the ambition of the transition goal of the corresponding countries (see for example https://climateactiontracker.org/ or the Net Zero Atlas produced annually by LSEG)

The reference scenario in practice

(see Appendix 5 for a methodological discussion on these scenarios):

→ It is important to note in the choice of the benchmark pathway that the use of sectoral and national scenarios[52] is preferable where the data allow, as they reflect more accurately the differentiated capabilities of sectors and countries to contribute to the decarbonisation of the economy.

→ Most of these reference scenarios are currently published on a global scale or by major geographical area. If the company's sector is covered by a national decarbonisation pathway publication (e.g. the sectors covered by the *National Low Carbon Strategy* – SNBC – in the case of France), then the company may prioritise the national pathway(s) of the country or countries[53] in which it operates. Sectoral ESRS are being developed and sectoral decarbonisation priorities should be defined by public authorities at the European level.

→ In the case of a company for which the sector and/or country has not yet been covered by a reference scenario publication, the analyst may refer to global scenarios (based on IPCC models for example).

→ In the case of multi-sector companies, the emission pathways of the company's various activities may be analysed separately and compared to their respective benchmark pathways.

→ The reference scenarios may be expressed in absolute emissions or in emissions intensity according to the methodology used and the challenges of the sector.

Assessing the ambition of the company's targets will be easier if they have been defined using robust methods (see Appendix 2 for a non-exhaustive list of available methods or the report "The Alignment Cookbook 2"[54] produced by the Institut Louis Bachelier)**, noting that that there are no official standards for the recognition of such robust methodologies at this stage**.

The analyst may pay attention to the methodology used for the potential validation of companies' targets by a third-party assessor, and to the potential limits of these methods, particularly those that apply a uniform emissions reduction rate to all companies regardless of their emission trends before the reference year (see Appendix 5). As such, a company that has already made significant efforts in the past and/or operates in a sector facilitating reductions through its products with low GHG emissions (e.g. solar or electric energy) may find it difficult to validate a rate of progress similar to that of industries with a much higher potential for emissions reduction (e.g. the oil industry).

52 See for example in the case of France: National guide on the main methodologies for building a company's greenhouse gas emissions reduction pathway consistent with sectoral carbon budgets – reference document published in 2021 by the Ministry of the Ecological Transition and the Ministry of the Economy, Finance and Recovery. This will require an update as part of SNBC 3.

53 For example, ecological transition contracts for the 50 highest-emitting sites and decarbonisation roadmaps for industrial sectors, as well as decarbonisation roadmaps for other sectors: road, maritime, air transport, construction, urban planning, digital, etc. (article 301 of the Climate & Resilience Act).

54 Institut Louis Bachelier et al. (2024). The Alignment Cookbook 2 – A technical panorama of the alignment methodologies and metrics used by and applied to the financial sector, with a view to inform consolidated alignment assessments.

Lastly, if the company has committed to a carbon neutrality target[55] and declares that it uses CO_2 *elimination solutions or carbon credits[56], the analyst may ensure that these solutions are limited to offsetting the company's residual emissions[57] and that these mechanisms for contributing to global carbon neutrality provide guarantees in terms of credibility and reliability (see Appendix 8).**

It should be noted that the concept of carbon offsetting is currently being debated, with some preferring the concept of contribution (to climate action) when it comes to the purchase of carbon credits[58]. For more details, refer to the Net Zero Initiative framework developed by Carbone 4 and promoted by the World Business Council for Sustainable Finance.

B. ANALYSIS OF DECARBONISATION LEVERS AND ACTIONS PUT IN PLACE TO ACHIEVE THE TARGETS PRESENTED

The targets set by companies are not enough to prove that they are in transition. Achieving these targets depends on the resources deployed and their effective implementation. **The second step of the analysis of the transition plan will therefore be (i) to identify the various levers and actions mobilised to decarbonise activities and then (ii) to assess whether the emission reductions that can be expected from the planned actions are consistent with the targets set.**

Attention may also be paid to the dependence and sensitivity of these levers to factors external to the company, whether physical (technological maturity of the proposed solutions, availability of the resources necessary to activate the levers) or non-physical (regulation, social acceptance) factors. The analyst may check that these factors have been properly identified and that their feasibility has been assessed.

1. Identification of the main levers and actions for implementing the transition plan

The analyst may first identify the decarbonisation levers chosen by the company for the operational deployment of its transition plan. Subsequently, it will be necessary to assess their credibility. To this end, the analyst may verify that the **main types of levers and actions relevant to the company's activities have been identified** (energy efficiency, electrification, use of renewable energies, decarbonisation of the supply chain, offering of products and services sold, evolution of the business model, etc.) **and effectively mobilised in the company's transition plan**.

55 However, there is a point for attention, according to the ADEME (see opinion): «Carbon neutrality – as a balance between GHG emissions and sequestration – cannot be applied on a different scale (sub-national territory, organisation (companies, associations, local authorities, etc.), product or service, etc.) than the planet or the countries coordinated through the Paris Agreement.» However, a company's transition strategy and plan must refer to an overall pathway whose objective is to achieve the goal of carbon neutrality by 2050.

56 See Appendix 8 for more details on the subject of carbon credits.

57 In this respect, the AMF recommends that the carbon neutrality target be based on a reduction in gross emissions of at least 90% compared to the reference year (see the AMF guide).

58 See for example https://www.carbone4.com/neditespluscompensation-de-compensation-a-contribution

It is also important to conduct a critical analysis of the various levers put in place, checking that the company prioritises the usual levers for reducing emissions such as energy efficiency and the use of renewable energies. In the absence of this prioritisation, there is a risk of valuing plans without a genuine sustainability approach. It is also essential to address the issues of limits on the resources available for the transition and, more generally, the relevance of the identified decarbonisation levers, by using, for example, the sectoral scenarios proposed by the ADEME for French companies, or by the IEA for international companies[59], which describe how emissions can be reduced by sector and geographical location. Lastly, the company's ability to prioritise its decarbonisation projects according to the abatement cost can also be assessed. These analyses require a detailed understanding of the sectoral decarbonisation challenges. To limit the risks of greenwashing, at least in the absence of established and controlled ESRS reports, an in-depth analysis by company seems necessary.

The more detailed the transition plan is, the better it enables the analyst to assess its robustness. The upstream role of the auditor in verifying the organisation and the clarity of the transition plan is also crucial. One option is to **analyse the levers and actions deployed scope by scope**: first, the measures put in place concerning the company's internal operations (scope 1 and 2) and then the commitment towards the entire value chain (concerning significant scope 3 items).

The study of scope 3 levers for significant items includes the "upstream" and "downstream" dimensions:

→ **For significant upstream scope 3 items**, the analyst should assess the quality of the **company's engagements with its suppliers** and the quantity of these engagements (number of engaged companies and frequency, support mechanisms, etc.)[60]. The credibility of the engagement strategy may be assessed by checking the existence of control mechanisms and whether changes in suppliers actually occur in the event of non-compliance with the established criteria.

→ **For significant downstream scope 3 items**, the analyst should check that the company minimises the emission potential of its products and services (decarbonised technologies, eco-design, user guidance, product lifespan, repairability, re-use, recyclability, etc.).

Engagement approaches may be based on the following levers: (i) asking the companies in the value chain to set targets and produce a consistent transition plan, (ii) applying a preferential selection or pricing policy with regard to the supplier or customer (penalising or incentivising) based on climate performance, and lastly (iii) having a system in place to ensure the effective implementation of the various incentive or coercive levers (escalation process).

59 These scenarios provide an overview of the levers available to each sector, taking into account resource constraints (biomass, electricity, etc.). The integration of these elements ensures a more rigorous and credible approach in the assessment of energy transition plans.

60 Companies may experience difficulties in obtaining this information, which sometimes leads them to use proxies (which may be acceptable, as long as the methodology is clearly explained).

Despite the diversity of available levers, depending on **the company's sector or location**, it is possible to identify **some major categories of levers** and associated actions leading to a reduction in GHG emissions; these are listed for information purposes in Table 9 below[61]. Transversally, given that the "carbon price" signal can be used to redirect investments, the analyst could value companies that have implemented an effective internal carbon pricing system at each key stage of strategic decisions.

Transition plans towards decarbonisation may also be developed in line with the necessary infrastructures, whether existing or planned, to achieve climate targets. This includes elements such as decarbonised power grids, local biomass availability, and CO_2 transport and storage infrastructure. The concept, referred to as the "geographical dependencies" of transition plans, underlines the importance of aligning companies' decarbonisation plans with the availability of the necessary physical resources and infrastructures[62]. In France, for example, sectoral plans are developed to align companies' strategies with available physical resources and future government projects. In this way, the analyst may ensure that companies' plans are credible with regard to these geographical dependencies.

Other **cross-cutting and qualitative levers can also be considered to ensure no decarbonisation potential is overlooked**. Training members of the Board of Directors (see Part V) as well as company employees on sustainability topics is an example of qualitative indicators to be studied.

Lastly, in the event of communication from the company on **the management plans for its GHG-intensive assets, the analyst may value restructuring or closure of sites over disposals**, **as they are more likely to result in an effective reduction in emissions.** Indeed, there is more uncertainty as to whether new asset managers will undertake actions to reduce emissions**. The analyst may also value companies that incorporate just transition considerations in their site restructuring or closure processes.**

61 See also the ISO guidelines for net zero emissions for more details: ISO Net Zero Guidelines

62 See the JRC's recent work on this topic, for example https://publications.jrc.ec.europa.eu/repository/handle/JRC139084

Drivers	Actions
Energy efficiency or materials efficiency	• Replacement of obsolete equipment with energy-efficient models • Improvement of the carbon footprint of buildings (heat recovery systems, LED lighting, etc.) • Installation of energy-efficient heating and cooling systems • Installation of systems for monitoring and controlling the consumption of equipment to optimise its operation
Electrification and reduction/change of fuel	• Replacement of fossil fuels with electricity • Reduction of methane leaks and emissions • Installation of electric vehicle charging stations
Use of renewable energy	• On-site installation of solar panels / wind systems • Signing of renewable energy purchase agreements
Reduction in consumption	• Replacement of vehicle fleet with more energy-efficient vehicles • Optimisation of logistics flows (implementation of eco-driving, optimisation of maritime routes) • Implementation of energy-savings initiatives (internally and/or with customers)
Phasing out or substitution of products, services and processes	• Identification of products and processes with the highest carbon footprint and mitigation efforts • Exploration of alternatives to products and processes with a reduced carbon footprint • Reduction of the quantity and volume of inputs, replacement with sustainable/recycled materials • Minimisation of production waste, development of product recyclability, increase of recycling rate
Investment in research and innovation	• Financing of research projects aimed at developing new technologies and innovative solutions to reduce CO_2 emissions • Collaboration with research institutes and start-ups to explore promising sustainability opportunities
Employee engagement	• Employee awareness and training plan on environmental issues and the importance of their contribution • Improvement of waste management by sharing best practices
Commitment on the value chain	• Choice of suppliers/distributors that have adopted a transition plan or take into account decarbonisation issues • Consideration of emissions in procurement decisions • Electrification of transport activities (reduction in demand for air freight, delivery by electric vehicles, etc.) • Information for consumers about the carbon footprint of products, promotion of sustainable alternatives, incentives

Table 9: Examples of levers and actions that can be mobilised in transition plans (non-exhaustive)

2. Quantification and consolidation of the emission pathway induced by the transition plan

After identifying the significant actions and measures put in place to achieve decarbonisation targets, the financial analyst **ensures that the company communicates clearly about them** and that they can **be translated into measurable emission reductions**.

Subject to available data, each lever may be quantified and assessed over all relevant time horizons for the company's commitments. It will therefore be necessary to distinguish between short – and long-term targets when verifying the company's commitments. GHG emissions reduction targets are defined over a period from the reference year to a target year. In accordance with the ESRS, the period covered by the reduction commitment is five years starting from 2030, with a range of three to eight years before 2030 (possible reference year between 2022 and 2027). This period is deliberately short to allow better alignment with accurate, realistic and verifiable financial planning. Longer-term targets are complementary to give the general direction (pathway).

In general, **the analyst may check that the sum of the quantified contributions of the levers allows the company to meet its stated targets.**

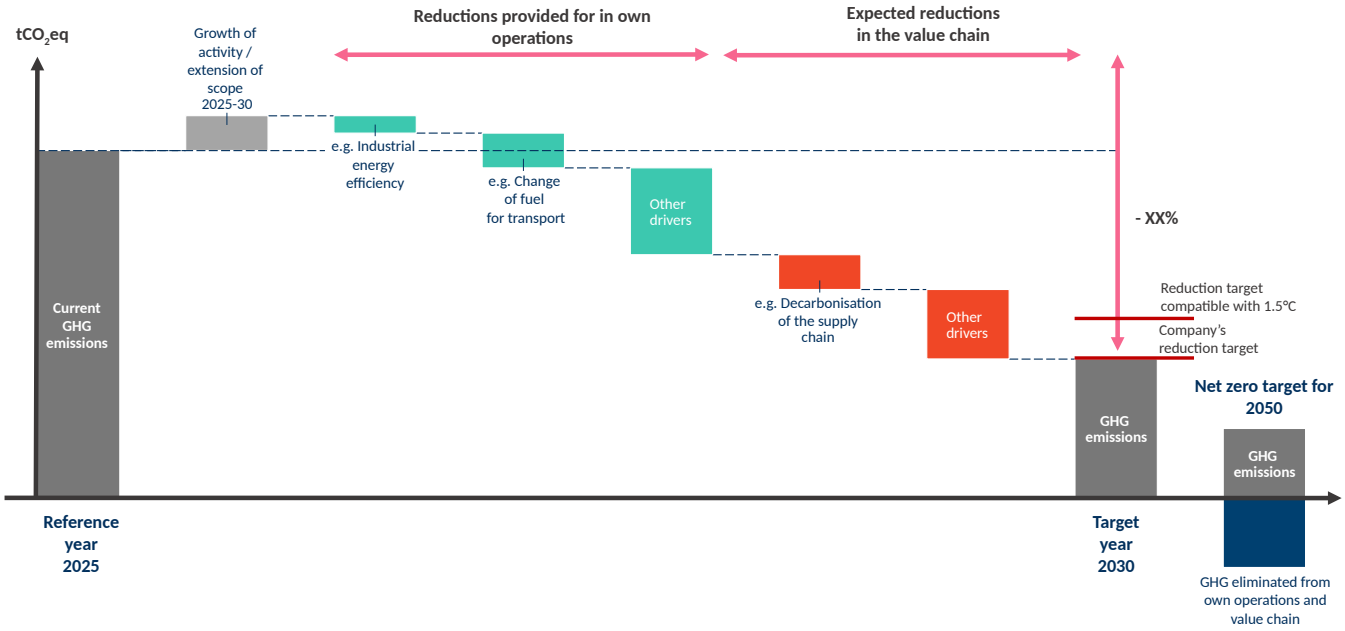


Chart 3: Illustration of the quantification of the levers of the transition plan, in line with the decarbonisation targets

Consolidation requires taking into account changes in the company's scope. In addition, the analyst may ensure that the company's consolidated emissions reduction pathway, once the actions of the transition plan are taken into account, is consistent with the assessment of emissions generated by the operation of assets or the market release of long-lifespan products (infrastructure, production equipment), referred to as "locked-in" emissions[63]. The level of emissions reduction induced by the transition plan may thus take into account the management of these long-term assets, which may have an impact on the level of emissions to be reduced.

63 In this respect, the AMF guide recommends that *«For companies involved in the fossil fuels sector and financial players, a solid plan to cease contributing to the development of fossil fuels and to gradually exit from them should be put in place»*

C. FINANCING PLAN ASSOCIATED WITH DECARBONISATION LEVERS, ASSESSMENT OF CONSISTENCY BETWEEN AMBITIONS AND RESOURCES DEPLOYED

A credible transition plan refers directly to the company's business plan, and is consistent with its financial plan. As such, **the analyst may collect the financial data inherent to the various planned actions to validate the robustness of the transition plan**.

This section will address the **financial resources (capex and opex) allocated to the transition plan,** the **company's ability to finance this plan** and the **overall ambition of the transition budget in relation to the company's other expenditure items**.

1. Financial resources allocated to the transition plan

The analyst can first ensure that the company publishes a **description and quantification of the investments and financing** constituting the company's transition plan. **Based on available data, each significant measure of the transition plan** aimed at reducing emissions should be **accompanied by an estimate of the reallocation needs for capex and opex**, as well as an **associated abatement cost**.

The analyst may assess whether:

→ The capex and opex associated with the actions of the transition plan are **reflected in the overall capex plan included in the company's financial statements**;

→ More generally, the potential impacts of this capex reallocation (depreciation, cash flows, etc.) have been included in the financial statements;

→ **The opex and capex amounts associated with the implementation of the actions are of the right magnitude and demonstrate the credibility of the measures envisaged by the company in its transition plan**;

→ A strategy is defined for carbon-intensive assets (restructuring or resale);

→ The transition plans associated with significant investments and/or business model restructurings are feasible;

→ Generally speaking, **the company's financial profile makes it possible to meet its transition commitments**.

Capex and opex that are eligible or could be aligned with the Taxonomy Regulation[64] may constitute a relevant element of analysis, particularly for comparing the performance of companies within the same sector. Indeed, the evolution of this alignment with the taxonomy is a good indicator of the transformation of companies' business models.

64 An initial Delegated Regulation 2021/2139 of 4 June 2021 defined the criteria for technical examination to determine under which conditions an economic activity can be considered as contributing substantially to the first two objectives of the Taxonomy Regulation (climate change mitigation and adaptation) and whether this economic activity does not cause significant harm to any of the other environmental objectives.

2. Ability to finance the transition plan

In a second step, the analyst may verify **the company's accessibility to the financial resources** needed to achieve the transition targets. In particular: whether and to what extent the company's ability to implement actions depends on the availability and allocation of resources (permanent access to financing at an affordable cost of capital). A credible transition plan refers directly to the company's business plan, in alignment with its financial plan. **It is important to check that the company's business model is robust enough to finance its transition commitments**. These analyses require both financial and transition expertise, particularly on sector-specific issues.

Companies will need to specify the financing strategy for their actions. The analyst can thus assess the company's ability to mobilise self-financing, in order to validate the targets it has set. For example, it will be necessary to verify whether the company anticipates in its financial strategy the capex and opex necessary for the transition actions it intends to implement. Information on the company's debt ratio and financial rating is useful for assessing the credibility of the financing plan in the event that financing through markets is preferred by the company.

In general, it is important for the analyst to **understand the financial impacts, resulting from the transition plan implementation,** that affect the resources available to the company. In addition, the transition plan can fully integrate these impacts on the company's development, financial position, financial results and cash flows. The financial analyst may ensure that the transition plans associated with significant investments and/or business model restructurings can be carried out and that the company's financial profile enables it to meet its transition commitments and maintain its financial sustainability. Assessing the company's ability to **share transition costs with its customers and/or suppliers,** and its ability to get customers to accept changes in products and/or services (e.g. technological change impacting uses, such as the electric car), is an important dimension of the analysis in this context.

Lastly, the abatement cost (cost of reducing emissions) as presented in the first part of this guide can be used to measure whether the **company is achieving its decarbonisation under effective conditions in terms of mobilising financial resources**. However, it should be noted that the availability and granularity of the published data could hinder the proper conduct of this analysis[65]. Furthermore, **the abatement cost assessments may be carried out prior to the initiation of a decarbonisation plan, and updated on an ongoing basis, as these costs evolve with the operational implementation of projects.**

65 To assess the abatement costs, it is necessary in particular to cross-reference the capex and opex data committed for the transition actions and the envisaged emission reductions.

3. Share of decarbonisation in the company's overall financing plan

The analyst may examine the level of the budget allocated to the transition in relation to the company's other growth drivers and financial items. Fundamentally, this involves **analysing whether the share of budgets dedicated to the carbon transition (capex, opex, budget allocated to low-emission activities, products and services, etc.) relative to the company's total budget changes in a manner consistent with the transition targets it has defined**. The aim is to highlight the proactive implementation of the transition plan by the company through the mobilisation of its financial resources.

In addition, and within the limits of available data, the analyst may refine their assessment of the company's transition financing strategy, by comparing budgetary expenditure in favour of the transition with other expenditure items.

D. ASSESSMENT OF TRANSITION EFFORTS AND MONITORING OF TARGETS

Monitoring of implementation as well as regular steering is necessary when deploying a transition plan in order to verify that the company's pathway is indeed converging towards its targets. This section presents the modalities for assessing this steering. The analyst may ensure that the **observed rates of change in emissions are in line with the targets set by the company in its commitment pathway, while remaining compatible with the benchmark pathway and the best standards in its sector,** and that the company **regularly reviews the relevance of its overall strategy** in the light of this assessment.

1. Projected change in decarbonisation indicators and sectoral comparison

The aim is first of all to project short – and medium-term carbon transition performance indicators. Carbon footprint indicators (e.g. GHG intensity of production) and financial indicators (allocation of capex and opex, abatement cost, etc.) **may be examined dynamically.** As a result, the analyst may use Table 10 below – already presented in Part III – to summarise the company's multi-year projections.

		History			Current	Projection of transition plan			
		n-3	n-2	n-1	n	n+1	n+2	n+3	n+4
Carbon performance indicators relating to the company's activity									
Total GHG emissions	$tCO_2eq.$								
Reduction targets	$tCO_2eq.$								
GHG intensity of production (revenue if unavailable)	$tCO_2eq.$ / production unit								
Reduction targets	$tCO_2eq.$ / production unit								
Sectoral reference trajectory (e.g. IEA)	$tCO_2eq.$ / production unit								
Dedicated resources and costs associated with the decarbonisation process									
Transition Capex / Total Capex	%								
Transition Opex / Total Opex	%								
Average abatement cost	€/$tCO_2eq.$								
Profitability ratio of decarbonisation solutions									

Table 10: Summary of key indicators for the analysis – focus on changes brought about by the transition plan

These projections allow for the analysis of whether the evolution of the indicators is aligned with the commitment pathway. Comparing these developments with comparable companies in the same sector makes it possible to verify whether the company is falling behind the best standards. **Changes in the company's economic structure (capex, opex) resulting from its transition plan, as well as the costs of this transformation (through abatement costs), may also be compared with other companies in its sector to assess its performance in terms of the speed and efficiency of its transformation (see Table 8)**.

Financial performance indicators adjusted for carbon cost will also evolve with changes in the company's emissions and the gradual increase in the carbon cost. This analysis can also reveal the extent of the efforts made by the company to reduce its emissions, as well as **highlight the financial performance of company that excels in carbon transition compared to those making little transition effort.**

The inclusion of an internal carbon price[66] in a company's decisions, or the existence of any other mechanism for taking carbon impact into account in operational processes, are also important indicators for monitoring climate targets. For example, the analyst may value companies in which each investment committee incorporates carbon indicators into its decision-making process.

66 Regarding the value of this carbon price, the sources mentioned in Appendix 2 may also be relevant.

2. Monitoring the decarbonisation strategy to assess the alignment of actual emissions with the company's commitment pathway

The analyst may be attentive to two important indicators for monitoring the implementation of the transition plan:

→ **the action gap, which can be used to measure:**

- From the design stage, **the alignment of (i) the emission pathway corresponding to the company's commitment with (ii) the emission pathway that the analyst can deduce from the information** contained in the transition plan.

- Then, during implementation, the alignment between the pathway of actual emissions and those projected by the transition plan.

- **This indicator should be key in monitoring the implementation of the transition plan.** The analyst may ensure that the misalignment between the actions undertaken and the defined targets is closely monitored by the company and leads to the establishment of corrective actions to realign the emission pathway with the targets set[67].

→ **the commitment gap, which is used to measure the compatibility between the commitment pathway and the benchmark pathway. When the pathways are expressed in intensity, the recommended approach for the analyst is to ensure that this gap decreases as much as possible,** i.e. that the planned efforts are sufficient to ensure compatibility with a warming scenario limited to 1.5°C. This assessment may also incorporate updates to the benchmark pathway, which results from models that must be updated regularly in order to adjust their assumptions and parameters to reflect actual observed developments[68].

67 Note that temporary increases in emissions could be acceptable, subject to a credible associated transition plan justifying these increases.

68 For more information on measuring corporate alignment and commitment pathways regarding the Paris Agreement: Portfolio Alignment Team, Measuring Portfolio Alignment

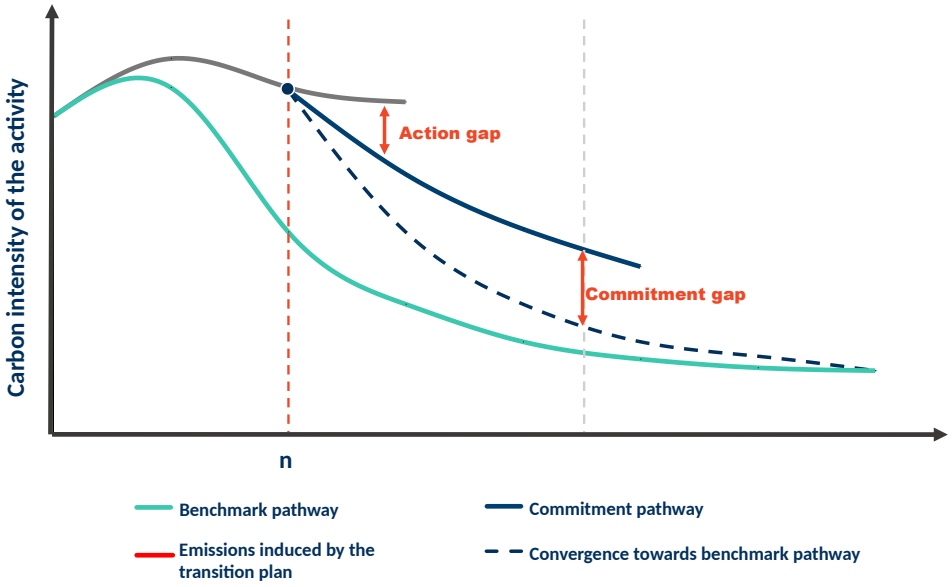


Chart 4: Monitoring of the company's carbon commitments and pathway (for illustrative purposes, not suitable for all business models) – see also Appendix 11

→ To measure the relevance of the decarbonisation levers mobilised and the actions implemented, the analyst can check that the company **assesses the actual effectiveness in terms of emission reductions after the actions have been completed**. This assessment can be useful in analysing the credibility of the company's transition plan. The analyst may ask the following questions: is the company reducing its emissions at a rate compatible with the reference transition scenarios? Is it ahead or behind **in relation to the decarbonisation levers identified**? For example, if a shipping company has a satisfactory past decarbonisation pathway based on the conversion of its fleet from fuel oil to LNG, it may perform well compared to its peers, while still having a significant way to go towards decarbonising its operations in the medium to long term (current transition scenarios rely more on technologies based on ammonia or hydrogen[69]). This perspective with respect to a relevant transition scenario is therefore essential to avoid missing critical elements such as technological barriers to overcome.

The analyst can also adjust their assessment for companies whose pathway lies below the sectoral benchmark pathway. It is necessary to ensure that the company maintains its efforts to remain under this long-term curve, taking into account current and projected emissions. The credibility, associated risks and financial and technological resources allocated to the transition plan may also be examined in the same way as for a company whose starting point is above the sectoral benchmark pathway.

69 See for example these IEA projections

E. ANALYSIS OF THE CONSISTENCY OF THE ASSUMPTIONS USED TO PREPARE THE TRANSITION PLAN

The design of the transition plan is based on a number of internal and external assumptions, the consistency of which is key to guarantee the robustness and credibility of the company's climate strategy. Indeed, a transition plan can only be effective if it is built on assumptions that are aligned with the company's overall financial strategy.

Internal assumptions relating to financial management decisions may therefore be assessed, such as:

- Growth/decline in activities by geographic area,
- Potential transactions (acquisitions, disposals),
- Decisions on the location of sites and supplies
- Etc.

External assumptions relating to structural transition conditions (technological developments, changes in the decarbonisation of electricity mixes by country, etc.) may also be analysed. These external assumptions are "factorised" in the company's transition strategy, particularly when choosing the reference scenario (see Part IV.A).

A number of **transition risks** (regulations, markets, technologies, reputation, *etc.*) and **physical risks** should be considered to anticipate the proper implementation of the transition plan[70]. The relevance of the transition assumptions can also be analysed with regard to the implicit financial risks: stranded assets, financing capacity, debt ratio, cost of debt, etc.

The construction of a pathway can thus be based on analyses of sensitivity to different business scenarios (internal) and macroeconomic scenarios (external). **In general, the analyst may ensure that the transition plan is based on different scenarios that may materialise, each covering different conditions for achieving the targets**[71]. This analysis can be strengthened by the involvement of an analyst trained in the sector-specific characteristics of the company. The application of uniform rules could pose certain analysis limits, particularly for multi-sector companies..

70 The assessment of climate risks will be the subject of further work as part of IFD project 3.

71 As part of the assessment of physical risks linked to climate change, for example, the most relevant scenarios for identifying the main challenges will be those involving significant warming (typically those exceeding the targets of the Paris Agreement). In the case of identifying transition risks, it will be more about testing very ambitious mitigation scenarios*, such as the 1.5°C or «well below 2°C» scenarios.

V. ANALYSIS OF CARBON TRANSITION GOVERNANCE WITHIN THE COMPANY

The analysis of carbon performance governance should **describe how the company is structured to ensure the implementation of its emissions reduction targets and the monitoring of its climate strategy**.

The analyst can ensure that the **organisational structure put in place to address climate issues** places them at the **heart of its governance bodies and remuneration system**, **encourages key players in climate governance to develop their climate competency** and **establishes mechanisms for monitoring climate risks and steering the emission pathway.** The analyst can also be attentive to how the management engages employees in the company's carbon transition as a success factor.

While the metrics for analysis vary according to the nature of the activities carried out, the complexity of the transition plan, the ambition of the targets and the size of the company, **several general indicators can be taken into account to assess the coherence between the company's targets and its governance.**

Transparency on the company's lobbying practices as well as those of the professional associations to which it belongs is also important to ensure they are consistent with its decarbonisation commitments.

A. INTEGRATION OF TRANSITION ISSUES BY GOVERNANCE BODIES

The first step is to ensure that (i) the company has integrated the transition into the prerogatives of its governance bodies and that (ii) the latter are involved and trained.

The **governance bodies responsible for sustainability issues are indicated by the company** in its sustainability statement and must ensure its compliance. They are defined by Annex II of the ESRS Delegated Regulation and reiterated by the AMF as the governing, management or supervisory bodies vested with the highest decision-making authority in the company, along with their associated committees. These governance bodies include, among others, the Board of Directors, the Supervisory Board and Operational Management, but may vary according to the structures and choices of the companies. The first step will be to verify that **one or more governance bodies have been designated** as responsible for transition matters. If multiple bodies have been designated, or even all of them, this is a positive signal that these issues have been integrated.

1. Implementation of transition governance by bodies responsible for sustainability issues: responsibilities, organisation and transparency of information

The analyst may review the **division of responsibilities** among the company's governance bodies regarding transition issues. This division must be **clear and comprehensible**. It must also be consistent with the company's structure, activity, and the potential impacts, opportunities and transition risks identified. The analyst should also measure the **involvement of governance** in defining the strategy, performance targets and risk management, as well as the **responsibility assigned to the operational departments** (e.g. business lines, risk department, finance department, CSR department).

The analyst may also verify that this organisation ensures sufficient and coordinated preparatory work on climate risk and transition plans by the relevant committee(s), under the supervision of the Board of Directors. In particular, the analyst should verify that[72]:

→ A **dedicated or combined CSR committee** has been set up

→ The **roles of the various committees** are explicitly defined (CSR Committee, Audit Committee, Risk Committee, etc.)

→ **Coordination is ensured among the various committees** (for example by appointing common members to multiple committees), while enabling the Audit Committee (or Risk Committee) to retain a clear mandate in general risk management.

The analyst can also **ensure the transparency of communication and the quality of information on the monitoring and alignment of the pathway**. Indeed, all governing, management and supervisory bodies must be regularly informed in order to be able to integrate these impacts, risks and opportunities into their own strategies.

The company's communication on its emissions reduction pathway may be assessed based on its level of transparency **and its shareholder approval rate, in the event that a Say on Climate resolution has been submitted to the General Meeting (GM)**. The **frequency of updates**, at least once a year, to the Board of Directors (BD) or to the GM concerning the progress of the transition plan is also important.

Regular presentation of the climate strategy and/or its implementation at the GM can therefore be used as a criterion to assess the quality of the information provided to the governance bodies[73]. To assess the ambition of governance, an ex-post Say on Climate (reporting on its transition plan) and/or an ex-ante Say on Climate (on its strategy/transition plan) may be analysed.

The analyst may also check the **quality of the monitoring information** and **its regularity** (who informs, how often). Transition financing is a crucial aspect of corporate governance, particularly in the context of value distribution discussions. The analyst can also regularly question the company about the allocation of its capital and operating expenses to support its climate strategy. This may be done during investor days, prior to the presentation of results/strategic plans or during dedicated discussions following market events.

The analyst can thus ensure that the Board of Directors' decisions on budget distribution to shareholders, such as share buybacks and dividends, are made while considering the necessary investment requirements (in capex and opex) to achieve climate targets. The CSRD requires companies to **disclose transition-related expenditures in their management reports**, enabling the analyst to compare these financing needs with the distributions to shareholders.

72 See proposal 1 of the IFD report «Governance of the Climate Transition in Companies»

73 ee proposal 7 of the IFD report «Governance of the Climate Transition in Companies». However, the definition of the company's strategy (financial and climate) remains the prerogative of the Board of Directors, with no obligation to present a resolution at the GM, although the Afep Code recommends a presentation at least every three years.

The Board of Directors may play an **active role in decisions relating to transition expenditures.** It is essential that in-depth discussions take place regarding the amounts announced by the company for financing the transition, as well as the timeline for implementing these investments. The existence of a designated person in charge of the transition plan at the Executive Committee and/or Board of Directors may be a key point of focus for the analyst.

2. Competency of governing bodies: level of competency and access to training

The analyst may verify that the members of the governance bodies develop **specific skills** on climate change issues and the impact of this change on the company in order to monitor the associated risks and opportunities.

The analyst can observe whether there is a **sufficient level of relevant skills and an appropriate training program accessible to** all the teams concerned. Employee training can be considered as a positive signal of the company's commitment to climate action.

The governance bodies' **level of sustainability skills** can be assessed using the following criteria:

→ **Proportion of members of the governance bodies** (%) trained in climate issues; presence of at least one expert on climate-related issues in these bodies

→ **Experience** level of **key individuals** (seniority, qualifications, background), by requesting and reviewing, for example, a competency matrix for these individuals

→ Skill development pathway of the members of the governing bodies

→ Relevance and **alignment of expertise with the impacts, risks and opportunities identified** during the *double materiality* analysis*

B. INTEGRATION OF CARBON PERFORMANCE INDICATORS INTO REMUNERATION POLICIES

The second important dimension for governance is the establishment of incentive mechanisms and the integration of climate-related indicators into executive remuneration.

The analyst may ensure that the company's executive remuneration takes into account transition issues through **quantitative indicators** on climate change and the publication of an incentive programme on executive remuneration.

If a variable remuneration policy already exists in the company, at least one **climate performance indicator** may be included in the variable remuneration plan (short-term or long-term) of the CEO and senior executives. In the short term, the incentive could be based on monitoring the pathway rather than meeting performance targets.

This indicator must be **(i) concrete and measurable**, and (**ii) relevant with regard to the materiality analysis carried out by the company and its climate targets.**

The executive remuneration plan may include indicators relating to the following dimensions:

→ **GHG emission reduction targets** (across all three scopes – for scope 3 only concerning significant emissions for which the company has means of action, % of reduction, % of emissions covered by the target, base year and target year, unit of the target (tCO_2e, $kgCO_2e$/$, etc.), source documents, etc.)

→ **Progress towards achieving the targets** of the pathway chosen by the company through a strategy, as well as a set of concrete and specific measures (e.g. phasing out carbon-intensive products or assets, developing or deploying low-carbon technologies, decarbonising supply chains).

→ **Performance results** (remuneration based on the company's performance relative to its stated emission reduction targets)

Conversely, the following are not sufficient and do not meet the requirements:

→ A mere reference to the ESG policy or sustainability performance

→ Indicators that measure broader ESG or sustainability-related objectives or targets (e.g. aggregated ESG scores)

The company must specify the **persons concerned** (**proportion or number of persons** whose remuneration is linked to progress towards targets), as well as **their roles** (e.g. CEO, member of the executive committee, CSO, SFO (Sustainable Finance Officer) / Climate Lead). In its report on governance of the climate transition in companies[74], the IFD recommended in this regard "the inclusion in the short-term and medium-term variable component of executive pay of at least one criterion related to the company's climate targets, ensuring the precision of the chosen criteria and prioritising quantitative criteria aligned with the transition plan defined by that company".

The analyst may check whether the indicators related to remuneration cover a **significant proportion of governance** (quantitatively, or qualitatively based on the importance of the functions covered).

C. INTERNAL PROCEDURES DEPLOYED FOR THE IDENTIFICATION, CONTROL, MONITORING AND MITIGATION OF RISKS

Regarding the monitoring and control mechanisms for transition issues, the analyst can examine whether the main risks are identified, whether a mitigation and remediation strategy is put in place, and whether there are controls on its implementation:

→ The preparation of a regularly updated **risk map**

→ **The integration of this risk map into the risk management policy** (physical and transition risks, other risks such as the completeness and integrity of data, the accuracy of estimation results, the availability of value chain data and the timing of information availability).

74 https://institutdelafinancedurable.com/app/uploads/2024/01/IFD_Gouvernance-de-la-transition-climat-dans-les-entreprises_VF.pdf

The analyst may examine whether the company publishes the main characteristics of **its risk management** and **internal control system:**

→ **The implementation by the governance bodies of a system for monitoring risks and controlling material impacts, risks and opportunities** in relation to climate targets and objectives

→ **Description of the scope, main characteristics and components** of the **risk management** and **internal control** processes and systems on this subject

→ **The chosen risk assessment approach**, including the risk prioritisation methodology

→ A description of how the company **integrates the findings of its risk assessment** and internal controls into its sustainability report

→ A **description of the periodic communication of results to the governing, management and supervisory bodies**, for example if an annual briefing to the Board on climate risks for the company is organised (see *Proposal 3 Governance report*).

To go further, the analyst may endeavour to **take into account the prevention mechanisms** implemented by the company to avoid **poor execution** of its plan.

D. MANAGEMENT OF THE DECARBONISATION PATHWAY PROPOSED BY THE TRANSITION PLAN, EFFECTIVE MONITORING AND IMPLEMENTATION OF THE NECESSARY ADJUSTMENTS

Regarding pathway management, the analyst may seek to understand whether the company regularly ensures that the pathway of its actual emissions is consistent with its own transition targets. To this end, they may ensure that the organisation and **internal monitoring process** are consistent with the climate consideration and that **corrective measures** are put in place in the event of provisional non-achievement of the targets, as well as proven non-achievement of these targets.[75]

The analyst may assess the organisation and **internal monitoring process** by:

→ Studying the **organisational structure and the distribution of target monitoring responsibilities within the company** and checking that the governance bodies ensure that an **appropriate performance monitoring mechanism is in place** (with the governing, management and supervisory bodies focusing on overall targets and the operational management on more detailed targets).

→ Examining the **framework for presenting the results of this monitoring** (dedicated committee with top management, integration into the documents for monitoring financial and non-financial performance, etc.).

→ Ensuring that the company's management **publishes its analysis of the success rate** of previous years' targets.

75 Consistently with the CS3D.

→ Verifying the existence of **an external assessment of the company's climate pathway** and identifying whether the company has initiated a process of validation or assessment of its pathway by a third-party organisation. The analyst can then determine whether the third party has used transparent and recognised public methods, including from the viewpoint of uncertainty assessment, by a sufficient number of experts. It should be noted at this stage that no method has been recognised from a legal and regulatory viewpoint, so it is important to approach the question of validating or assessing a pathway with the utmost caution, given the many uncertainties that inherently exist in such a forward-looking exercise.

The analyst may also identify whether the company has planned to analyse its results and implement corrective measures, specifying by checking whether:

→ **Procedures are in place to adjust the action plan if necessary** through an analysis of the reasons for unmet targets, justification for significant gaps, corrective actions and controls or sanctions.

→ **The key assumptions underlying the company's business, financial and operational plans** are consistent with the company's transition plan. The analysis will thus be able to verify the consistency of the assumptions made in terms of scaling up technologies not yet used by the company or the implementation of specific regulatory policies with the company's commercial and operational plans.

→ **The impact on its pathway and transition actions is assessed in the event that initial assumptions prove unsuitable** over time.

→ An action plan has been put in place for each unmet targets (these elements will in theory be available in the company's universal registration document).

To go further, if the information is available, the analyst may look at whether the company has established a hierarchy of factors explaining the failure to achieve its targets.

CONCLUDING REMARKS ON THE STRATEGY OF FINANCIAL INSTITUTIONS

As stated in the introduction, achieving the climate targets of the Paris Agreement requires the mobilisation of all stakeholders – governments, citizens and financial and non-financial companies – to contribute to *climate change mitigation**.

The harmonisation of the non-financial analysis framework related to the carbon transition sought by this guide is necessary but not sufficient for financial players to fully play their role as stipulated in Article 2.1.c of the *Paris Agreement**. This framework must translate into actionable decisions and, ultimately, an allocation of financial flows to support the transformation of the real economy.

Building on the significant progress of various initiatives (GFANZ, CBI, UNEP-FI, ACT Finance, NGFS, ATP-CoI), and adapting to each sector's specific characteristics, this framework enables financial institutions to integrate companies' carbon transition performance into their analysis and portfolio management.

This analysis framework can also support the construction of product offerings, the establishment of targets prioritising economic players whose transition plans are robust and compliant with climate goals, the establishment of engagement policies (to encourage players to improve their transition plans) and exclusion policies (for players that do not meet minimum environmental criteria), as well as risk management.

However, it is crucial to recognise that current methodologies for carbon transition analyses have limitations and require further development. Organisations such as the Institut Louis Bachelier, through its work as part of the "Alignment Cookbook[76]" reports, the ADEME with its "Accelerate Climate Transition: ACT Assessment Categorisation[77]" and the Climate Bond initiative, with its "Navigating Corporate Transitions[78]" tool, contribute to these efforts. The latter approach proposes to classify companies' transitions according to their maturity, ambition and credibility, enabling financial institutions to categorise their exposures and track transition progress over time. Such methodologies, which are under development or undergoing refinement, are critical for consistent measurement and management of transition financing, as well as policy and corporate commitments.

76 See The Alignment Cookbook 2 for the latest report

77 See Appendix 2 for documentation on the ADEME's ACT methodology in general and the «Assessing low-carbon transition» report for the categorisation tool.

78 See Appendix 2. Climate Bond Initiative report: Navigating corporate transitions: A tool for financial institutions to assess and categorise corporates by their transition credibility and maturity

Ultimately, this guide, as reference for the Paris financial centre, helps to **define the foundations of a common language, fostering the emergence of a market discipline on the assessment of companies' carbon transition.** This discipline enables financial flows to be directed in line with the goals of the Paris Agreement. Further work is needed to more precisely define transition financing. The way in which financial players integrate the climate dimension into their strategies may also be the subject of future work by the IFD.

APPENDICES

APPENDIX 1 : GLOSSAIRE

Unless otherwise stated, the definitions in this glossary are taken directly from the AMF guide "Report on its climate transition plan in ESRS format"

Paris Agreement

The Paris Agreement followed on from the Kyoto Protocol signed in 1997 and entered into force in 2005. The Paris Agreement is the first legally binding international treaty on climate change committing all countries to a common climate goal. It was adopted at the end of COP 21 on 12 December 2015 and entered into force on 4 November 2016. The 196 Parties then agreed, on the basis of scientific reports, on the goal of keeping "the increase in the global average temperature to well below 2°C above pre-industrial levels" by 2100 and to continue efforts "to limit the temperature increase to 1.5°C above pre-industrial levels". The text also encourages developed countries to support the efforts of developing countries. In particular, it recognises the special situation of the least developed countries (LDCs) and small island developing states, as well as the principle of "common but differentiated responsibilities" in climate change, reflecting the different historical contribution among countries. The Agreement operates on a five-year cycle: every five years, starting in 2023, each country must in principle submit a revised national action plan, known as the "Nationally Determined Contribution" (NDC).

Application Requirement (AR)

ARs specify the application of the disclosure requirements (DRs) and have the same level of constraints as the other disclosure requirements of the ESRS standards.

Reference year

A fixed year that, unless necessary, remains the same from one GHG emissions assessment exercise to the next. Each new assessment must be compared to that of the reference year.

Climate change mitigation[79]

Climate change mitigation means reducing its degree of warming. This involves reducing the greenhouse gas emissions that cause the warming. It is therefore a quantitative concept: it is necessary to significantly reduce greenhouse gas emissions, as climate change depends on the total amount of greenhouse gases emitted. According to the Organisation for Economic Cooperation and Development, climate change mitigation activities are those that:

- reduce or limit greenhouse gas emissions;
- protect and enhance GHG sinks and reservoirs (e.g. forests, soils and seagrass beds).

Limited assurance

Limited assurance reviews the compliance of the data but is not intended to produce a certification. It differs from reasonable assurance, which must be used to certify the data. For example, in France, financial statements must be certified with reasonable assurance. The scope of coverage and the depth of the work are significantly more extensive in the case of reasonable assurance than in the case of limited assurance. Limited assurance involves lower requirements regarding the procedures for controlling or challenging the main assumptions and may only cover a scope of 20% of the company's activities (reasonable assurance in the financial statements usually covers between 60% and 80%).

Capex

Investment expenses as defined by Delegated Regulation Article 8 Taxonomy (Regulation (EU) 2021/2178). There can be three types of capex according to the classification given in section 1.1.2.2 of annex I of the delegated regulation:

- Capex associated with the company's economic activities which are linked to assets or processes corresponding to Taxonomy-aligned economic activities;
- Capex which are part of a capex plan to expand Taxonomy-aligned economic activities or to allow Taxonomy-eligible economic activities to become Taxonomy-aligned;
- Individually aligned capex which are linked to the purchase of output from Taxonomy-aligned economic activities (e.g. carried out by a supplier) and to individual measures enabling the targeted activities to become low-carbon or lead to reductions in greenhouse gas emissions (e.g. activities listed in points 7.3 to 7.6 of Annex I of the Climate Delegated Act or other economic activities listed in the Taxonomy.

79 Source: ADEME, «Climate Change Mitigation»

Carbon offsetting/credit[80]

Carbon offsetting is one of the existing types of carbon market. It allows a company, association, foundation, community or individual to finance a project to reduce or sequester GHG emissions for which they are not directly responsible. This financing is usually organised around the purchase of "carbon" credits or units, corresponding to the volume of GHG emissions reduced or sequestered by the project, measured in tonnes of CO_2 equivalent. Proceeds from the sale of "carbon" credits or units contribute to the financing of the project, while the acquisition of the credits or units enables the financier to claim partial or total compensation of its emissions.

[The concept of carbon offsetting is currently being debated. As indicated in Part IV.A of this guide, the analyst must be very vigilant about the use of this lever in companies' transition strategies. For more details, refer to the Net Zero Initiative framework developed by Carbone 4 and promoted by the World Business Council for Sustainable Finance.]

Abatement cost

The abatement cost, also known as the marginal abatement cost, is an economic measure that indicates the cost associated with reducing an additional unit of negative externality, such as GHG emissions. In other words, it represents the cost of eliminating an additional tonne of CO_2 or its equivalent. This concept is key in the development of climate and environmental policies, as it makes it possible to compare the economic efficiency of different emissions reduction methods. For example, policies can be put in place to encourage companies to adopt technologies or practices that have a lower abatement cost, thereby making decarbonisation efforts more cost-effective.

Overshoot (*«no or limited overshoot»*)

To limit global warming to +1.5°C by 2100, several pathways can be envisaged: temperature rise pathways that reach the 1.5°C threshold in 2100 (without exceeding this threshold, or "with no overshoot") or pathways where this 1.5°C threshold is temporarily exceeded before stabilising global warming around +1.5°C in 2100.

In a 1.5°C overshoot scenario, it is necessary to use CO_2 removal methods to return to a 1.5°C level. The greater the overshoot, the more extensive use of these technologies will be required to return to 1.5°C, while also having an impact on the carbon budget associated with the pathway. AR 1 of ESRS E1-1 thus indicates that the transition plan must include information on its compatibility with a 1.5°C pathway without overshoot or with a limited overshoot, in accordance with Regulation (EU) 2021/1119 (European Climate Law). To go further: the summary for decision-makers of the IPCC special report on the consequences of 1.5°C global warming (SR15), cited in recital 3 of the Climate Law, provides details on the levels "no overshoot", "limited overshoot" (minimal overshoot remaining below 1.6°C), and "higher overshoot".

Disclosure Requirement (DR)

DRs structuring the ESRS are obligations to publish qualitative or quantitative information consisting of one or more data points. ESRS E1-1 "Transition plan for climate change mitigation" is an example of a DR.

Double materiality

Double materiality has two dimensions: materiality from the impact viewpoint (the company's impacts on the environment and society), and materiality from the financial viewpoint (financial effects of socio-environmental issues on the company). A sustainability question meets the double materiality criterion if it is material from an impact viewpoint, a financial viewpoint, or both.

Gross emissions

Gross emissions correspond to the total amount of GHG emissions emitted by an entity.

80 Source: French Ministry of Ecology, see https://www.ecologie.gouv.fr/sites/default/files/documents/Santards-compensation_MTE.pdf.

Net emissions

Net emissions are gross emissions from which eliminated emissions and/or offset emissions are deducted

Eliminated emissions

Carbon removal is synonymous with anthropogenic absorption: it refers to CO_2 removal processes combining different human-initiated processes that remove CO_2 from the atmosphere and sequester it sustainably in geological, terrestrial or oceanic sinks, or in products. These include enhancing biological or geochemical CO_2 sinks or capturing and storing directly from air, but exclude natural CO_2 removals not directly caused by humans. As such, the term removal ("carbon dioxide removal" – CDR) is used when CO_2 is already present in the atmosphere, while carbon capture and storage ("carbon capture") refers to processes that extract CO_2 directly from industrial and energy emission sources. CO_2 removal can be based on "carbon sequestration" (i.e. the storage of emissions in carbon sinks).

ESRS

European Sustainability Reporting Standards, provided for by the CSRD Directive, are designed to regulate and harmonise non-financial publications by companies. The EFRAG – the European Financial Reporting Advisory Group – has been mandated by the European Commission to draft these standards, which are gradually adopted through delegated regulations. Delegated Regulation (EU) 2023/2772 of 31 July 2023 defining "all-sector" ESRS standards was published in the Official Journal of the EU at the end of December 2023.

Materiality assessment

The identification and prioritisation of the most urgent and relevant issues and questions for the company, in accordance with its business model and activities.

Decarbonisation lever

Aggregated mitigation actions to reduce a company's greenhouse gas emissions, such as energy efficiency, electrification, fuel switching, renewable energy use, product modification and supply chain decarbonisation, tailored to the company's specific actions.

Carbon neutrality

The ESRS differentiate between a company's "net zero" targets and "carbon neutrality claims" (terminology used in the ESRS). According to the SBTi and paragraph 60 of ESRS E1, net zero targets relate to offsetting remaining GHG emissions after a 90% to 95% reduction in a company's gross emissions covering its operational scope and value chain. Carbon neutrality claims (i.e. public communication on carbon neutrality) consist of contributing to the neutrality of GHG emissions on a global scale, by eliminating GHG emissions associated with activities outside the company's value chain, for example, by financing external GHG storage, reduction or avoidance projects, again after a 90% to 95% reduction in gross emissions (see: carbon offsetting, carbon credit), according to the SBTi and paragraph 60 of ESRS E1. The IPCC AR6 report also distinguishes between "net zero emissions" (sub-global scale) and "GHG neutrality" (global scale, emissions within or outside the entity).

Physical risk (for the climate)

Risks associated with the direct impacts of climate change (increased frequency and severity of extreme climate events).

Transition risk

Risks associated with the transition, more or less orderly, towards a low-carbon economy and the associated structural economic changes.

APPENDIX 2 : SOURCE TABLES FOR METHODOLOGIES TO ASSIST ANALYSTS IN THEIR ASSESSMENT

Institution	Link to the document	Topic covered	Pages
I. ANALYSIS FRAMEWORK			
CARBON PERFORMANCE INDICATORS RELATING TO THE COMPANY'S ACTIVITY			
IEA	World Energy Outlook 2024	Source for benchmark pathways	
NGFS	NGFS Climate Scenarios	Source for benchmark pathways	
OECM	One Earth Climate Model_ 1.5 °C Pathways	Source for benchmark pathways	
IRENA	Pathway towards the 1.5°C target	Source for benchmark pathways	
IPCC	AR6 Scenario Explorer	Source for benchmark pathways	
Ministry for the Ecological Transition (FR)	Construction by a company of a green-house gas emissions reduction pathway consistent with sectoral carbon budgets	Source for benchmark pathways	
APPROACHES FOR ANALYSING TRANSITION PERFORMANCE AS PART OF THE FINANCIAL ASSESSMENT			
Banque de France	The climate indicator	Indicator used to assess the climate risks to which companies are exposed	
France Stratégie	The value of climate action	Reference values per tonne of carbon	p. 121 to 129
GIEC	Mitigation Pathways Compatible with 1.5°C in the Context of Sustainable Development	Reference values per tonne of carbon	p. 150 to 153
CPLC	Report of the High-Level Commission on Carbon Prices	Carbon price calculation values	p. 9 to 14
Axylia	Axylia Carbon Score	Rating based on "carbon-ad-justed" EBITDA	
III- ASSESSMENT OF PAST PERFORMANCE			
ACT	ACT methodology	Data tools for comparison between years	p.34 to 37
Carbone 4	Carbon Impact Analytics methodology	Assessment of past performance	p.3

Institution	Link to the document	Topic covered	Pages
IV- ASSESSMENT OF THE TRANSITION PLAN[81]			
ANALYSIS OF REDUCTION TARGETS			
Carbone 4	Carbon Impact Analytics methodology	Assessment of future performance	p.3
Ecovadis	EcoVadis Ratings Methodology Overview and Principles	Presentation of online tools and criteria to define targets	p.5
SBTi	SBI Sector Guidance	Methodological proposals to define GHG targets by sector	Web Page
TPI	TPI's methodology report: Management Quality and Carbon Performance TPI Sectoral Decarbonisation Pathways TPI website	– List of indicators used to identify targets – Examples of benchmark sectoral pathways – Explanation of the SDA method	p. 14 p.6 to 16 Site diagram
CA100+	Climate Action 100+ Net Zero Company Benchmark V1.2 oct 2022 CA100+ – Net zero company benchmark 2.0	– Listing of detailed indicators – Application of the SDA approach	p.28 to 33 Website
ACT	ACT methodology Sectoral methodologies	Identification of targets, calculation methods, criteria, etc. Link to sectoral methodologies	p.17 to 33 Web page
CIFF	Say on Climate		p. 7
SBTi	Sectoral Decarbonization Approach	Explanation of the SDA method	p. 25
Carbone 4	Carbone 4 – Expertises	Methodological proposals to define GHG targets by sector	
Institut Louis Bachelier	The Alignment Cookbook 2	A technical overview of the methodologies and alignment measures used by and applied to the financial sector	
Climate Bonds Initiative (CBI)	Navigating Corporate Transitions	Methodology for classifying corporate transition plans, based on the maturity, ambition and credibility of the plan.	
Reclaim Finance	Corporate climate transition plans: what to look for	Methodologies and criteria for assessing transition plans	
MTE-MEFR	National guide on the main methodologies for the construction by a company of a greenhouse gas emissions reduction pathway consistent with sectoral carbon budgets	Guide to determine a greenhouse gas reduction pathway consistent with sectoral carbon budgets	
ATP-Col	Assessing companies Transition Plans Collective (ATP-Col)	Scoping of the assessment of companies' transition plans	

81 Analysts must remain vigilant to changes in the methodologies mentioned in this table

Institution	Link to the document	Topic covered	Pages
IDENTIFICATION AND QUANTIFICATION OF THE MAIN LEVERS			
ISO	ISO Net zero guidelines	List of actions Terms related to GHG mitigation	Section 9.2.2 and 9.2.3 Section 3.3
CA100+	CA100+ – Net zero company benchmark 2.0	Details of sub-indicators to target issues	p. 24-26
GHG Protocol	GHG Protocol	Identification of scope 3 and how to reduce emissions	p. 4
GFANZ	GFANZ guidance on real economy transition plans	Recommendations for emissions reduction plans Corporate engagement strategy	p. 28-42 p. 34
IGCC	Corporate climate transition plans: A guide to investor expectations	Explanation of the benefits of a transition plan, how to build it, how to act, etc.	p. 27 & p. 41
CDP	CDP Technical Note: Reporting on Climate Transition Plans	Example of implementation	p. 11-14
CDP	Are companies developing credible climate transition plans?	Summary of commitments already made by companies	p. 20
Ecovadis	Ecovadis carbon maturity Report 2022		p. 10
TPT	TPT Implementation guidance	How to develop a transition plan and make it eligible	p. 38
CA100+	CA100+ – Net zero company benchmark 2.0	Proposed carbon tracker and other initiatives	p. 25
Carbone 4 et Carbon4 Finance	Net Zero Initiative, CIA-Methodologie	Net zero initiative matrix Sectoral publications describing the challenges and levers	p. 42
WWF, University of Zurich, Oxford Sustainable Finance Group, University of Oxford	Net Zero Transition Plans: Red Flag Indicators to Assess Inconsistencies and Greenwashing	Set of specific concepts and indicators to assess the integrity and consistency of net zero transition plans	
ASSOCIATED FINANCING PLAN			
ISO	ISO Net zero guidelines		p.22-23
UN expert group	Integrity matters: net zero commitments by businesses, financial institutions, cities and regions	List of criteria for financial transition plans	p.21-22
GFANZ	GFANZ guidance on real economy transition plans	Lists of financial metrics used in initiatives	p.42
CA100+	CA100+ – Net zero company benchmark 2.0	Details of each sub-indicator linked to capital allocation	p.27-28

Institution	Link to the document	Topic covered	Pages
ASSESSMENT OF TRANSITION EFFORTS AND MONITORING OF TARGETS			
ACT	ACT methodology	Table highlighting the connection between past, current and future measurements	p.14
CIA	Carbon Impact Analytics (CIA) methodological guide – Carbon4 Finance	Methodological source to assess the climate impact of portfolios	Web page
Horizon	Horizon – Blunomy	Methodology for comparative assessment of the transition status of listed companies	*Web page under construction*
NZA, Moody's Ratings	Net Zero Assessment (NZA) – Moody's Ratings	Assessment of an entity's carbon transition plan against an overall net zero pathway, in line with the targets of the Paris Agreement	Web page
Portfolio Alignment Team (PAT)	Measuring Portfolio Alignment	Assess companies' transition plans towards achieving net zero targets	
V – ANALYSIS OF CARBON TRANSITION GOVERNANCE			
INTEGRATION OF TRANSITION ISSUES BY GOVERNANCE BODIES			
Climate Action 100+	Climate Action 100+ Net Zero Company Benchmark PDF	Climate governance indicators	p.19
ACT methodology	ACT methodology	Summary table of the procedure to be followed in terms of climate governance Description of the indicator, the data required to apply it, etc.	p.71 p. 73 & 74
Carbone 4	Carbon Impact Analytics methodology – Forward-Looking Pillar	Climate governance indicators broken down by sector	p.3
CDP	Are companies developing credible climate transition plans?	Summary table of climate-related questions, methodologies etc.	p.22
Climate Action 100+	Climate Action 100+ Net Zero Company Benchmark PDF	Indicator highlighting the presence of specialised members on the Board of Directors	p.21
TPI	TPI's Management Quality methodology	Question 6 of the table (*Has the company nominated a board member or board committee with explicit responsibility for oversight of the climate change policy?*)	Table p. 10 & 11
TPT	TPT Implementation Guidance	Training of board members and employees on these issues	p. 18

Institution	Link to the document	Topic covered	Pages
INTEGRATION OF CARBON PERFORMANCE INDICATORS INTO REMUNERATION POLICIES			
TPT	TPT Implementation Guidance	Details of governance recommendations	p. 41
Climate Action 100+	Climate Action 100+ Net Zero Company Benchmark PDF	Details of the CEO remuneration methods	p. 20
TPI	TPI's Management Quality methodology	Question 15 of the table (*Does the company's remuneration for senior executives incorporate climate change performance?*)	Table p.10 & 12
TCFD	TCFD financial disclosures	Explanation of the remuneration metric	p. 80
MANAGEMENT OF THE DECARBONISATION PATHWAY PROPOSED BY THE TRANSITION PLAN			
Climate Action 100+	Climate Action 100+ Net Zero Company Benchmark PDF		p. 8
TPT	TPT Implementation guidance	Recommendations	p. 49
TPI	TPI's Management Quality methodology	Question 16 of the methodology table (*Does the company incorporate climate change risks and opportunities in their strategy?*)	Table p. 10 & 11
TCFD	TCFD financial disclosures	Explanation of internal procedures on risk identification, assessment and management	p. 20, 28, 34, 40, 47 & 60 (for each sector)
	TCFD Report 2017	Key information to publish regarding the governance of climate-related issues	p. 19
TPT	TPT Implementation guidance	Focus on possible strategy changes, how to implement them	p. 36 & 37

APPENDIX 3 : DETAILED CORRESPONDENCE TABLE ON THE INDICATORS IN THE GUIDE AND ESRS E1

Disclosure requirement (DR)*	Paragraph	*Application Requirement (AR*)*	Name of the indicator in the ESRS	Guide indicator related to ESRS indicators
GOVERNANCE				
GOV-3 (ESRS 2)	13		Disclosure of how climate-related considerations are factored into remuneration of members of administrative, management and supervisory bodies	Link between remuneration and achievement of climate targets
GOV-3 (ESRS 2)	13		Percentage of remuneration recognised that is linked to climate related considerations	Climate criteria among remuneration-related indicators
GOV-3 (ESRS 2)	13		Explanation of climate-related considerations that are factored into remuneration of members of administrative, management and supervisory bodies	Quality of remuneration-related indicators
STRATEGY – TRANSITION PLAN				
E1-1	16a	AR 2	Explanation of how targets are compatible with limiting of global warming to one and half degrees Celsius in line with Paris Agreement	Compatibility of the pathway with the Paris agreement
E1-1	16b		Disclosure of decarbonisation levers and key action	Identification of the main levers deployed by the company
E1-1	16c		Explanation and quantification of investments and funding supporting the implementation of transition plan	Share of capex and opex dedicated to the transition
E1-1	16e		Explanation of any objective or plans (CapEx, CapEx plans, OpEx) for aligning economic activities (revenues, CapEx, OpEx) with criteria established in Commission Delegated Regulation 2021/21391	
E1-1	16f		Significant CapEx for coal, oil and gas-related economic activities	
E1-1	16h		Explanation of how transition plan is embedded in and aligned with overall business strategy and financial planning	Financial resources allocated to the transition
E1-1	16j		Explanation of progress in implementing transition plan	Monitoring of the pathway of actual emissions in relation to the targets set
IMPACT, RISK AND OPPORTUNITY MANAGEMENT – PROCESSES				
IRO-1 (ESRS 2)		AR 11b	Short-, medium- and long-term time horizons have been defined	Consideration of transition risks
IRO-1 (ESRS 2)		AR 12d	Assets and business activities that are incompatible with or need significant efforts to be compatible with transition to climate-neutral economy have been identified	
IRO-1 (ESRS 2)		AR 15	Explanation of how climate scenarios used are compatible with critical climate-related assumptions made in financial statements	

Disclosure requirement (DR)*	Paragraph	*Application Requirement (AR*)*	Name of the indicator in the ESRS	Guide indicator related to ESRS indicators
IMPACT, RISK AND OPPORTUNITY MANAGEMENT – POLICIES				
E1-2	22	AR 16, AR 17	Description of policies adopted to manage material impacts, risks and opportunities related to climate change mitigation and adaptation	Assessment of the governance of the company's transition management
IMPACT, RISK AND OPPORTUNITY MANAGEMENT – ACTIONS AND RESOURCES				
E1-3	29b		Achieved GHG emission reductions	Monitoring of the pathway of actual emissions in relation to the targets set
E1-3	29b		Expected GHG emission reductions	
E1-3	29cii, 16c	AR 20	Explanation of relationship of significant CapEx and OpEx required to implement actions taken or planned to key performance indicators required.	
METRICS AND TARGETS – MITIGATION AND ADAPTATION				
E1-4	33		Disclosure of how GHG emissions reduction targets and (or) any other targets have been set to manage material climate-related impacts, risks and opportunities	Monitoring of the pathway of actual emissions in relation to the targets set
E1-4	34a, 34b		Absolute value and, if applicable, intensity value of Scope 1, 2 and 3 GHG emissions reduction (separately or combined)	
E1-4	34c		Disclosure of past progress made in meeting target before current base year	
E1-4		AR 25a	Description of how it has been ensured that baseline value is representative in terms of activities covered and influences from external factors	
E1-4	34f, 16b	AR 30	Description of expected decarbonisation levers and their overall quantitative contributions to achieve GHG emission reduction target	
E1-4		AR 30c	Diverse range of climate scenarios have been considered to detect relevant environmental, societal, technology, market and policy-related developments and determine decarbonisation levers	
METRICS AND TARGETS – ENERGY CONSUMPTION & MIX				
E1-5	36		Understanding of the undertaking's total energy consumption in absolute value, improvement in energy efficiency, exposure to coal, oil and gas-related activities, and share of renewable energy in overall energy mix.	Monitoring of the pathway of actual emissions in relation to the targets set
E1-5	37		Total energy consumption related to operations disaggregated by fossil, nuclear and renewable sources	

Disclosure requirement (DR)*	Paragraph	*Application Requirement (AR*)*	Name of the indicator in the ESRS	Guide indicator related to ESRS indicators
METRICS AND TARGETS – GROSS SCOPES 1,2,3				
E1-6	44	AR 39, AR 48	Gross Scopes 1, 2, 3 and Total GHG emissions – GHG emissions per scope [table]	Carbon footprint and activity intensity in GHG
E1-6	41		GHG emissions – by country, operating segments, economic activity, subsidiary, GHG category or source type	
E1-6		AR 46d	Gross Scopes 1, 2, 3 and Total GHG emissions – Scope 3 GHG emissions (GHG Protocol) [table]	
E1-6		AR 50	Gross Scopes 1, 2, 3 and Total GHG emissions – Scope 3 GHG emissions (ISO 14064-1) [table]	
E1-6		AR 52	Gross Scopes 1, 2, 3 and Total GHG emissions – total GHG emissions – value chain [table]	
E1-6	48a	AR 43	Gross Scope 1 greenhouse gas emissions	
E1-6	48b	AR 44	Percentage of Scope 1 GHG emissions from regulated emission trading schemes	
E1-6	49a	AR 45	Gross location-based Scope 2 greenhouse gas emissions	
E1-6	49b	AR 45	Gross market-based Scope 2 greenhouse gas emissions	
E1-6	51	AR 46	Gross Scope 3 greenhouse gas emissions	
E1-6	44, 52	AR 47	Total GHG emissions	
E1-6	44, 52a	AR 47	Total GHG emissions location based	
E1-6	44, 52b	AR 47	Total GHG emissions market based	
E1-6	53	AR 53	GHG emissions intensity, location-based (total GHG emissions per net revenue)	Activity intensity in GHG
E1-6	53	AR 53	GHG emissions intensity, market-based (total GHG emissions per net revenue)	
E1-6	55		Disclosure of reconciliation to relevant line item or notes in financial statements of net revenue amounts	N/A
E1-6		AR 55	Net revenue used to calculate GHG intensity	Activity intensity in GHG
METRICS AND TARGETS – ANTICIPATED FINANCIAL EFFECTS				
E1-9	67a		Assets at material transition risk before considering climate mitigation actions	Consideration of transition risks
E1-9	67a		Percentage of assets at material transition risk before considering climate mitigation actions	
E1-9	67b		Percentage of assets at material transition risk addressed by climate change mitigation actions	
E1-9		AR 73a	Estimated amount of potentially stranded assets	
E1-9	67d		Liabilities from material transition risks that may have to be recognised in financial statements	
E1-9		AR 74e	Monetised total GHG emissions	Carbon adjustment in the financial statements
E1-9	67e		Percentage of net revenue from business activities at material transition risk	Consideration of transition risks
E1-9		AR 76b	Disclosure of anticipated financial effects in terms of margin erosion for business activities at material transition risk	

APPENDIX 4 : DEFINITION OF SCOPE 1, 2 AND 3 EMISSIONS

Scopes are terms used to calculate companies' greenhouse gas emissions. There are three scopes: scope 1, 2 and 3. Each scope designates an emissions boundary: scope 1 being the most limited and scope 3 the broadest.

Despite the European CSRD regulatory framework, which makes it mandatory for companies subject to it to report on emissions deemed "material", the analyst may face issues of lack of emissions data for the companies they study, partial assessments, or differing interpretations of the scopes to be considered and the estimation methodologies chosen. The exclusion of scope 3 emissions in the SEC's climate reporting framework[82] is an important contextual factor in this respect. Financial institutions may then be able to use appropriate methodologies to verify the relevance of reported data, calculate missing or partial data, and, as a last resort, use sectoral averages as a proxy for missing data.

A. SCOPES 1 AND 2

Scope 1: these are direct emissions, i.e. those directly related to the company's activities. ADEME definition: *"direct emissions from fixed or mobile installations located within the organisational scope, i.e. emissions from sources owned or controlled by the organisation such as: combustion of fixed and mobile sources, non-combustion industrial processes, emissions from ruminants, biogas from landfill centres, refrigerant leaks, nitrogen fertilisation, biomass, etc."*

Table of Scope 1 emissions

Emission items	Explanations
Direct emissions from fixed combustion sources	Direct emissions produced by fixed combustion sources (industrial furnace, generators, boilers, turbines, etc.)
Direct emissions from mobile combustion engine sources	Direct emissions related to the company's vehicle fleet
Direct emissions from non-energy processes	Direct emissions from non-energy processes (not related to energy combustion)
Direct fugitive emissions	Direct fugitive emissions (leakage of refrigerants, methane produced by livestock, treatment of organic waste)
Emissions from biomass (soils and forests)	Emissions from biomass

Source : GHG Protocol

Scope 2: this is the intermediate scope. It is slightly broader than scope 1, as it includes "indirect emissions related to energy consumption". The official ADEME definition is as follows – scope 2 covers: *"indirect emissions associated with the production of electricity, heat or steam imported for the organisation's activities."*

Regarding scope 2, a distinction must be made between the estimate according to the location-based and market-based methodologies[83]. The current year's reporting should be presented with these two methods, as required by the GHG Protocol[84] and the ESRS.

Table of Scope 2 emissions

Emission items	Explanations
Indirect emissions related to electricity consumption	Direct emissions produced by fixed combustion sources (industrial furnace, generators, boilers, turbines, etc.)
Indirect emissions related to the consumption of steam, heat or cold	Direct emissions related to the consumption of steam, heat or cold (corresponding to the primary energies used such as gas, oil, wind or solar)

Source : GHG Protocol

82 https://www.sec.gov/files/rules/final/2024/33-11275.pdf

83 The analyst should be vigilant about an excessive gap between market-based and location-based scope 2 emissions, as this could indicate excessive reliance on renewable energy certificates, the additionality of which is questioned by certain studies (see https://www.nature.com/articles/s41558-022-01379-5)

84 The Greenhouse Gas Protocol was developed by the World Business Council for Sustainable Development and the World Resources Institute, to propose a framework for GHG accounting and reporting.

B. SCOPE 3

Scope 3: All indirect GHG emissions (not included in Scope 2) that exist in the company's value chain, both upstream and downstream[85].

Scope 3 categories: 15 types of Scope 3 GHG emissions identified by the GHG Protocol (detailed by the Scope 3 enterprise value chain accounting and reporting standard) and by ISO 14064 – 1:2018. Carbon credits or GHG quotas purchased, sold or transferred must not be included in scope 3 emissions.

Table of Scope 3 emissions:

Upstream or downstream	Scope 3 categories
Upstream Scope 3 emissions	· Goods and services purchased · Investment goods · Activities related to fuels and energy not included in scope 1, 2 · Upstream transport and distribution · Waste generated by operations · Business travel · Employee commuting · Upstream leased assets
Downstream Scope 3 emissions	· Downstream transport and distribution · Processing of products sold · Use of products sold · End-of-life processing of products sold · Downstream assets · Deductibles · Investments

Source : GHG Protocol

Useful sources			
Organisation / Methodology	Report / guide	Topic covered	Page
GHG Protocol, scope 3 calculation Guidance GHG Protocol, Corporate Value chain (scope 3) Standard	Scope 3 guidance Corporate Value Chain Standard	Precise definition of scope 3	p. 7-10 p. 34
European Commission, Delegated Regulation, Annex 2 2013/34/EU	Annex 2 European Commission 2013/34/EU		
EN ISO 14064-1:2018	COMMISSION RECOMMENDATION (EU) 2021/2279 of 15 December 2021		

85 ESRS E1 applies to significant scope 3 emissions only.

APPENDIX 5 : DISCUSSION OF METHODOLOGIES TO ASSESS THE COMPATIBILITY OF TRANSITION PLANS WITH THE 1.5°C WARMING TARGET

A. COMPATIBILITY OF TRANSITION PLANS WITH THE PARIS AGREEMENT: INFORMATION REQUIRED UNDER CORPORATE REPORTING REGULATIONS

1. European standards (ESRS) defined within the CSRD framework

According to ESRS standards, transition plans must be defined as climate change mitigation action plans **compatible with limiting global warming to +1.5°C, in line with the Paris Agreement**.

This interpretation of the ESRS is also reiterated in the AMF guide "Reporting on a climate transition plan in ESRS format".

Paragraph 1 of ESRS-E1:

"The objective of this Standard is to specify Disclosure Requirements which will enable users of sustainability statements to understand:

(...)

(b) the undertaking's past, current and future mitigation efforts in line with the Paris Agreement (or an updated international agreement on climate change) and compatible with limiting global warming to 1.5°C"

The ESRS go into more detail in the ARs (application requirements) on how organisations can interpret this concept of compatibility:

AR 2 of the ESRS:

"Sectoral pathways have not yet been defined by the public policies for all sectors. Hence, the disclosure under paragraph 16 (a) on the compatibility of the transition plan with the objective of limiting global warming to 1.5°C should be understood as the disclosure of the undertaking's GHG emissions reduction target. The disclosure under paragraph 16 (a) shall be benchmarked in relation to a pathway to 1.5°C. This benchmark should be based on either a sectoral decarbonisation pathway if available for the undertaking's sector or an economy-wide scenario bearing in mind its limitations (i.e. it is a simple translation of emission reduction objectives from the state to undertaking level). (...)."

AR 26 of the ESRS:

"When disclosing the information required under paragraphs 34 (d) and 34 (e), the undertaking shall present the information over the target period with reference to a sector-specific, if available, or a cross-sector emission pathway compatible with limiting global warming to 1.5°C. For this purpose, the undertaking shall calculate a 1.5°C aligned reference target value for Scope 1 and 2 (and, if applicable, a separate one for Scope 3) against which its own GHG emission reduction targets or interim targets in the respective Scopes can be compared."

2. Standards defined by the ISSB (voluntary and non-mandatory)

The standards developed by the ISSB are based on the same logic of the need for companies to communicate on the link between the targets they set for themselves and the targets defined in the framework of international climate agreements.

Paragraph 33 of IFRS-S2:

"An entity shall disclose the quantitative and qualitative climate-related targets it has set to monitor progress towards achieving its strategic goals, and any targets it is required to meet by law or regulation, including any greenhouse gas emissions targets. For each target, the entity shall disclose:

(...)

(h) how the latest international agreement on climate change, including jurisdictional commitments that arise from that agreement, has informed the target."

B. APPROACHES TO COMPARE THE COMPANY'S EMISSION PATHWAY WITH A 1.5°C BENCHMARK PATHWAY

1. General approach

The general principle for the assessment of "1.5°C compatibility" is defined in ESRS-E1 (AR 2 and AR 26) and is based on the benchmark pathway that must be determined by the company and aligned with the 1.5°C warming target. This benchmark pathway can then be used as a point of comparison, particularly for the emission reduction targets set by the company (see Appendix 2 for possible benchmark pathways). Section 3 of this appendix presents details on how a benchmark pathway can be constructed using the IEA's Net Zero Emissions scenario as an example.

This principle of comparison with a benchmark pathway is incorporated into all the methodologies used today to assess companies' targets and actions regarding carbon transition. These methodologies include the ADEME ACT method (see the chart below for illustrative purposes[86]), the SBTi method and the TPI method (Transition Pathway Initiative). The climate indicator currently being developed by Banque de France is also based on this principle of comparison to a 1.5°C benchmark pathway.

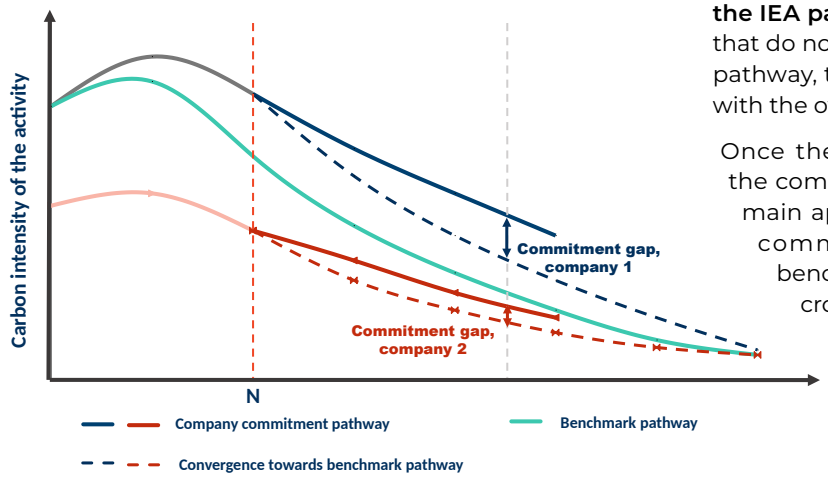


Chart 5: Illustration of the ADEME ACT methodology

Depending on the availability of the data, the pathways used for this analysis may be in absolute volume of CO_2 or in CO_2 intensity of the economic activity (production, added value, etc.). The methodologies mentioned above refer mainly to intensity-based pathways, as the IEA – the main source for reference sectoral pathways – provides data in this format (*see below*).

2. Comparison of methodologies to define a company's commitment pathway

The **benchmark pathway** must serve as the basis for the company to calibrate its commitment pathway and emission reduction actions. This benchmark pathway can be constructed based on two approaches:

→ **Sectoral Decarbonisation Approach (SDA[87])**: This method, developed in the context of the SBTi initiative, is based on a global carbon budget that is broken down sector by sector according to the scenarios developed by the IEA. Pathways are defined in this framework in terms of carbon intensity of production, or, if this is not possible, by resuming a rate of emissions reduction similar to that of the sector[88].

→ **Absolute Contraction Approach** (ACA[89]): The absolute contraction method is a translation of global or national targets into a "cross-sectoral" pathway of absolute emissions reduction (applied uniformly to all sectors).

The ACT, SBTi and TPI evaluation methods follow the same principle concerning the nature of the benchmark pathway: sectoral pathways are preferred for sectors for which the data is available (the three methods are mainly based on the IEA pathways for these sectoral data). For companies that do not have information to build a sectoral benchmark pathway, their commitment pathway is compared instead with the overall pathway (absolute contraction method).

Once the benchmark pathway has been determined, the company must build its commitment pathway. Two main approaches are possible to build the company's commitment pathway based on the chosen benchmark pathway (whether the latter is sectoral or cross-sectoral)[90]:

86 There are several methods of comparison with the benchmark pathway. In this chart, this involves an approach of convergence towards a sectoral pathway (*see Section 2.2 of this appendix).*

87 Sectoral Decarbonization Approach

88 See SBTi Foundations 2019, p. 27

89 Absolute Contraction Approach

90 For explanations and illustrations of these approaches, see Measuring Portfolio Alignment – Technical Considerations, Portfolio Alignment Team (TCFD).

→ **Convergence approach (Convergence Benchmark)**: the commitment pathways of all companies, in the same sector if the scope is sectoral, converge towards the benchmark pathway. This approach assumes that companies with a higher carbon intensity today than the benchmark pathway must reduce their emission intensity more quickly than companies with lower carbon intensity than the benchmark.

→ **Reduction rate approach (Rate-of-Reduction Benchmark)**: the commitment pathways of all companies follow the same emissions reduction rate as the reference pathway.

Each of these approaches has its advantages and disadvantages. The convergence approach penalises companies with high carbon intensity, while it reduces incentives for less carbon-intensive companies to maintain their good performance. As for the reduction rate approach, it imposes a higher burden on companies that are already performing well (low carbon intensity compared to the average). These companies are required to reduce emissions at the same rate as companies that have made little effort previously, which amounts to allocating a "premium" in terms of carbon budget to the most polluting companies (the "grandfathering" approach)[91]. A third approach exists, based on the concept of a fair-share carbon budget benchmark. This approach takes into account the limitations of the convergence and reduction rate approaches, but is nevertheless more complex to implement[92].

It should be noted that, despite presenting its "SDA" methodology as based on the convergence principle, the SBTi approach for validating emission reduction targets is not well-suited to companies with low carbon intensity and, in practice, aligns more with a reduction rate approach[93]. Other evaluation methods allow these cases to be treated more appropiately, such as Moody's Net Zero Assessment and Carbon4 Finance's "CIA" method.

In its technical overview of methodologies and alignment measures for financial sector players[94], the Institut Louis Bachelier offers a comparative tool for existing methodologies used to assess transition plans.

In general, it is important for the analyst to adopt a consistent approach when assessing decarbonisation targets. Indeed, if all companies with higher carbon intensity than the sector adopt targets using a reduction rate approach while those below the benchmark adopt a convergence approach (i.e. all companies use the method that minimises their efforts), this will inevitably result in an overall non-alignment of the economy. The analyst can therefore take this into account and ensure that there are no such biases in their own analysis, for example, by choosing a single methodology to measure and compare the alignment of companies in the same sector.

3. Issue of data availability

In the event where there is no publicly available analysis of a company's transition plan (based on the ACT, SBTi or TPI methods, for example), and if the company has not communicated on its benchmark pathway, the financial analyst may be required to select the most relevant sources to conduct their assessment. The same applies to the selection of other financial or non-financial indicators relevant to the analysis of transition plans. The analyst may rely on data published by the company, as well as data from data providers and rating agencies.

In this context, it is important to remember that the benchmark pathways should be chosen from established sources (IEA, NGFS, national government sources, etc.) and they have been explicitly constructed in line with a global warming target of 1.5°C. In addition, it is also very important to prioritise pathways set at the country and sectoral levels corresponding to the company's activities, so as to best reflect the differentiated capacities to reduce emissions.

The IEA's "Net Zero Emissions" scenario is one of the main sources for benchmark sectoral pathways used by organisations. Sectoral data are available at a satisfactory level for industrial and energy sectors. However, they are only available by major geographical regions; the IEA is currently working to provide data with better country-level granularity.

Other scenarios available through the work of the NGFS[95] or the IRENA[96] for example may improve coverage for specific sectors or countries of interest. In the event of a lack of satisfactory data for the sectors and/or countries corresponding to the scope of the analysis, a global benchmark pathway on emissions reduction consistent with the 1.5°C target (derived from the work of the IPCC) should be used by default.

91 See for example the article "Science-based targets miss the mark"

92 See Measuring Portfolio Alignment – Technical Considerations, Portfolio Alignment Team (TCFD)

93 SBTi has launched a review of its approach for the electricity sector, which will aim, among other things, to better address the case of low-carbon-intensive companies. https://sciencebasedtargets.org/resources/files/Power-Sector-Standard-TOR.pdf

94 The Alignment Cookbook 2, Institut Louis Bachelier

95 Network for Greening the Financial System

96 International Renewable Energy Agency

Other types of scenarios may emerge in the future, such as the "IF" initiative launched by Carbone 4, which aims to develop sectoral forward-looking scenarios that take into account planetary resource limits (biomass, metals, energy) and competing uses.

C. APPROACH AND LIMITS IN THE CONSTRUCTION OF A 1.5°C REFERENCE PATHWAY: FOCUS ON THE CASE OF THE IEA'S "NET ZERO EMISSIONS" SCENARIO

1. General approach to building the "Net Zero Emissions" scenario

With the publication of the report "Net Zero by 2050: a Roadmap for the Global Energy Sector" in 2021, the IEA presented for the first time a scenario defining a global pathway (applied at the sectoral level) with the target of achieving carbon neutrality in the energy sector by 2050, in line with the 1.5°C warming target. As part of a regular update process to adjust pathways based on actual data trends, a new version of the scenario was produced in 2023.

Using modelling tools[97], the scenario incorporates economic and carbon transition dimensions according to several principles:

1. The adoption of available technologies and emissions reduction options is dictated by costs, technology maturity, political preferences, and market and country conditions.

2. Emission reduction efforts are distributed across countries and sectors according to a cost-efficiency based optimisation of the system, while taking into account the different stages of economic development of countries and regions, and the importance of ensuring a just transition.

3. An orderly transition across the energy sector which includes ensuring fuel and electricity supply at all times, minimising stranded assets as much as possible and avoiding volatility in energy markets.

The output growth assumptions by country are derived from IMF projections. It is important to note that this scenario is constructed in direct coordination with government experts and IPCC scientists.

Ultimately, the scenario relies on strong growth in decarbonised energies and minimal use of carbon capture and storage technologies. It provides sectoral carbon emission pathways compatible with the 1.5°C target. For companies building their transition plans, these pathways can thus serve as a benchmark, as mentioned in Section 2.

While the "Net Zero Emissions" scenario is widely used by organisations, due to the quality of the underlying modelling tools and the wealth of available data (especially compared to alternative models), caution is advised when interpreting the results of this exercise, which remains inherently theoretical.

2. Inherent limitations of this modelling exercise

The forward-looking exercises conducted by the IEA were originally intended to assist its member countries in structuring their electricity and energy systems, with the need to ensure in the medium to long term that infrastructure is capable of matching energy supply and demand.

The tools developed in this initial framework have found new relevance in light of the climate commitments made by governments and the need to rethink energy systems accordingly. Normative scenarios have thus been developed to explore possible paths towards a decarbonised system. Directly, or indirectly through certification initiatives (such as SBTi), companies that make climate commitments consistent with national plans are also gradually adopting these pathways as benchmarks for their own strategies.

However, it is important to keep in mind that these normative pathways of the IEA are not designed to precisely predict economic or even energy developments over several decades (this applies to all the pathways modelled over the medium to long term). While these pathways are built in conjunction with country experts to calibrate models as close as possible to the realities on the ground, there is by definition no single path possible to achieve carbon neutrality.

In particular, it should be recalled that the IEA's work is not intended to take into account the industrial strategies of countries and that the dynamics of reindustrialisation and modification of trade flows can significantly alter "spontaneous" sectoral production pathways (based on a trend projection). In the case of the European Union and France, where this dimension is particularly critical, it may therefore be appropriate to rely on "official" sectoral pathways assuming proactive reindustrialisation actions.

97 IEA models used in WEO (World Energy Outlook) and ETP (Energy Technology Perspectives) publications
IIASA models: GAINS (greenhouse gases, air pollution and their impacts) and GLOBIOM (land use and the impact on net emissions of bioenergy demand) models
IMF model: GIMF (impact of changes in investment and spending on global GDP)

APPENDIX 6 : USE OF THE EUROPEAN TAXONOMY IN MONITORING TRANSITION PLANS

The European taxonomy is a classification system for economic activities to "identify those that are **environmentally sustainable**, i.e. that do not exacerbate climate change"[98].

To qualify as sustainable under the "taxonomy" regulation[99], an economic activity must:

1. Make a substantial contribution to at least one of the six objectives listed[100],
2. Do not cause significant harm to these same objectives.

These first two conditions are met if the activity satisfies the technical screening criteria set out in the corresponding delegated regulations. Lastly, the activity must comply with certain minimum social safeguards.

Despite the recent implementation of this regulatory framework, feedback from stakeholders[101] as well as the scientific literature[102] highlight some of its imperfections. Indeed, **the category of activities qualified as sustainable by the taxonomy is more limited than the category of activities likely to participate in the transition** to an economy that is "climate neutral, resilient to climate change and environmentally sustainable"[103].While there is a need to redirect capital flows towards "green" activities with near-zero environmental impact, the transition cannot happen without financing the decarbonisation of the rest of the economy.

The European taxonomy only partially takes into account these transition activities, through two categories: "enabling" activities,[104] and "transitional" activities[105], which must themselves meet technical screening criteria to be considered as aligned. As a result, certain economic activities are likely to participate in the environmental transition without being covered by the taxonomy. These include activities that are not considered eligible due to their low share of emissions, for which no criteria have been set. Conversely, these may include activities considered harmful to the environment, and therefore unlikely to make a substantial contribution. Lastly, some activities are eligible but do not meet the technical screening criteria[106]. For instance, the healthcare sector is not covered and electricity generation using solid fossil fuels is expressly excluded.[107]

Currently, there is no consensus on what constitutes a "transition" activity, and therefore what qualifies as a transition investment.

Reaffirming that the taxonomy remains a useful indicator in financing the transition, the European Commission states that it can be used as a **"forward-looking tool"** by identifying taxonomy-aligned investment expenditures[108]. Alignment with the taxonomy can thus be chosen as an objective, to which resources categorised as "transition expenditures" will be allocated.

98 https://france.representation.ec.europa.eu/informations/taxonomy-verte-mode-demploi-2022-01-13_en.

99 Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment and amending Regulation (EU) 2019/2088, OJEU No. L. 198 of 22 June 2020, pp. 13–43

100 These objectives are climate change mitigation, adaptation to climate change, the sustainable use and protection of water and marine resources, the transition to a circular economy, pollution prevention and control, and finally the protection and restoration of biodiversity and ecosystems.

101 Platform on Sustainable Finance, The Extended Environmental Taxonomy: Final Report on Taxonomy extension options supporting a sustainable transition, March 2022, Feedback from outreach and consultation, p. 18 s.

102 See note: D. A., Zetzsche and M., Bodellini, Addressing the «Winner-Takes-All» Character of Sustainability Taxonomies: Towards a Scorecard Approach, *Green and Low-Carbon Economy*, 2023.

103 European Commission, Recommendation (EU) 2023/1425 of 27 June 2023 on facilitating finance for the transition to a sustainable economy, OJEU No L. 174 of 7 July 2023, pp. 19–46, 2.1.

104 Regulation (EU) 2020/852 Article 16.

105 Ibid., article 10.

106 A. Creti, «The challenges of the European taxonomy for green finance», *Responsibility & Environment*, no. 102, April 2021, p. 43.

107 Taxonomy Regulation referred to above, Article 19(3).

108 European Commission, above-mentioned recommendation, Preamble, point 20.

The European Commission's approach suggests that a transition investment can be defined with reference to various analytical frameworks, with the taxonomy being one of them but does not encompass them.

According to the European Commission, a transition investment could therefore be an investment [109]:

- In a portfolio that replicates a European Union climate benchmark.
- In taxonomy-aligned activities[110].
- In a company or economic activity that has a credible transition plan.
- In a company or economic activity that has credible, science-based targets, if this is proportionate and supported by sufficient information.

As such, this transition plan analysis guide considers capex and opex indicators aligned with the European taxonomy as **relevant, sometimes necessary, but not exhaustive** in the identification of expenses intended to implement companies' transition plans. These transition capex/opex could therefore be defined more broadly as expenses related to the financing of actions under the various decarbonisation levers identified and selected by the company, with the objective of preventing and reducing its emissions and/or emissions related to its value chain.

This broad conception of transition-related expenses allows for a comprehensive understanding of the resources allocated to the transition by the company. It would therefore be based on a **self-assessment** by companies to determine what qualifies as transition-related expenses, the credibility of which could be verified by analysing the decarbonisation levers and associated actions in accordance with the information required by the ESRS[111].

Lastly, certain capex/opex can be considered as related to **"brown" activities**, which are also not currently defined within the European taxonomy. A change is envisaged on this subject and would consist of formalising a category of activities which, according to technical screening criteria, cause significant harm to one of the six environmental objectives mentioned above. These would therefore be activities that need to be phased out or decarbonised, depending on the available technologies[112]. The existing technical screening criteria can therefore be used today to identify these brown activities. For example, exceeding the threshold of 270g CO_2e/kWh for electricity production activities indicates that the activity is causing significant harm to climate change mitigation[113].

109 Ibid., 2.2.

110 The term "aligned" is used here in the broad sense, v. 2.2(b) of the communication.

111 See note ESRS E1-1, 16.

112 Platform on Sustainable Finance, above-mentioned report, p. 40 s.

113 Ibid., p. 43.

APPENDIX 7 : EXAMPLES OF APPROACHES FOR ANALYSING TRANSITION PERFORMANCE AS PART OF THE FINANCIAL ASSESSMENT

Box 1 Banque de France Climate Indicator

Genesis: As part of the French ecological planning strategy, on 12 July 2023, Banque de France was commissioned by the Ecological Transition Financing Committee to «define a national mechanism for corporate climate indicators». To fulfil this mandate, an article of the French Monetary and Financial Code also authorises Banque de France to collect data related to the sustainability of companies.

Objective: The climate indicator aims to provide companies with a free assessment of their transition efforts, exposure to climate risks and their degree of consideration of climate issues.

By the end of 2027, the climate indicator is intended to be rolled out to at least 5,000 companies, across the 10 most emissions-intensive sectors, thereby covering up to 60% of greenhouse gas emissions in France. In 2023, 650 companies already collaborated with Banque de France for a pilot test and in 2024, several hundred more were contacted to benefit from a climate indicator calculated by Banque de France.

Methodology: The climate indicator is based on a methodology partly inspired by the ACT methodology and its distinctive feature lies in its ability to assess the concrete actions taken by companies in terms of the ecological transition. The climate indicator is divided into three modules:

1. **Transition module:** assesses a company's ability to comply with the GHG emission targets of the low-carbon transition. The company's individual decarbonisation pathway based on tangible actions (documented, quantified and with committed financial resources) is compared to a sectoral transition pathway, compatible with the Paris Agreement. The latter is provided by ADEME, which uses data from, among others, the International Energy Agency.

2. **Physical risk module:** assesses how companies are exposed to physical climate risks, such as extreme weather events. It includes a geolocation-based analysis of the companies' facilities to assess and project local climate hazards.

3. **Maturity module:** This is a more qualitative indicator based on the company's own level of preparedness and consideration of climate change risks. There are four areas of study of the company: its transition strategy; its adaptation strategy to physical risks; its governance on climate issues; and its commitments on its value chain (customers and suppliers).

The first two modules are based on quantitative data while the third is based on a qualitative analysis. The analyses are carried out on a case-by-case basis by teams of specialised analysts at Banque de France, primarily using data reported by companies (eventually under the CSRD framework in the case of companies with over 250 employees) or a simplified ad hoc questionnaire in other cases.

To carry out this mission, Banque de France draws on its network of branches, present in each department of France, and its existing relationships with hundreds of thousands of companies through its long-standing role in financial rating.

Use: The climate indicator is therefore primarily designed to be used by companies themselves on a private, voluntary basis, to assess their activities in relation to climate risk. As highlighted by the Network for Greening the Financial System in 2019: climate risks are primarily a societal and human risk, but they also pose a financial risk. Increasing climate change related risks therefore creates significant challenges for companies, which must be supported in their decarbonisation pathway and in their strategies for adapting to weather hazards. For SMEs, participation will be on a voluntary basis, including the dissemination of collected data and the climate indicator to funders.

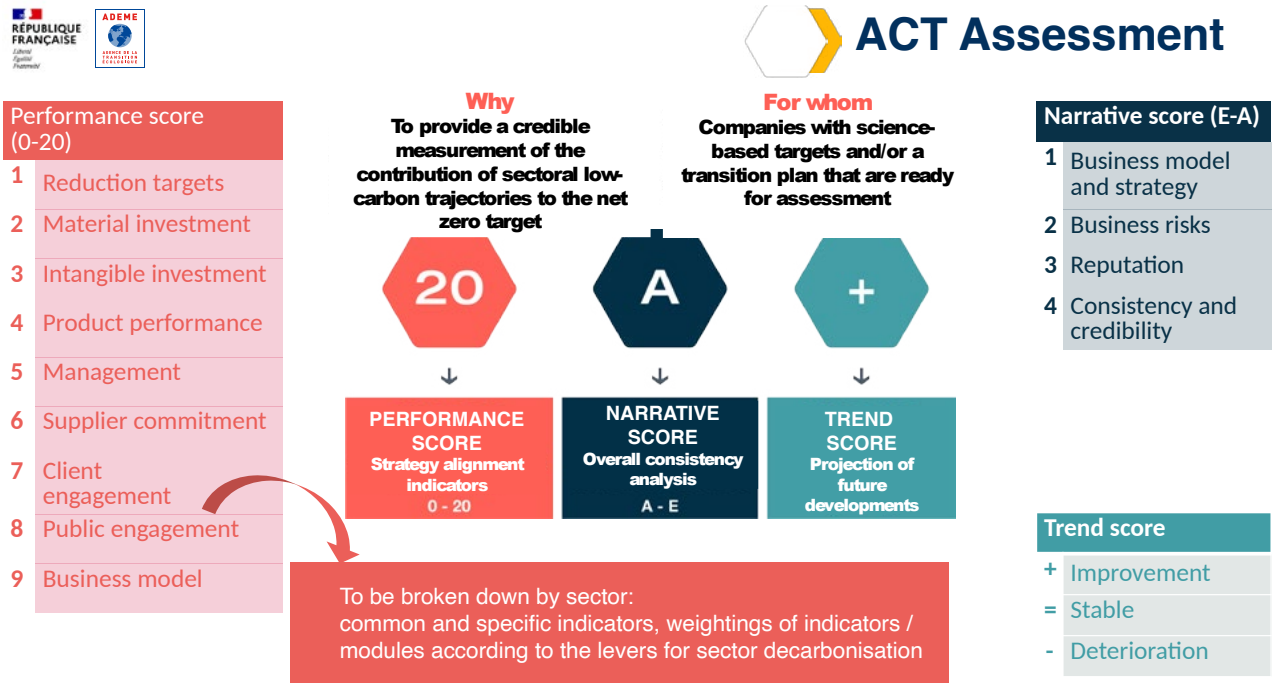
Box 2 The ACT «Accelerate Climate Transition» methodology

Initially founded by the ADEME and the CDP in 2015, the ACT initiative, now under the umbrella of the NGO WBA, assesses companies' climate strategies and their alignment with sectoral decarbonisation pathways. It is based on a forward-looking, holistic and operational approach to corporate climate responsibility, developed by multi-stakeholder technical working groups and public consultations.

Objective: 1) support companies in defining their climate transition plans and their ability to achieve their science-based targets (ACT Step-by-Step); 2) assess companies' climate strategies to ensure their alignment with climate targets (ACT Assessment methodologies).

Assessment methodology[114]**:** ACT is based on a common methodological framework adapted to various sectors, including a «generic» one. It covers all sectors with the highest emissions. The assessment takes the form of a three-component score: a performance score based on nine modules (a score out of 20), a narrative score based on four criteria (rated from A to E) and a trend score (positive, stable or negative). The assessment framework is based on five fundamental questions:

- What does the company plan to do?
- How does it plan to achieve this?
- What is it already doing?
- What has it undertaken recently?
- What is the overall consistency?



114 For more details: https://actinitiative.org/fr/act-methodologies/

To answer these questions, the ACT method provides a precise analytical framework. The nine modules of the performance rating are as follows (specific criteria are tailored to each sector's challenges):

- Module 1 – Targets
  - Alignment of emissions reduction targets (scope 1, 2 and 3)
  - Time horizon of targets
  - Achievement of past and current targets
- Module 2 – Tangible investment
  - Changes in the intensity of past and future emissions
  - Locked-in emissions
  - Share of investment expenditure in low-carbon technologies
  - Share of investment expenditure in carbon removal, capture or storage technologies
- Module 3 – Intangible investment
  - Share of R&D in low-carbon technologies
  - Activity in patents for low-carbon technologies
- Module 4 – Product/service performance
  - Analysis of the company's mature interventions to reduce GHG emissions (upstream and downstream) for its products and/or services
  - Performance of products and/or services rendered
  - GHG emissions performance of subcontracted services.
- Module 5 – Management
  - Consideration of climate change-related issues
  - Ability to take climate change into account
  - Transition plan towards low carbon emissions
  - Incentives to manage climate change
  - Climate change scenario test
- Module 6 – Supplier engagement
  - Supplier engagement (strategy and concrete actions)
- Module 7 – Customer engagement
  - Customer engagement (strategy and concrete actions)
- Module 8 – Engagement policy
  - Company policy on engagement with professional associations
  - Supported professional associations have no climate-negative activities or positions
  - Position on significant climate policies
- Module 9 – Business model
  - Business activities aimed at reducing structural barriers to the market penetration of low-carbon technologies
  - Commercial activities contributing to the development of low-carbon technologies and behaviours
  - Commercial activities related to the design and manufacture of alternative low-carbon technologies.

The four assessment rating criteria are broken down as follows:

- Criterion 1 – Business model and strategy
- Criterion 2 – Consistency and credibility
- Criterion 3 – Reputation
- Criterion 4 – Business risk

The alignment of pathways relating to the reference scenarios: The methodology relies heavily on assessing the alignment of companies' pathway with the reference energy-climate scenarios, particularly the International Energy Agency's «Net Zero Emissions» scenario (IEA NZE). However, the sectoral and geographical details may vary from one scenario to another. As such, sectoral benchmarks may differ from the IEA NZE if another reference scenario is deemed more relevant. In this case, the ACT assessment report should indicate which low carbon baseline scenario has been used. This also adds flexibility to the assessment of specific companies and the use of the most relevant in terms of its geographical location and position in the value chain, the most recent or the most ambitious scenario. As such, each company is assessed based on acceptable and credible global and/or national benchmark criteria, aligned with EU targets.

Sector weighting and methodology: Each module and indicator of the methodology is assigned a specific weighting. The relative weighting for each indicator is determined by sector. Higher weightings are given to issues or challenges that are more relevant to a specific sector in order to achieve the transition to a low-carbon economy. The indicators used in the modules are also adapted according to the sector.

Box 3 Consideration of «monetised» carbon externality

«Monetised» carbon externality is one of the indicators that could complement the assessment of companies' performance, which has so far primarily relied on changes in their financial value, by incorporating their climate impacts. **The «conversion» of carbon emissions into monetary units (through a reference value per tonne of carbon – *see source table in Appendix 2 for possible references of this value*) could thus be one of the approaches to explore in this perspective**.

By deriving indicators from more traditional financial analysis, this approach allows for the exploration of different possibilities for a common language which financial analysts could use to integrate the transition into their assessments. This is fundamentally based on the principle of valuing negative externalities[115] **by assigning them a price**, which can drive behavioural changes among economic agents through the price signal it conveys.

This approach is only exploratory at this stage, given the immaturity of the underlying methodologies and the still nascent connectivity between financial analysis and carbon analysis. It can therefore be viewed from a long-term perspective as a potential avenue of future analysis, the contribution of which remains to be assessed. Many technical aspects still require further methodological refinement, such as the appropriate carbon price to be used for the assessment[116] (including the differentiation of value by geographical area, or the question of taking into account existing carbon pricing mechanisms, internal or external to the company), or accounting for fiscal impacts in certain financial indicators (net income, return on equity, etc.).

It is crucial to emphasize that this approach cannot replace the analysis and monitoring of climate performance, and the targets set as part of the transition plan. A company can remain profitable despite the application of the carbon cost in question, without following an emission pathway compatible with the transition targets. **Therefore, the analysis of a company's carbon performance through the analysis of its transition plan can be supplemented, and not replaced, by the consideration of financial indicators adjusted for the carbon cost**.

This analytical approach, whose conceptual framework still needs to be refined and which could allow for parallelism between financial profitability and environmental impacts, could thus be applied to commonly-used financial indicators, such as EBITDA, found in the company's financial statements. The analyst may use the **monetary value of emissions, in line with the ESRS framework[117]. However, attention should be paid to the sensitivity of the result to the chosen carbon cost.** In this respect, a sensitivity analysis to verify the stability of the analysis according to the choice of the value of this cost seems necessary as a minimum[118].

115 These concepts trace back to the theories of Arthur Pigou and Ronald Coase. Despite real implementation issues, much work has shown the effectiveness of carbon pricing mechanisms in reducing emissions (see, for example, this recent study https://www.nature.com/articles/s41467-024-48512-w)

116 France Stratégie's work on the «value of climate action» is an example of an interesting assessment in this context (see Appendix 2 for the precise source). A recent article in the NBER also shows how this value is still subject to the rapid evolution of knowledge regarding the impacts of climate change on the economy and society (https://www.nber.org/system/files/working_papers/w32450/w32450.pdf)

117 See AR 74(e) of ESRS E-1 (ESRS Set 1 (efrag.org))

118 For example, the ESRS recommends using three distinct carbon cost values (low, medium and high) to capture the risk factor in a calculation.

Box 4 Green Weighting Factor (GWF)

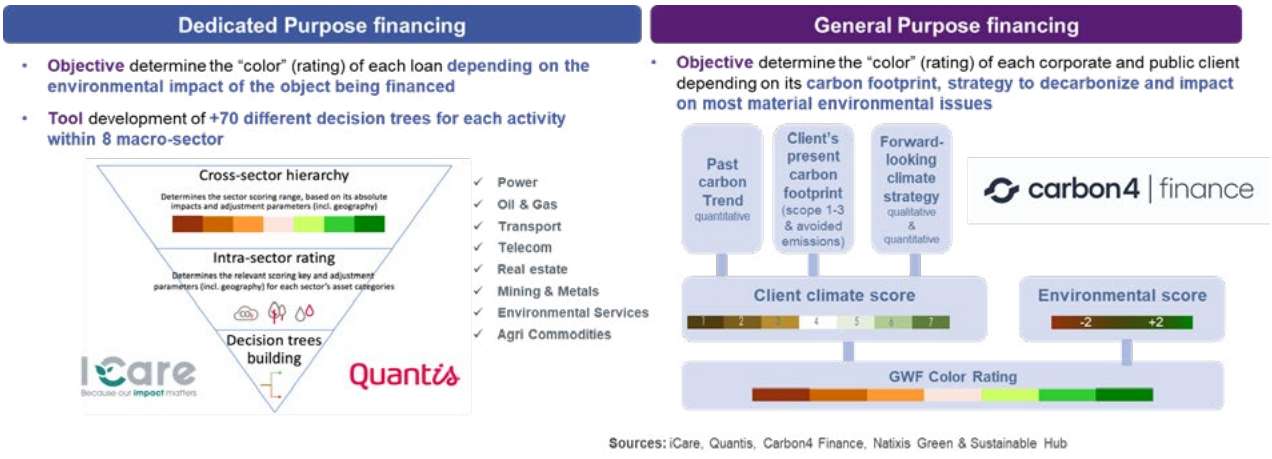
Developed by Natixis, the Green Weighting Factor (GWF) is an internal capital allocation mechanism aimed at promoting the most environmentally and climate-friendly financing solutions to accelerate Natixis' transition to sustainable finance. It also aims to integrate climate transition risk into the overall risk assessment framework by penalising the most harmful financing for the climate and the environment.

The GWF relies on two distinct but complementary approaches: General Purpose (corporate financing) and Dedicated Purpose (financing dedicated to a specific asset or project).

→ General Purpose is based on a climate analysis of the company, adjusted for relevant environmental factors, carried out by Carbon4Finance. It takes into account not only the company's performance during the year in question but also its evolution over the last five years, as well as its transition prospects (through five defined criteria: strategy/investments/emissions reduction targets/governance).

→ Dedicated Purpose is based on over 70 decision trees aimed at describing the climate and environmental impact of the asset in question as accurately as possible.

Each company or asset receives an environmental rating on a scale of 7 levels according to its impact on the climate and the environment (1-3 for companies/assets with a negative impact, called «brown», 4 for cases with neutral or limited impact and 5-7 for cases with a positive impact, called «green»). The methodology for assigning environmental ratings is focused on climate change and adjusted for the most material environmental externalities such as biodiversity, water, pollution and waste. In order to avoid possible interpretation ambiguities, a limited number of criteria with well-defined thresholds are used and publicly available data is prioritised.



Sources: iCare, Quantis, Carbon4 Finance, Natixis Green & Sustainable Hub

APPENDIX 8 : CARBON CREDITS: NOT INCLUDED TO ACHIEVE TARGETS, BUT A TOOL THAT MAY BE USEFUL FOR THE TRANSITION

Although carbon credits, according to ESRS standards, cannot be counted towards the achievement of the company's emissions reduction targets, the purchase of high-quality carbon credits can contribute to climate change mitigation.

The analyst can identify **the amount of GHG emissions reductions or removals** resulting from climate change mitigation projects outside the company's value chain **that it has financed or plans to finance through the purchase of carbon credits.** Information on any carbon credits used by the company may be **disclosed separately** from information on GHG emissions and reduction targets.

This information will enable the analyst to understand **the scale and quality of the carbon credits** that the company has purchased or is planning to purchase.

The analyst can check **the quality criteria used** and the **scope of use** of these carbon credits:

→ Take into consideration recognised **quality standards**[119] and **demonstrate the credibility and integrity** of the carbon credits used;

→ If the company has communicated on a carbon neutrality target that involves the use of carbon credits, the analyst may ensure that this solution is complementary to a target of reducing gross emissions by at least 90% compared to the reference year (as recommended by the AMF).

Assessing the effectiveness of carbon credits can be complex for the analyst, as certification bodies themselves have in some cases **difficulties in reliably measuring the tonnes of CO_2 avoided** and in assessing the real impact of the projects financed. In addition, **the quality of credit-generating projects may vary considerably.**

119 In France, we can cite in particular the Low Carbon Label.

APPENDIX 9 : VALUATION OF EMISSIONS AVOIDED BY THE COMPANY

According to the ESRS standards, avoided emissions cannot be used in achieving the emissions reduction targets set by the company. The valuation of these avoided emissions can nevertheless accelerate the development of activities that are critical for the transition.

A project avoids emissions if there is a positive gain between the emissions of a solution and the emissions of the baseline scenario that would have occurred in the absence of this solution. An avoided emission[120] is therefore the difference between a GHG emission actually taking place (that of the solution) and a GHG emission that did not, by definition, take place (that of the counterfactual or "baseline" scenario).

It is clear that the choice of the baseline scenario is the cornerstone of the concept. Avoided emissions, although expressed in tonnes of CO_2 equivalent, are therefore not directly comparable to absolute GHG reductions, since they are theoretically only "virtual" differences in emission levels.

Avoided emissions are the second pillar highlighted in the Net Zero Initiative framework (https://www.net-zero-initiative.com/fr) initiated in 2018 by Carbone 4, in collaboration with the World Business Council for Sustainable Development.

Building on the Net Zero Initiative, initiatives such as the **climate dividend** (1 climate dividend for the shareholder = 1 tonne of CO_2e avoided or sequestered by the company's activity) are implemented to highlight the positive impact of emissions avoided through a company's activities. The climate dividend is a **new standardised non-financial indicator that can be claimed by shareholders.** After validation of the company's eligibility, an independent third party reviews its methodology (which must comply with a standard and transparent protocol) and the volume of avoided emissions claimed. The verified emissions are then converted into climate dividends, which are distributed to shareholders based on the percentage of ownership of the company's capital via the Climate Dividends platform.

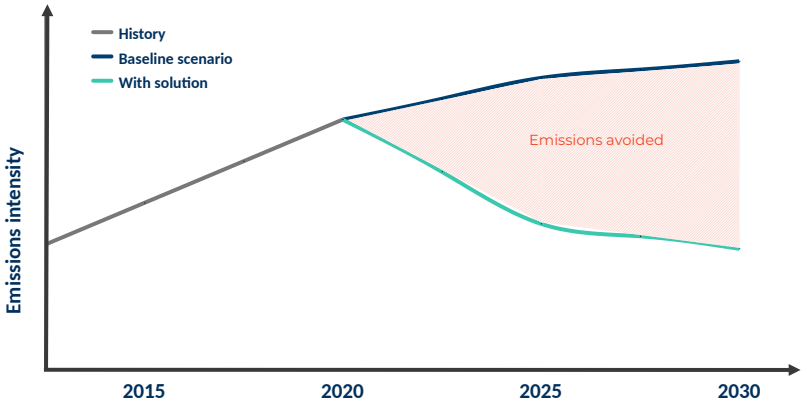


Chart 6: Illustration of the avoided emission concept

Useful sources			
Organisation / Methodology	Report / guide	Topic covered	Page
GHG Protocol	GHG Protocol	Accounting framework	p. 107
Carbone 4	Net Zero Initiative	Benchmark on companies' contribution to carbon neutrality	p.48 to 61
Carbon4 Finance	Carbon Impact Analytics CIA	Calculation of companies' avoided emissions, by sector	Carbon4finance CIA p. 2
Institut Louis Bachelier	What about avoided emissions?	Analysis of avoided emissions	p. 93
Climate Dividends Protocol	How it works (climate-dividends.com)	Details of the climate dividends method (protocol for downloading)	
ADEME	Emissions avoided: what does this mean?	Definitions, best practices, recommendations	Entire document.

120 See an example of a simplified explanation of the concept of avoided emissions https://bit.ly/458HQIS.

APPENDIX 10 : TRANSITION PLANS AND CS3D

The European Corporate Sustainability Due Diligence Directive, "CSDDD", or "CS3D"[121], was finalised in an agreement between the Council and the European Parliament on 15 March 2024[122].

Its purpose is to establish companies' obligations regarding the identification, prevention, mitigation, remediation and disclosure of the negative impacts of their activities on human rights and the environment. The due diligence obligations detailed in the final text [123] concern not only companies themselves, but also their business partners throughout their value chain.

The directive will be implemented gradually, with the following timelines [124]:

→ 3 years after its entry into force for companies with over 5,000 employees and revenue of over €1.5 billion;

→ 4 years after its entry into force for companies with over 3,000 employees and revenue of over €900 million;

→ 5 years after its entry into force for companies with over 1,000 employees and revenue of over €450 million.

As summarised by the European Parliament: "*These firms will have to integrate due diligence into their policies, make related investments, seek contractual assurances from their partners, improve their business plan or provide support to small and medium-sized business partners to ensure they comply with new obligations.*"[125]

The **CS3D and the CSRD** constitute **two sides of the same coin**[126]: the first imposes substantive obligations to limit and remedy the negative impacts of economic activities on human rights and the environment, while the second imposes obligations of form and reporting on environmental, social and governance issues. Although the information required by the ESRS is broader and more detailed than the CS3D, the latter obliges companies to take concrete action, whereas the CSRD only obliges them to disclose certain information. Companies must, after identifying, preventing and mitigating their negative impacts, publish the related information. Companies that publish a climate change mitigation transition plan in accordance with Directive 2013/34/EU are **deemed to be compliant** with the CS3D's requirement to **adopt** a climate change mitigation transition plan.

The link between the transition plans required by the CSRD and the CS3D is reflected in Article 22, entitled "Combating climate change", which establishes the need to **implement** "*a transition plan for climate change mitigation which aims to ensure, through best efforts, that the business model and strategy of the company are compatible with the transition to a sustainable economy and with the limiting of global warming to 1.5°C in line with the Paris Agreement and the target of achieving climate neutrality as established in Regulation (EU) 2021/1119, including its intermediate and 2050 climate neutrality targets, and where relevant, the exposure of the company to coal-, oil – and gas-related activities.*"[127] It should be noted that Recital 73 of the CS3D specifies that the implementation of a company's climate transition plan is an obligation of means and not of results.

121 Directive (EU) 2024/1760 of the European Parliament and of the Council of 13 June 2024 on corporate sustainability due diligence and amending Directive (EU) 2019/1937 and Regulation (EU) 2023/2859, OJEU No. L. 2024/1760, 5 July 2024, «CS3D Directive», available at https://eur-lex.europa.eu/legal-content/FR/TXT/HTML/?uri=OJ:L_202401760.

122 Council of the European Union, Press release, Corporate sustainability due diligence: Council gives its final approval, 24 May 2024, available at https://www.consilium.europa.eu/en/press/press-releases/2024/05/24/corporate-sustainability-due-diligence-council-gives-its-final-approval/?utm_source=brevo&utm_campaign=AUTOMATED%20-%20Alert%20-%20Newsletter&utm_medium=email&utm_id=320.

123 Aforementioned CS3D Directive, Art. 2 and 37.

124 Aforementioned Council of the European Union press release.

125 European Parliament, Press release, Due diligence: MEPs adopt rules for firms on human rights and environment, 24 April 2024, available at https://www.europarl.europa.eu/news/en/press-room/20240419IPR20585/due-diligence-meps-adopt-rules-for-firms-on-human-rights-and-environment.

126 Furthermore, the CSRD transition plan, where it exists, is valid as a transition plan under the CS3D. Its implementation is already addressed under the CSRD in Section E1-1 §16 (j).

127 Aforementioned CS3D Directive, Article 22.

Companies will thus have the obligation **not only to adopt but also to implement** this transition plan[128]. The transition plan thus drawn up must also comply with certain guarantees. In particular, it must include:

- time-bound targets related to climate change for 2030 and in five-year increments up to 2050, based on conclusive scientific data and, where applicable, absolute targets for reducing greenhouse gas emissions in scopes 1, 2 and 3 for all significant categories;
- a description of the identified decarbonisation levers and the key measures planned to achieve the targets mentioned above, including, where relevant, changes to the company's product and service portfolio and the adoption of new technologies;
- an explanation and quantification of investments and financing supporting the implementation of the transition plan for climate change mitigation;
- a description of the role of the administrative, management and supervisory bodies with regard to the transition plan for climate change mitigation.

128 It should be noted that the transition plan is optional in the case of the CSRD and mandatory in the case of the CS3D. Recital 73 of the CS3D states that **only an obligation of means** and not of results is applicable to the transition plan.

APPENDIX 11 : COMPARISON OF PAST PERFORMANCE WITH THE REQUIREMENTS OF 1.5°C-ALIGNED TRANSITION SCENARIOS

The analysis of the actions taken by the company **in relation to the expected changes in one or more relevant transition scenarios** provides valuable context for assessing its performance: is the company reducing its emissions at a rate compatible with the transition scenario? Is it ahead or behind **in relation to the decarbonisation levers identified**?

The transition scenarios developed at various relevant levels (global, European, national) provide an overall view of the context surrounding the company's efforts. In this regard, it is useful to take into account the regular updates of these scenarios[129]. It is also relevant, firstly, to study several scenarios in order to identify consensus or potential divergences regarding decarbonisation levers; and, secondly, to prioritise the most detailed scenarios developed by public authorities (such as the SNBC in France), since they capture specific trends and strategic choices (e.g. reindustrialisation in Europe).

From a quantitative perspective, it is possible to define, based on a sectoral decarbonisation pathway, a company's own decarbonisation pathway, expressed in intensity or in absolute emissions, and to compare the company's past pathway with this "1.5°C" pathway; see illustrative example below based on intensity pathways (see Appendix 5). This example illustrates the case of a company deviating from its commitment pathway despite decarbonisation efforts, based on data observed since the start of its commitment period in 2020.

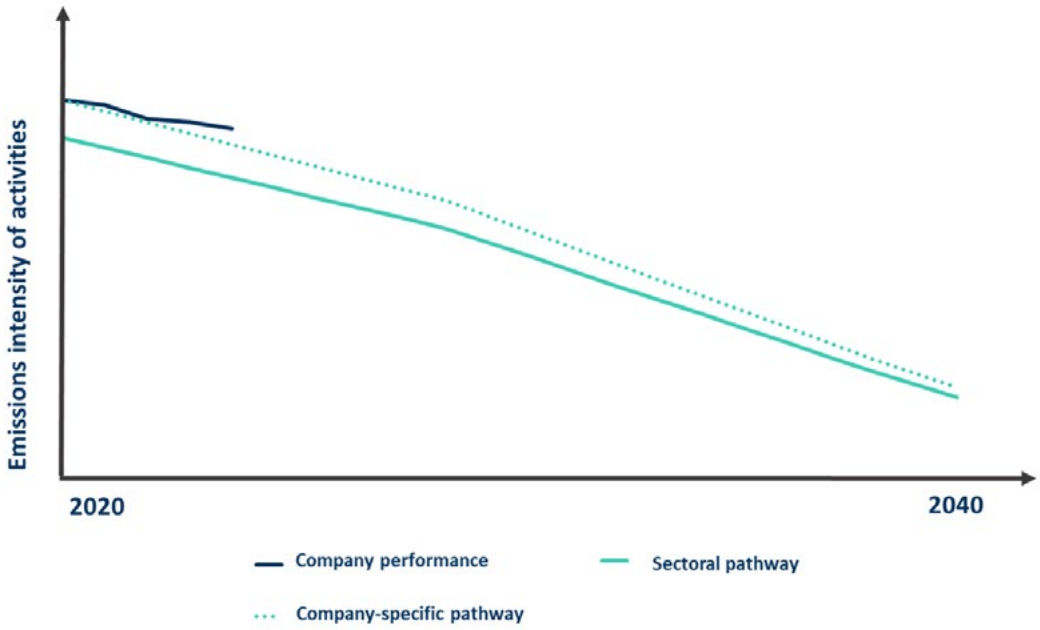


Figure 7: fictitious illustration of an analysis of past decarbonisation performance

129 For example, the IEA NZE 2050 scenario (see Appendix 5), first published in 2021, provides a relevant benchmark starting in 2019, while the 2023 version updates it for 2021-2022.

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