

Report

The Heat is On: Disclosures of Climate-Related Matters in the Financial Statements



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Executive Summary

In 2022, ESMA communicated its strategic priorities for the 2023-2028 period. Amongst these priorities, ESMA announced its commitment to enable sustainable finance by promoting high quality sustainability disclosures. While financial reporting was not explicitly referred to in the areas where immediate action was required, ESMA and European national enforcers (enforcers) have identified climate-related matters as a European common enforcement priority (ECEP) for the last three years.

As this is a nascent area, ESMA understands that assessing how climate-related matters impact financial reporting can be a challenge for issuers, auditors and users, particularly when such impacts are indirect or relate to sectors which do not appear to be immediately exposed. Although ESMA considers that International Financial Reporting Standards (IFRS) are fit for purpose and provide sufficient basis for issuers to account for and to disclose climate-related matters in financial statements, real life illustrations of disclosures may assist issuers to better communicate such impacts and investors and other stakeholders to better understand them and take them into account when making informed decisions.

This report aims to assist and to enhance the ability of issuers to provide more robust disclosures and create more consistency in how climate-related matters are accounted for in financial statements drawn up in accordance with IFRS. The report focuses on disclosures related to climate matters included in the 2022 annual financial statements of European non-financial corporate issuers. However, ESMA points out that the report does not set out best practices or prescribe the way in which the disclosure of climate-related matters should be made in the financial statements.

The first three sections outline the background, objectives as well as scope and methodology of this report. The report focuses on topics for which it is likely that climate-related matters have a higher impact. The examples of disclosures included in the report provide practical illustrations on how climate-related matters may be presented in IFRS financial statements. In doing so, ESMA highlights, in each example, key aspects and provides insights that explain why such disclosures may be useful to users of financial statements. Finally, each section includes ESMA's observations on areas of continued focus.

Finally, ESMA highlights that this report does not address disclosures prepared in accordance with sustainability reporting requirements (notably, their compliance, understandability, relevance, verifiability, comparability, and faithful representation) and to which extent the actions taken or planned by the selected issuers are sufficient to tackle climate change or lead issuers towards a sustainable path.

Next Steps

ESMA expects issuers (including their management, supervisory boards and audit committees) and auditors to consider the illustrative examples of this report when considering how to assess and disclose the degree to which climate-related matters play a role into the preparation and auditing of IFRS financial statements. Particularly, ESMA encourages issuers to consider the observations in the areas for continued focus that accompany the disclosure excerpts presented in this report, and not to concentrate excessively on the facts and circumstances presented by the examples (which are highly specific to the entities).

Finally, ESMA stresses that the guidance addressing climate impacts is not exhaustive and is developing at a fast pace. Issuers should closely follow the developments of standard setters in this area, and their connection with sustainability reporting.

List of Acronyms

AFR	Annual Financial Report, comprising the audited financial statements, the management report (including the non-financial information statement) and management's responsibility statement
CGU	Cash Generating Unit
CO₂	Carbon Dioxide
ECEP	European Common Enforcement Priorities
EEA	European Economic Area
EFRAG	European Financial Reporting Advisory Group
ESEF	European Single Electronic Format
ESMA	European Securities and Market Authority
Enforcers	National Enforcers in the European Economic Area
ESRS	European Sustainability Reporting Standards
EU ETS	European Union Emissions Trading Scheme
IAS	International Accounting Standards
IASB	International Accounting Standards Board
ISSB	International Sustainability Standards Board
IFRS	International Financial Reporting Standards
IFRS IC	International Financial Reporting Standards Interpretations Committee
Issuer	Legal entity whose securities are admitted to trading on EEA regulated markets
NCA	National Competent Authority
OAM	Official Appointed Mechanism
P&L	Statement of Profit or Loss
R&D	Research & Development
ViU	Value-in-Use



Disclaimer

This report has been compiled by ESMA in joint work with enforcers. The descriptions and disclosure extracts in this report do not constitute guidelines, best practices, or illustrations of a single approach on how to disclose the impact of climate-related matters in an issuer's IFRS financial statements. The report presents disclosure examples solely based on the extent to which the examples or parts thereof could be considered informative, understandable, and entity specific. Issuers are ultimately responsible for compliance with IFRS principles.

Given that, in most cases, ESMA and enforcers did not carry out an examination of the information included in the examples, these examples should not be taken as an indication of the compliance of the underlying information with IFRS. ESMA and enforcers neither provide a view nor do they endorse how the issuers from whom disclosure extracts have been included in the present report have applied IFRS standards in the financial statements with regards to recognition, measurement, and presentation requirements.

Finally, the report does not assess whether the roadmap or the actions that issuers plan to undertake are sufficient to achieve their own climate-related targets, commitments or any other regulatory requirements set out at national, European or international level. In this report, ESMA and enforcers do not make any assessment as to whether the issuer's actions, operations or activities should be labelled as sustainable or are sufficient to move towards a sustainable path.

NOTE: *The extracts of the disclosures included in this report were drawn from the English-language PDF versions of the 2022 annual financial reports (AFR) publicly available on the issuers' website, which are variants of the official versions compliant with the ESEF Regulation – European Single Electronic Format (ESEF). Also note that, in multiple instances, this English-language version of the AFR is a translation from the original language of the issuer's AFR. In the event of any discrepancy, the original language version prevails.*

1 Background

1. The pervasive nature of climate change has sprouted increasing concerns from investors about the economic ramifications on issuers' prospects. Issuers are urged by investors, governments and the public in general to assess climate-related matters that they are facing and to reflect such impacts in the financial statements. While climate is not explicitly referred to in IFRS, issuers must consider climate risks and opportunities when applying IFRS standards. To this effect, the International Accounting Standards Board (IASB) recently re-published an educational material: *Effects of climate-related matters on financial statements*¹, which highlights potential impacts and required disclosures to be provided in financial statements to reflect the effects of climate related matters.
2. Disclosures of climate-related matters in financial statements have been an area of focus for ESMA and enforcers. In the last three years, ESMA and enforcers have identified climate-related matters as an ECEP, both in relation to financial and non-financial information². Issuers, auditors and audit committees have been asked to pay particular attention to the topic and to ensure transparency on how climate-related matters affect an issuer's performance, financial position and cash flows.
3. At the end of March 2023, ESMA published its annual report on *Corporate reporting enforcement and regulatory activities*³. Results of the 2021 ECEP showed that there is significant room for improvement in relation to disclosures of climate-related matters in IFRS financial statements. More recently, ESMA published a progress report on greenwashing⁴. In light of these publications, ESMA urges issuers to continue enhancing the information that they disclose to enable investors to make informed decisions, to prevent greenwashing and to contribute to investor protection.
4. This report, building on the IASB's educational material and ESMA's ECEP statements, aims to offer a practical and real-life illustration of how selected European non-financial corporate issuers have reflected the effects of climate-related matters into their 2022 annual financial statements. ESMA urges issuers to consider the examples of this report and the insights provided by ESMA when preparing and auditing the 2023 annual financial statements.
5. Finally, ESMA notes that, as climate-related matters evolve over time, other areas not addressed in this report or in the ECEP may become relevant. Similarly, climate-related impacts, which in the past were considered immaterial, may become material or more acute. It is, therefore, paramount that all relevant stakeholders (especially issuers) continue to closely monitor the developments arising from climate-related matters⁵ and to assess if, how and with what intensity such developments affect their activities, operations and, consequently, their financial reporting.

¹ [IASB Educational Document](#), Effects of climate-related matters on financial statements, July 2023. (republished).

² [ESMA32-63-1186](#), European common enforcement priorities for 2021 annual financial reports, 29 October 2021.

[ESMA32-63-1320](#), European common enforcement priorities for 2022 annual financial reports, 28 October 2022.

[ESMA32-63-193237008-1793](#), European common enforcement priorities for 2023 annual financial reports, 25 October 2023.

³ [ESMA32-63-1385](#), 2022 Corporate Reporting Enforcement and Regulatory Activities Report, 29 March 2023

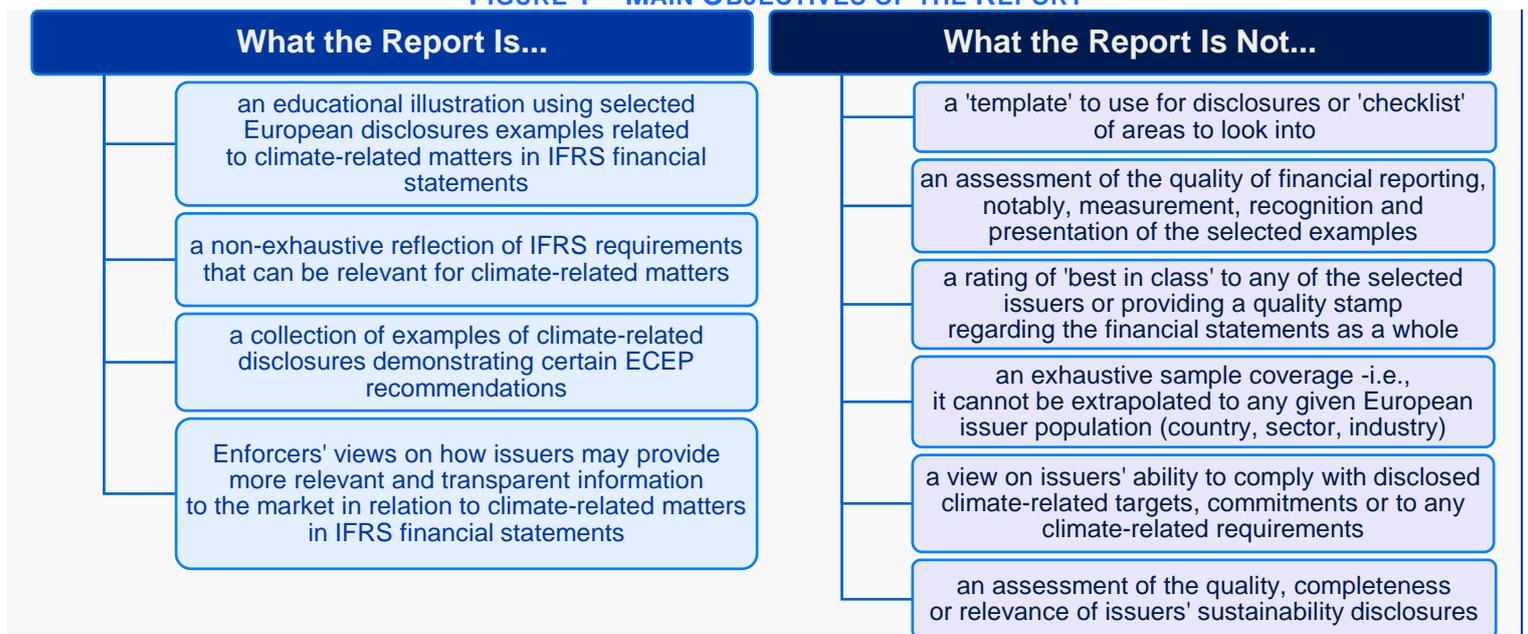
⁴ [ESMA30-1668416927-2498](#), Progress Report on Greenwashing, 31 May 2023

⁵ The IASB has announced that it will explore ways to improve reporting of climate-related and other uncertainties in the financial statements, such as developing educational materials, illustrative examples and targeted amendments to IFRS, please see [here](#).

2 Objectives

6. The report identifies and highlights practical examples from selected issuers' 2022 AFRs, pertaining to disclosures of climate-related matters in financial statements, to illustrate aspects of past recommendations and requirements published by ESMA, enforcers and the IASB. The report aims to contribute to issuers' developments of how to disclose climate-related matters into IFRS financial statements, and by doing so, generally improve the quality of their financial reporting. Although the report draws from other areas of the AFR when illustrating connectivity (see also [Scope and Methodology](#)), it does not focus on disclosures in the sustainability report or the management report. In this respect, ESMA believes that the financial statements should stand on their own: users of the financial statements should not need to consult the non-financial information included elsewhere in the AFR to understand the current financial impacts of climate-related matters.
7. Figure 1 provides a brief snapshot of what the report is aiming to achieve, and what it is not:

FIGURE 1 – MAIN OBJECTIVES OF THE REPORT



8. The report aims to demonstrate potential (but not the only) ways to disclose climate-related matters in the financial statements. Issuers should adapt their disclosures to their own specificities, business models, activities, and characteristics. When doing so, issuers should consider the notion of materiality included in IFRS and further illustrated by the IASB in its IFRS Practice Statement 2 *Making Materiality Judgements* published in 2017⁶. This non-mandatory guidance includes an overview of the general characteristics of materiality, presents a four-step materiality assessment process and provides helpful guidance on how to make materiality judgements in specific circumstances.

⁶ [IASB, IFRS Practice Statement 2 Making Materiality Judgements](#), September 2017.

9. Nevertheless, ESMA emphasises that, in accordance with paragraph 7 of IAS 1 *Presentation of Financial Statements*, information is considered material if omitting, misstating, or obscuring it could reasonably influence decisions that the primary users of financial statements make based on those financial statements. This implies that issuers, when assessing materiality, should consider what primary users of financial statements consider relevant for their decision-making process, which should comprise quantitative and qualitative considerations.

3 Scope and Methodology

10. This report addresses the following key topics:

FIGURE 2 – SELECTED TOPICS



11. The report focuses on areas where the implications of climate-related matters are expected to be the most material for the preparation of financial statements. However, the list is not intended to be exhaustive. Issuers should assess if climate-related matters affect other areas or topics when preparing their financial statements.
12. The following figure summarises the main principles used by ESMA and enforcers to select disclosure excerpts from issuers' financial statements for the purposes of this report.

FIGURE 3 – HIGH-LEVEL PRINCIPLES USED FOR SELECTING DISCLOSURE EXTRACTS

Entity-specific	The disclosure appears to be tailored to the issuer's specificities
Simple and clear	Relevant information is put forward in a clear and simple manner that is easy to follow
Organised and well-formatted	The information is organised in clear paragraphs and appears to be presented in a suitable format (narrative, tabular, etc.)
Quantifications	Assumptions and impacts are quantified to allow investors to understand their effect
Consistency within the financial statements	The information seems to be consistent across the different areas of the financial statements without compromising usefulness, yet avoiding repetition ⁷

The concept of connectivity

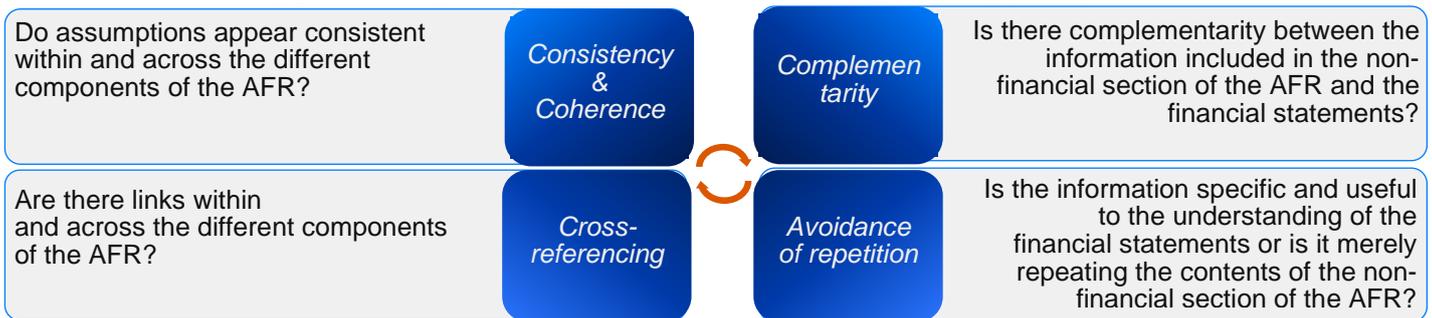
13. The concept of connectivity, as it relates to information included in financial statements and non-financial reporting, is currently a topic of research and discussion across several standard setters, most notably the IASB, the International Sustainability Standards Board

⁷ Note that the IFRS only allow cross-references to other sections of the AFR, including the management report, in the context of IFRS 7 *Financial Instruments Disclosures*. Cross-references to other sections of the AFR can be used to avoid repetition or to link to other information disclosed outside financial statements but they cannot be used for compliance purposes.

(ISSB) and European Financial Reporting Advisory Group (EFRAG)⁸. This ongoing work is expected to set out a definition of connectivity and articulate criteria for ensuring transparency, coherence and decision-usefulness of information across AFRs.

14. In the absence of a formal framework to assess connectivity and in order to identify examples related to connectivity, ESMA and enforcers assessed the disclosures across issuers' AFRs against the following principles underpinning connectivity between financial statements and non-financial information:

FIGURE 4 – HIGH-LEVEL PRINCIPLES USED TO IDENTIFY CONNECTIVITY⁹



Sample selection

15. The report includes disclosure extracts from the 2022 AFRs of non-financial corporate issuers selected from nine sectors across nine EU/EEA countries. The report does not address financial institutions. The nine industries or sectors were selected based on several criteria, including but not limited to, the expected exposure to climate-related matters. However, other industries, sectors or activities may be equally exposed to climate-related matters. Therefore, ESMA urges issuers to assess their exposure to climate-related matters and adapt the messages of this report to the specificities of their industries, sectors and activities.
16. Figure 5 below outlines the sectors of the issuers that were selected for the purpose of this report (see also [Annex I](#)):

FIGURE 5 – SECTORS OF SELECTED SAMPLE



17. Finally, the availability of an entity-issued version of the 2022 AFR in the English language was a prerequisite¹⁰ in the sample selection.

⁸ [IASB and ISSB](#), *Connectivity—what is it and what does it deliver?*, 23 March 2023 and [EFRAG](#), *Connectivity between Financial and Sustainability Reporting Information: Suggested scope and approach of EFRAG Research project*, 8 February 2023

⁹ See also footnote 7

¹⁰ In multiple instances, the English-language version of the AFR is the issuer's translation from the original language of the AFR. In the event of any discrepancy, the original language version prevails.

4 Selected Topics

18. Each section starts with a snapshot of the relevant areas impacted by climate-related matters and the applicable accounting requirements which ESMA's study focused on, followed by illustrations of related current disclosures.
19. The examples should be read together with the key areas for continued focus. These highlight potential next steps for improvement, which may go beyond specific IFRS requirements¹¹. Such points stem from the review of a larger sample of extracts of 2022 AFRs (not exclusively based on the examples included in this report) and the examinations carried out in the last years by enforcers. Issuers, including those selected for this report, should consider the examples as well as these points to further improve the quality and transparency of the disclosures provided.

4.1 Significant judgements, major sources of estimation uncertainty and accounting policies

4.1.1 Accounting requirements to consider

IAS 1 – Presentation of Financial Statements

Paragraphs 17c), 25-26, 31, 112, 122-124, 125-133

Climate-related matters may be relevant for multiple areas of an issuer's financial statements (especially for entities operating in the most impacted sectors). Such matters may weigh in on an issuer's significant judgements and major sources of estimation uncertainty, as well as on uncertainty regarding going concern. IAS 1 outlines the disclosure requirements behind such significant judgements and major sources of estimation uncertainty.

Judgements and accounting policies

Issuers are required to disclose information about the significant judgements (apart from those involving estimations) that an issuer's management has made in the process of selecting and applying accounting policies and that have the most significant effect on the amounts recognised in the financial statements. Where issuers make significant climate-related judgements, issuers should consider disclosing the impact of the climate matters.

Estimates and assumptions

IAS 1 requires disclosure of information about assumptions and other major sources of estimation uncertainty at the end of the reporting period that have a significant risk of resulting in a material adjustment to the carrying amounts of assets and liabilities within the

¹¹ Notwithstanding the proscribed in paragraphs 31 and 112(c) of IAS 1 *Presentation of Financial Statements*.

next financial year. When climate risks may lead to a significant material adjustment, issuers should consider providing additional disclosures about key assumptions to enable users to assess the impact of such climate risks on the issuer's financial position, financial performance and cash flows.

Particularly, issuers are required to provide disclosures regarding major sources of estimation uncertainty (for example, in sensitivity analyses), which explain how the issuer has incorporated the uncertainties in the estimates supporting the financial statements and the sensitivities disclosed.

Finally, issuers are reminded that IAS 1 also require them to disclose information not specifically required by IFRS standards and not presented elsewhere in the financial statements, when such information is relevant to an understanding of the impacts of particular transactions, other events and conditions, or of the financial statements.

4.1.2 From principles to practice: relevant examples from selected issuers

20. The following extracts illustrate some potential ways to disclose information regarding the climate-related assumptions and significant judgements made which may result in a material adjustment in either the short or long term.
21. Traton SE, an automotive company, disclosed the effects of climate change and transition to electric mobility in its 2022 annual financial statements, allocating a separate sub-section to the topic in the discussion of estimates and management's significant judgements.

EXAMPLE 1 – TRATON SE

Pages 151-152

ESMA emphasis added in *Orange*



6. Estimates and management's judgment

(...)

Business performance

(...)

Additionally, an expansion in electric mobility is also projected in all segments in the five-year planning (see also the "Effects of climate change" section). The cornerstone for the electrification of the commercial vehicle industry in Europe was laid in 2022 with the establishment of the Milence joint venture. The purpose of the joint venture, which the TRATON GROUP established together with Daimler Truck and the Volvo Group, is the development of a charging infrastructure for heavy-duty trucks and coaches. The planning for MAN Truck & Bus also includes the positive impact of the realignment program initiated in 2021. Another goal is to guide Navistar to new strength. The measures for doing this range from using the powerful component and technology setup within the TRATON GROUP and expanding the Financial Services business, all the way to further leveraging one of largest independent dealer and service network in the North American market, to which Navistar already has access. The fact that Volkswagen Truck & Bus is becoming more international was also factored into the planning. **Overall, these assumptions led to an expected improvement in the growth rates in the core markets and in operating return on sales (adjusted) up to 2027 across all cash-generating units to which goodwill is allocated.**

Effects of climate change

(...)

In the course of **preparing the consolidated financial statements, in particular for the five-year planning and hence the derivation of future cash flows for impairment testing, the potential impact of future regulatory requirements, in particular of the associated transition to electric mobility, was taken into account.** In Europe, for example, the European Union has mandated a reduction in CO2 emissions for new heavy-duty commercial

Disclosure of information regarding business performance and the transition to electric mobility; includes the qualitative impacts that transition plans are expected to have on the issuer's activity.

vehicles over 16t within the current decade in Regulation (EU) 2019/1242. **Using a standardized procedure, the CO2 emissions of the vehicles in question must be cut by 15% by 2025 and 30% by 2030, compared with a reference value from an observation period running from July 2019 to June 2020. If these emissions targets are not met, it is possible that penalties will be imposed.** Additionally, China has also set targets for reducing truck CO2 emissions, and Brazil has submitted proposals to reduce the fuel consumption of heavy-duty commercial vehicles. The TRATON GROUP is also exposed to a possible further tightening of CO2 and oxides of nitrogen (NOx) emissions regulations in the USA. **The TRATON GROUP is preparing the electrification of its product portfolio to reflect the regulatory timetables for its brands. Our aim is for zero-emission vehicles to make up around half of all sales across all segments and regions in 2030** — provided the necessary regulatory mechanisms and infrastructure are in place.

It is technically challenging and expensive to adapt commercial vehicles to new emissions standards. To meet European Union and North American targets, it is imperative to use new technologies that reduce CO2 and exhaust emissions. **TRATON is therefore investing to a substantial extent in climate-friendly alternative drive systems, primarily battery electric commercial vehicles. The research and development expenses associated with the technology shift toward electric mobility total €2.6 billion for the period 2021 to 2026.** In turn, TRATON is scaling back its investments in traditional drives to less than one-fifth of product development costs in 2026. **No impact on the useful lives of capitalized development costs or items of property, plant, and equipment was identified in light of the observation period of regulatory requirements and because of the parallel production of battery electric vehicles and vehicles with combustion engines in the next few years. Liabilities resulting from emission limits being exceeded do not currently play any role.** However, the increased development activity in the field of electric mobility resulted in a corresponding increase in recognized (intangible assets) and nonrecognized (cost of sales) development costs.

Disclosure includes judgements and estimations used by the management that are more sensitive to climate risks, such as future cash flows (reflecting transition to e-mobility) and reduction of carbon dioxide (CO₂) emissions.

Disclosure of challenges faced (such as potential non-compliance with commitments) and issuer's actions to overcome such challenges by investing in R&D (quantification of R&D costs until 2026 to shift to electric vehicles).

22. Naturgy Energy Group SA, a multi-utilities company, included a summary of climate-related objectives incorporated into the issuer's strategic plan and presented a rather structured set of disclosures of the main estimates and accounting judgements made in relation to such climate-related objectives as well as risks, by asset group.

EXAMPLE 2 – NATURGY ENERGY GROUP SA

Pages 39-42

ESMA emphasis added in **Orange**



k. Climate change and the Paris Agreement

(...)
 The **main estimates and accounting judgements** made by Naturgy's management and directors when preparing the 2022 consolidated annual accounts related to the **expected effects of climate change and the energy transition** are described below.

1. Recoverability of non-financial assets

As described in Note 2.4.6., **the cash flow projections used** in the non-financial asset impairment tests are based on the best available forward-looking information and reflect the investment **plans in place in each CGU at the time for maintaining the CGUs' operating capacity**. These projections are in line with Naturgy's strategy that takes into consideration the objectives of the Paris Agreement and have therefore been prepared based **on the range of economic conditions that might exist in the foreseeable future in relation to climate change and the energy transition**. The projections have taken into account **the expected impact on wholesale and retail electricity market prices resulting from the entry into operation of new renewable generation facilities and developments in gas, oil and emission allowance prices, as well as expected demand**.

(...)

2. Group's main assets subject to climate change and energy transition risk:

Coal-fired power plants

As mentioned above, in 2022 and 2021 the **Group has not generated any coal-fired electricity due to the closure in the first half of 2020 of all Naturgy's coal-fired power plants**. These facilities are fully depreciated/provisioned at 31 December 2022. **Their decommissioning** commenced following the closure and is **expected to be completed by the end of the first quarter of 2025**.

Combined cycle gas power plants

Reference to the alignment of cash flow projections with the issuer's strategy, including the expected impact on electricity prices of renewables.

In Spain, it is important to bear in mind that the operation of these plants is included in the Integrated National Energy and Climate Plan (PNIEC), aligned with the European objective of achieving climate neutrality by 2050 [...] At 31 December 2022, **the carrying value of these fixed assets is Euros 1,942 million, of which Euros 994 million relates to combined cycle plants** in Spain. The carrying value of the total combined cycle generation facilities in Spain is **estimated for 2030, 2040 and 2050 at Euros 522 million, Euros 219 million and zero**, respectively. The carrying value, excluding goodwill, of the combined cycle plants in Mexico is estimated for 2030, 2040 and 2050 at Euros 613 million, Euros 289 million and zero, respectively. **The use of external projections based on lower energy prices compared with the assumptions used by Naturgy and indicated in Note 4 could have an impact on the recoverability of the carrying value of these assets recognised in the balance sheet at 31 December 2022. See the sensitivity analysis in Note 4 below.**

Disclosure of the issuer's exposure to climate change and energy transition risks, key assumptions and sensitivity analysis for each main asset group.

Hydroelectric power plants

(...)

Renewable energy assets

At 31 December 2022, **the carrying value of these fixed assets is Euros 4,999 million, of which Euros 4,141 million relates to assets in Spain. The main perceived risk is the potential negative future evolution of solar and wind resources, which are the key variables in the performance of this line of business.** There may also be reductions in the **remuneration arrangements for renewable energies and lower prices** in marginal wholesale markets due to an increase in renewable production with reduced variable costs. **In the impairment tests for 2022, no changes in the remuneration arrangements yet to be approved have been considered and the forecasts for solar and wind resources have been taken into account.**

Electricity and gas transportation and distribution assets

(...)

Supply

(...)

The Group considers that the **opportunities arising from the decarbonisation** of the global economy (growth in renewables, investment in smart integrating grids, transport electrification, green hydrogen, etc.) **outweigh the risks.**

23. With the aim of facilitating investor's access to information regarding material climate-related matters in financial statements, ESMA has also encouraged issuers to provide all information related to climate matters in one single note or to map out where the different notes address such matters. In one table, electricity company Enel S.p.A. summarises and references information that was included across the annual financial statements and which covers areas that are impacted or may be impacted by climate-related matters in the future.

EXAMPLE 3 – ENEL SPA

Pages 298; 326

ESMA emphasis added in *Orange*



2.1 Use of estimates and management judgment

(...)

With regard to the effects of climate change issues, the Group believes that **climate change represents an implicit element in the application of the methodologies and models used to perform estimates in the valuation and/or measurement of certain accounting items.** Furthermore, the Group has also taken account of the impact of climate change in the **significant judgments made by management.** In this regard, the main items included in the consolidated financial statements at December 31, 2022 affected by management's use of estimates and judgments refer to the impairment of non-financial assets and obligations connected with the energy transition, including those for decommissioning and site restoration of certain generation plants. **For further details on these items, see note 19 "Property, plant and equipment", note 24 "Goodwill", and note 40 "Provisions for risks and charges".**

(...)

5. Climate change disclosures

(...)

Short summary mentioning how climate change impacts the issuer's financial information.

Considering the risks related to climate change and the commitments established under the Paris Agreement, the Group has decided to achieve the carbon neutrality objectives in advance and reflect its impact on assets, liabilities, and profit or loss, highlighting its significant and foreseeable impacts as required under the Conceptual Framework of the international accounting standards. In this regard, in accordance with the provisions of the document published by the IFRS Foundation on November 20, 2020, **the Group provides explicit information in the notes to these consolidated financial statements regarding how climate change is reflected in our accounts.**

(...)

Mapping of different notes addressing climate change matters.

Topic	Note	Content
Estimates and judgments concerning climate change	Note 2.1 "Use of estimates and management judgment"	<ul style="list-style-type: none"> Reference to management's use of estimates and judgments with regard to climate change (taking account of their materiality within financial reporting). Focus on estimating expected cash flows from specific assets/CGUs (section: "Impairment of non-financial assets"). Focus of the effects of the Group's commitments under the Paris Agreement and their impact on the estimation of the useful life of the assets involved (section "Determining the useful life of non-financial assets").
Sustainable investment	Note 19 "Property, plant and equipment" Note 23 "Intangible assets"	<ul style="list-style-type: none"> Focus on assets involved in renewable generation, infrastructure connected with the development of the grid and investment in expanding the e-Mobility, e-City, e-Industries, and e-Home businesses. Focus on the development of intellectual property for achieving strategic objectives such as decarbonization, electrification and the development of platform models.
Measurement of non-financial assets	Note 12.e "Depreciation, amortization and other impairment losses" Note 19 "Property, plant and equipment" Note 24 "Goodwill"	<ul style="list-style-type: none"> Focus on the effects related to the commitments of the Group in line with the Paris Agreement with regard to the measurement of non-financial assets, with particular regard to the residual useful life of certain assets and impairment testing.
Provisions	Note 40 "Provisions for risks and charges"	<ul style="list-style-type: none"> Focus on the impact of climate change on provisions for risks and charges, in particular generation plants, including those for decommissioning and restoration of sites, and provisions for restructuring plans linked to the energy transition (which include decarbonization and digitization).
Sustainable finance	Note 48.3 "Borrowings" Note 59 "Events after the reporting period"	<p>Focus on:</p> <ul style="list-style-type: none"> issues of sustainability-linked bonds connected with the achievement of sustainability objectives in line with the SDGs issued by the United Nations; green bonds used to finance specific sustainable Group projects and initiatives; sustainable loans connected with the achievement of Sustainable Development Goals (SDGs).
Share-based payments	Note 53 "Share-based payments"	<ul style="list-style-type: none"> Description of long-term incentive plans anchored to achievement of specific climate-related targets.
Environmental compliance	Note 12.f "Other operating expenses"	<ul style="list-style-type: none"> Description of costs relating to environmental compliance required by national and international regulations, in particular for greenhouse gas emission quotas, green certificates and energy efficiency certificates.
	Note 40 "Provisions for risks and charges" Note 2.2 "Significant accounting policies"	<ul style="list-style-type: none"> Description of costs generated by not having sufficient environmental certificates to meet environmental compliance regulations. Description of accounting treatment of environmental certificates (sections: "Environmental certificates" and "Inventories").

4.1.3 Adding perspective: Connectivity across the AFR in relation to significant judgements, major sources of estimation uncertainty and/or accounting policies

24. Air Liquide SA, a chemicals company, disclosed its commitments and strategy put in place in relation to climate objectives in its non-financial statement of its 2022 AFR. Where those commitments and strategy had or were expected to have in impact on financial information, Air Liquide included such information inside its financial statements.

EXAMPLE 4 – AIR LIQUIDE SA

Pages 40; 310-311

ESMA emphasis added in **Orange**



Financial Statements

31.4 Transition Risk – Greenhouse Gas Emissions (...)

Air Liquide's actions to limit transition risk impacts include:

Scope 2 reduction:

- Related to the **424 large air gas production units or ASUs**, (scope 2 emissions) mainly by using renewable electricity: the deployment of the Group's actions in the 10 countries with the greatest potential will significantly reduce scope 2 emissions. Since 2018, Air Liquide has already signed **13 renewable energy supply contracts** for an estimated annual quantity of 1.724 GWh/y (in a full year after start-up of renewable production units). As the **ASUs are almost all electrified, they do not require any specific investment for the transition, because emission reduction will be managed through renewable energy purchase.**

- **Energy costs, including renewable energy costs do not represent any financial risk as they are 100% passed-through to the customer according to the terms of the 15 years or more contracts.**

Scope 1 reduction:

- Related to the **62 large hydrogen production units or SMRs**, (scope 1 emissions), by capturing CO₂. Air Liquide masters a complete portfolio of proprietary technologies for capturing CO₂. Thus, advanced Cryocap™ CO₂ capture technology equipment has been in industrial operation since 2015 on a hydrogen production unit in France. The Group **was recently selected for financing via European subventions for two carbon capture projects on SMRs. Thus, the decarbonization of the Group's 10 largest SMRs will reduce scope 1 emissions by more than 40%**. No dismantling of existing SMRs before the end of the contract is necessary to achieve the Group's climate objectives.

- The innovation capacity and technological know-how of Air Liquide's teams enable the Group to offer cleaner and more sustainable solutions to reduce its own emissions and those of its industrial customers. The Group focuses on technologies for climate solutions and energy transition. In 2022, Air Liquide had more than 350 patent families on hydrogen. **The Group's Innovation expenses amounted to 308 million euros in 2022, including more than 100 million dedicated to climate.**

- The demand for low-carbon industrial gas at a higher price is growing and makes it possible to remunerate the investment necessary for the decarbonization of Air Liquide's assets, in particular for the production of hydrogen, as well as any additional costs linked to the supply of renewable electricity. In addition, financing programs in the form of subsidies or tax credits are also implemented in Europe and more recently in the United States in order to support, during a transition period, the decarbonization of existing industrial assets and new units of production. Therefore, there is no indication of impairment for the related assets.

Non-financial Information

CLIMATE OBJECTIVES

The timeline below summarizes the Group's decarbonization objectives:



Assets and Climate Risks

The main Group assets that impact the CO₂ footprint are:

- **424 large Air Gas production Units**, oxygen and nitrogen in particular, which do not generate direct emissions but require electricity. The CO₂ emissions linked to this electricity are accounted for in Scope 2;

- **62 large hydrogen production units, which consume Natural Gas and emit CO₂ accounted for in Scope 1.**

- In the Large Industries business, each air gas or hydrogen production unit **is linked to a long-term customer contract, lasting 15 to 20 years. Assets are amortized over the duration of the contract, which limits the risk of impairment.**

- Solutions have already been implemented to decarbonize existing production units:

- for air gases (Scope 2 emissions) mainly by using low-carbon electricity: the deployment of actions in the 10 countries with the greatest potential will significantly reduce Scope 2 emissions. Since 2018, Air Liquide has already signed **13 renewable power purchase agreements for about 460 MW**. As these assets are more than 95% already electrified, they do not require any specific investment for the transition;

- for hydrogen production units or "SMR" (Scope 1 emissions), by capturing CO₂. (...) **The Group was recently selected for financing via European funds for two carbon capture projects on SMRs. The decarbonization of the Group's 10 largest SMRs will reduce Scope 1 emissions by more than 40%**. No dismantling of existing SMRs before the end of the contract is necessary to achieve the Group climate objectives (...)

- **Energy costs (electricity for air gases and natural gas for SMRs) and those related to CO₂ emissions (e.g. ETS scheme in Europe) are re-invoiced 100% to the customer** in the frame of a long-term contract. The Group also applies this business model to

- Costs related to CO₂ emissions (ex ETS scheme in Europe) are 100% passed-through to the customer according to the terms of the 15 years or more contracts. The Group also applies this business model to the supply of low carbon industrial gas, therefore Air Liquide does not bear the risk associated with energy and CO₂ costs.

The potential impacts of transition risk have been analyzed in the context of the 2022 Group's Financial Statements closing, based on the above-mentioned facts and assumptions. **No significant impact has been identified, either on the useful life or on the value of the assets, on the client portfolio or on the cash flows generated by existing activities or on provisions for risks and charges.**

the supply of low-carbon gas, so Air Liquide does not bear the risk associated with energy and CO₂ costs. (...) **The sensitivity study shows that, depending on the geography and the context, a price starting from 80 to 150 euros per tonne of CO₂ encourages the customer to decide toward the supply of low-carbon hydrogen.** This price can be explicit or integrated into regulatory obligations on the carbon footprint of end products. (...)

The potential impacts of the risk related to the energy transition were analyzed as part of the closing of the Group's financial statements (see note 31 to the Consolidated financial statements – page 309) and no significant impact was identified, mainly for the reasons mentioned above. (...)

Financial impacts broken down by CO₂ emissions scope consistent with the disclosures of commitments presented in the non-financial statements as well as with explanations for (not) recognising any provision or financial impact.

4.1.4 Focus on CO₂ Emissions Trading Schemes: relevant examples from selected issuers

25. There is a lack of specific guidance under IFRS for how to account for carbon dioxide (CO₂) emission allowances under an emissions trading scheme or renewable energy certificates, whether allocated for free, or traded. In the last ECEP Statement, ESMA has called for transparency in the accounting treatment applied regarding carbon and greenhouse gas emission trading schemes.
26. Equinor ASA, an energy company, described its accounting policies related to EU Emissions Trading System (EU ETS) allowances and disclosed the assessment underpinning how it had considered the impact of the allowances on its 2022 financial statements.

EXAMPLE 5 – EQUINOR ASA

Pages 140-143

ESMA emphasis added in **Orange**



Note 3. Consequences of initiatives to limit climate changes

Accounting policies - cost of CO₂ quotas

Purchased CO₂ quotas under the EU Emissions Trading System (EU ETS) are reflected at cost in Operating expenses as incurred in line with emissions. Accruals for CO₂ quotas required to cover emissions to date are valued at market price and reflected as a current liability within Trade, other payables and provisions. Quotas owned, but exceeding the emissions incurred to date, are carried in the balance sheet at cost price, classified as Other current receivables, as long as such purchased quotas are acquired in order to cover own emissions and may be kept to cover subsequent years' emissions. Quotas purchased and held for trading purposes are carried in the balance sheet at fair value, and the changes in fair value are reflected in the Consolidated statement of income on the line-item Other income. (...)

Impact on Equinor's financial statements

CO₂-cost and EU ETS carbon credits

Our oil & gas operations in Europe are part of the EU Emission Trading Scheme (EU ETS). Equinor buys EU ETS allowances (quotas or carbon credits) for the emissions related to our oil & gas production and processing. Currently we receive a share of free quotas according to the EU ETS regulation. The share of free quotas is expected to be significantly reduced in the future.

Total expensed CO₂ cost related to emissions and purchase of CO₂ quotas in Equinor related to activities resulting in GHG emissions (Equinor's share of the operating

Information regarding which line items in the balance sheet and statement of profit or loss (P&L) are affected by the accounting of CO₂ costs.

Description of the accounting policies applied in the treatment of CO₂ quotas, mention of consumption, acquisition and free allocated quotas.

licences in addition to our land-based facilities) amounts to **USD 510 million in 2022, USD 428 million in 2021, and USD 268 million in 2020**. A large portion of the cost of CO₂ in Equinor is related to the purchase of EU ETS quotas. The table below shows an analysis of number of quotas utilised by Equinor's operated licences and land-based facilities subject to the requirements under EU ETS:

Number of EU ETS quotas	2022	2021
Opening balance at 1 January	11,026,286	11,027,242
Allocated free quotas	3,697,089	3,560,286
Purchased quotas on the ETS market	5,985,000	7,605,265
Sold quotas on the ETS market	0	(135,177)
Settled quotas (offset against emissions)	(9,925,999)	(11,031,330)
Closing balance at 31 December	10,782,376	11,026,286

(...)

Effects on estimation uncertainty

(...)

Commodity prices

Equinor's **commodity price assumptions applied in value-in-use impairment testing, are set in accordance with requirements in IFRS and based on management's best estimate of the development of relevant current circumstances** and the likely future development of such circumstances. **This price-set is currently not equal to a price-set required to achieve the goals in the Net Zero Emissions (NZE) by 2050 Scenario, nor a price-set in accordance with the Announced Pledges Scenario as defined by the International Energy Agency (IEA)**. A future change in the trajectory of how the world acts with regards to implementing actions in accordance with the goals in the Paris agreement could, depending on the detailed characteristics of such a trajectory, **have a negative impact on the valuation of Equinor's property, plant and equipment in total**. A calculation of a possible effect of using the assumed commodity prices and **CO₂ prices in a 1.5°C compatible NZE by 2050 Scenario as estimated by IEA could result in an impairment of upstream production assets and intangible assets around USD 4 billion before tax**, see the sensitivity table below.

Similarly, we have calculated the possible effect of using prices according to the Announced Pledges Scenario, a scenario which is based on all of the climate-related commitments announced by governments around the Globe. **Using this scenario, the world is expected to reach a 1.8°C increase in the year 2100, and this could result in an impairment of less than USD 0.5 billion before tax using the same simplified model**, see the sensitivity table below.

(...)

Cost of CO₂

The EU ETS price has increased significantly from 25 EUR/tonne in 2020. The average cost of EU ETS allowances was 81 EUR/tonne in 2022 (54 EUR/tonne in 2021). The price is expected to remain high, in the region of **80 EUR/tonne for the next couple of years. Then the price is expected to be 105 EUR/tonne in 2040 and thereafter increasing to 130 EUR/tonne in 2050**. As such, Equinor expects greenhouse gas emission costs to increase from current levels and to have a wider geographical range than today, and a global tax on CO₂ emissions **will have a negative impact on the valuation of Equinor's oil and gas assets**. Currently, Equinor pays CO₂ fees in Norway, the UK, Germany and Nigeria. Norway's Climate Action Plan for the period 2021-2030 (Meld. St 13 (2020-2021)) which assumes a gradually increased CO₂ tax (the total of EU ETS + Norwegian CO₂ tax) **in Norway to 2,000 NOK/tonne in 2030 is used for impairment calculations of Norwegian upstream assets**.

Equinor's response to this risk is evaluation of carbon intensity on both project and portfolio level in our investment and divestment decisions. **We have also introduced an internal carbon price, currently set at 58 USD/tonne and increasing towards 100 USD/ tonne by the year 2030** and staying flat thereafter (in countries with higher carbon costs, we use the country specific cost expectations), to be used in our investment decisions. This cost-scenario is uncertain, but this extra cost serves as a placeholder for possible future CO₂ pricing systems, making sure our assets are financially robust in such a scenario. As such, climate considerations are a part of the investment decisions following Equinor's strategy and commitments to the energy transition.

Climate considerations are also included in the impairment calculations directly by estimating the CO₂ taxes in the cash flows. Indirectly, the expected effect of climate change is included in the estimated commodity prices where supply and demand are considered. **The CO₂ prices also have effect on the estimated production profiles and economic cut-off of the projects. Impairment calculations are based on best estimate assumptions**. To

Potential impacts of +1.5°C by 2050, and +1.8°C by 2100 on assets valuations and sensitivities for different external climate scenarios.

Assumptions regarding CO₂ emission costs by geographies in impairment tests and sensitivity analysis.

reflect that carbon will have a cost for all our assets, the current best estimate is considered to be EU ETS for countries outside EU where carbon is not already subject to taxation or where Equinor has not established specific estimates.

(...)

	Management's price assumptions ¹⁾	NZE by 2050 scenario	Announced Pledged Scenario
Brent blend, 2030	75 USD/bbl	40 USD/bbl	71 USD/bbl
Brent blend, 2040	70 USD/bbl	34 USD/bbl	69 USD/bbl
Brent blend, 2050	65 USD/bbl	28 USD/bbl	67 USD/bbl
TTF, 2030	9.5 USD/MMBtu	5.0 USD/MMBtu	8.5 USD/MMBtu
TTF, 2040	9.0 USD/MMBtu	4.5 USD/MMBtu	7.7 USD/MMBtu
TTF, 2050	9.0 USD/MMBtu	4.1 USD/MMBtu	6.8 USD/MMBtu
EU ETS ^{2), 3)} , 2030	94 USD/tCO ₂	152 USD/tCO ₂	146 USD/tCO ₂
EU ETS ^{2), 3)} , 2040	124 USD/tCO ₂	222 USD/tCO ₂	189 USD/tCO ₂
EU ETS ^{2), 3)} , 2050	153 USD/tCO ₂	271 USD/tCO ₂	216 USD/tCO ₂
Illustrative potential impairment (USD)		~ 4.0 billion	< 0.5 billion

- 1) Management's future commodity price assumptions applied when estimating value in use, see [note 14](#) Impairments
 2) Scenarios: Price of CO₂ quotas in advanced economies with net zero pledges, not including any other CO₂ taxes
 3) EU ETS price assumptions have been translated from EUR to USD using Equinor's assumptions for currency rates, EUR/USD = 1,176

Consideration of CO₂ prices as a key assumption in value in use calculations. Steady decrease of Brent prices.

27. Solvay SA, a chemicals company, described its accounting policies regarding to the treatment of CO₂ emission rights, presenting these as inventories or derivatives depending on its use.

EXAMPLE 6 – SOLVAY SA

Page 317

ESMA emphasis added in *Orange*



NOTE F25 INVENTORIES

Accounting policy

Cost of inventories includes the purchase, conversion and other costs incurred in bringing the inventories to their present location and condition. The cost of inventories is determined by using the weighted average cost method.

(...)
CO₂ emission rights
With respect to the mechanism set up by the European Union to encourage manufacturers to reduce their greenhouse gas emissions, carbon dioxide (CO₂) emission rights are granted to the Group for free. The Group is also involved in Clean Development Mechanism (CDM) under the Kyoto protocol. Under these projects, the Group has deployed facilities in order to reduce greenhouse gas emissions at the relevant sites in return for Certified Emission Reductions (CER).

In the absence of any IFRS regulating the accounting treatment of CO₂ emission rights, the Group applies the Trade/Production model, according to which CO₂ emission rights are presented **as inventories if they will be consumed in the production process within the next 12 months**, or as derivatives if they are held for trading. Energy Services is involved in CO₂ emission rights' trading, arbitrage and hedging activities. **The net income or expense from these activities is recognized in "other operating gains and losses" (a) for the industrial component, where Energy Services sells the excess CO₂ emission rights generated by Solvay or where a Group deficit is recognized, as well as (b) for the trading component, where Energy Services acts as a trader/broker with respect to those CO₂ emission rights.**

In light of its centralized CO₂ emission rights' portfolio management, for emission rights that are substitutable between subsidiaries, the Group's financial statements reflect the Group's net position. If this net position is negative, a provision is recognized, measured based on the market price of the CO₂ emission rights at reporting date.

(...)
The CO₂ emission rights amount to €57 million at the end of 2022. €16 million are included in the inventories (for 2022 obligations) and €41 million are reported under Other non-current assets (for obligations after 2022). (...)

Inventory write-downs are included in cost of goods sold in the consolidated income statement.

Information regarding the accounting policy for CO₂ emission rights.

Indication of the impacts on the financial statements and which line items are affected.

4.1.5 Areas for Continued Focus



To keep in mind

- a) Where it could be reasonably expected by users that climate-related matters may have **a financial impact on financial statements** (such as the recognition of impairment losses or provisions, or the revision of the useful lives of assets), issuers (in particular, those belonging to sectors most exposed to climate) should consider disclosing **the assessments made, assumptions used** (including the time horizon), and the **conclusions reached**. This information may need to be provided regardless of whether such assessments lead to changes in the useful lives of assets, to the recognition of impairment losses, provisions or the disclosure of contingent liabilities.
- b) When it is expected that the commitments and plans announced (such as issuers' commitments to Net Zero) will impact financial information, issuers should consider disclosing **inside the financial statements the risks and major sources of uncertainty** related to these commitments and plans with a **quantification** of each element, as well as potential **mitigating actions** to address any risks identified.
- c) Issuers should consider complementing the disclosures surrounding major judgements and estimations with **information about material exposures to climate-related matters**. For example, issuers may consider quantifying and disclosing (i) the carrying amounts of assets (e.g., by main group of assets or geographies) and/or liabilities and, where possible, separately distinguishing its exposure due to physical and/or transition risks, (ii) which line items in the balance sheet and/or the P&L are more likely to be affected if climate matters materialise (iii) and whether sensitivity analyses are necessary.
- d) Issuers should ensure consistency between (i) the **judgements and estimates** disclosed in the financial statements and the **related uncertainties**, (ii) the **information** included **in other notes** to the financial statements (e.g., impairment of non-financial assets) and (iii) the **information** disclosed with regards to **climate-related risks and uncertainties in the management report** and the **non-financial statements** (e.g., CO₂ emissions).
- e) Given the lack of IFRS guidance regarding the accounting treatment on CO₂ licences, certificates and trading schemes, issuers should consider disclosing the **accounting policies used for the recognition** (e.g., which IFRS standard they apply), **measurement** (e.g., how prices/costs are determined, use of internal/external sources) and **presentation** (which line items are affected in the balance sheet and the P&L) of such topics. To this end, issuers should consider disclosing the **main movements during the year** (e.g., acquisitions, sales, consumption) separately. In this respect and considering paragraph 32 of IAS 1,

See also...

[2021 ECEP](#)
[2022 ECEP](#)
[2023 ECEP](#)

[2021 ECEP](#)
[2022 ECEP](#)

[2022 ECEP](#)

[2021 ECEP](#)
[2023 ECEP](#)

[2023 ECEP](#)

issuers **should not offset assets and liabilities** (e.g., CO₂ quotas owned, acquired and used) unless required or permitted by an IFRS.

- f) Issuers are encouraged to provide all information required to be disclosed under IFRS on climate-related matters **in one single note or to map out** where the such matters are addressed in different notes.
- g) Finally, issuers should carefully consider providing a **balanced and consistent presentation** of climate-related disclosures made in other areas of the AFR and the **climate-related assumptions and estimates** disclosed specifically in the financial statements.

[2021 ECEP](#)
[2022 ECEP](#)

[2021 ECEP](#)
[2022 ECEP](#)

4.2 Impairment of non-financial assets

4.2.1 Accounting requirements to consider

IAS 36 – Impairment of Assets

Paragraphs 9-14, 30, 33, 44, 130, 132, 134-135

IAS 36 sets out the overarching principles and related requirements for when issuers must estimate recoverable amounts to assess both the impairment of non-financial assets such as property, plant and equipment, right-of-use assets, intangible assets, as well as goodwill. At the end of each reporting period, issuers must assess whether there is any indication of impairment. This assessment must take into account any external information related to significant changes in the operational environment (for example, the introduction of emission-reduction legislation, changes on consumer's behaviours) of the issuer which could give rise to an adverse effect on the issuer.

Under IAS 36, value-in-use (ViU) measurement involves estimating future cash flow projections for an asset in its current condition to be derived from its continuing use. Cash flow projections should be based on reasonable and supportable assumptions that represent the management's best estimates of future economic conditions. This may entail considering whether climate-related matters may affect the underpinning assumptions. Additionally, where applicable, IAS 36 also require disclosures of the events and circumstances that led to the recognition of an impairment loss and details regarding the key assumptions used in the estimation of assets' recoverable amounts and possible changes in those assumptions.

Furthermore, IAS 36 foresees specific sensitivity analysis requirements, particularly when a reasonably possible change in a key assumption related to a CGU's recoverable amount can lead to the carrying amount of the CGU to exceed its recoverable amount.

4.2.2 From principles to practice: relevant examples from selected issuers

4.2.2.1 Impairment testing using value-in-use (ViU)

28. In the following example, electricity company Endesa SA provides information regarding the assumptions used in impairment testing and a description on the impacts of climate matters in impairment testing.

EXAMPLE 7 – ENDESA SA

Pages 237-240

ESMA emphasis added in *Orange*



f.2. Calculation of recoverable amount

(...)
 In estimating value in use, Endesa prepares **pre-tax cash flow projections based on the latest budgets available**. These budgets include Endesa management's **best estimates of the income and expenditure of the CGUs according to industry projections, past experience and future expectations**. These projections **cover the next three years, while future cash flows until the end of the useful life of the assets**, taking into account the residual value, if any, and applying reasonable growth rates that do not, in any case, increase or exceed growth rates for the industry.

(...)

f.3. Main assumptions used in determining value in use

(...) the approach used to assign value to the key assumptions considered has taken into account the following items and/or parameters:

(...)

- Average rainfall and wind potential levels: forecasts are drawn up on the basis of the average **weather conditions in a year, taking account of historical conditions series. However, the actual rainfall and wind potential levels of the preceding year were used for the first year of the projection, adjusting the average year accordingly.** (...)

- Assumptions for energy sale and purchase prices are made based on complex specifically developed internal forecast models. **The pool price is estimated taking into account different scenarios regarding the expected trend or performance in a series of determining factors such as the costs and productions of the different technologies, electricity demand, commodity prices and other market and macroeconomic variables, and, as a result of these models, the most likely scenario is considered.** For these purposes, the performance of the electricity pool price primarily affects the Iberian Peninsula Generation Cash Generating Unit (CGU) (...)

- **Energy transition scenarios and climate change impacts used in the valuation models** (see Note 5.1). (...)

The key assumptions used to determine value in use under the impairment tests of non-financial assets as at 31 December 2022 (2023–2025 Strategic Plan) are as follows:

Tabular presentation of some quantified assumptions related to climate risks (including CO₂ prices) throughout the three years business plan.

	2023	2024	2025
Price of Brent (\$/bbl)	93	80	70
Carbon dioxide (CO ₂ /€/t)	84	89	91
TTF gas price (€/MWh)	110	110	66
PVB gas price (€/MWh)	90	80	61
Electricity demand – Iberian Peninsula (TWh)	242	252	258
Consumer Price Index (CPI) (average) (%)	4,4	1,9	1,8
Growth in Gross Domestic Product (GDP) Spain (%)	1,5	2,9	2,0
Arithmetic average daily electricity market price (€/MWh)	177	154	117

f.4. Impairment test

(...)

At 31 December 2021, **the recoverable amount of the assets of the Non-mainland Territories ("TNP") of the Balearic Islands, Canary Islands, Ceuta and Melilla were re-estimated, taking into account, among other aspects, the expected situation of the commodity markets (fuel and carbon dioxide (CO₂) emission rights) and the costs expected to be recovered for these items in accordance with the planned regulation, as well as the estimated changes in the structure of future generation and their effects on thermal generation.** As a result of this re-estimation, **an impairment of the Cash Generating**

Units (CGUs) was recorded for each of the Non-mainland Territories (“TNP”) of the Balearic Islands, Canary Islands, Ceuta and Melilla for a total amount of Euro 652 million (see Notes 15 and 20.3).

Mainland coal-fired thermal power plants

At 31 December 2022, **an impairment charge of 30 million Euro has been recognised** for the Los Barrios Port Terminal (Cádiz), **considering as a time horizon the current concession of the Terminal, which ends in 2032**. The request to extend the aforementioned concession until 2057, which is based on the investment in the execution phase of the Liquefied Natural Gas (LNG) project at the Terminal, is pending resolution (see Notes 15 and 20.3). (...)

Recognition of impairments due to future evolution in the commodity markets (fuel and CO₂ emission rights) and the non-renewal of the power plant.

29. In the following example, industrial metals and mining company Imerys SA provides relevant information on the exposure of assets to physical risks and how these risks were considered in impairment tests.

EXAMPLE 8 – IMERYS SA

Pages 213; 238

ESMA emphasis added in **Orange**



Exposure to climate risks.

Given their geographic location, the Group’s entities may potentially be exposed to physical risks related to climate change, such as flooding, heat waves, wildfires and droughts. At December 31, 2022, the carrying amount of these sites represented **10.2% of the Group’s consolidated assets (2.5% at December 31, 2021)**. Criteria for the identification of these sites are described in Note 19.

(...)

Note 19 Impairment Tests

(...)

Furthermore, Imerys **calculated its sensitivity to risks arising from climate change with respect to the global warming scenario of +2°C by 2050**, as projected by the International Energy Agency (IEA) in its Stated Policies Scenarios published in the World Energy Outlook in 2019. Executive Management selected this scenario, which represents one of the three trajectories modeled by the IEA, **for the sensitivity tests as it is deemed to be reasonably possible. Risks accounted for in this model are heat waves as identified by the S&P Global Trucost Assessment, wildfires as identified by the FM Global Assessment and the Angström index and drought as identified by the Water Risk Filter of the World Wild Fund for Nature and the Deutsche Investitions- und Entwicklungsgesellschaft. Sites included in the sensitivity exercise are those where risks are recognized as uninsurable in the long term, based on the most recent information available at December 31, 2022** as well as those which are usually insurable, but are **specifically recognized as uninsurable due to specific climate conditions**. On this basis, Executive Management **has estimated the frequency of planned closure for each site, as well as the corresponding cash flow losses**.

As summarized in the table below, the sensitivity calculated in the mid case scenario indicates, in Performance Minerals, Asia Pacific (PMAPAC) excluding G&C, **an impairment of -€12.5 million in the event of a 1.00% increase in the discount rate and an impairment of -€4.5 million in the event of a 1.00% decline in terminal growth rates. However, the sensitivity calculated on risks and opportunities arising from climate change did not indicate any impairment.**

(...)

Quantitative information regarding tangible assets’ exposure to climate risks.

Details of sensitivity analysis performed to risks arising from climate change with respect to **2°C by 2050**.

Disclosure of the external sources used and rationale for selecting this source.

30. Telia Company AB, a telecommunications company, does not belong to a sector that immediately appears to be most exposed to physical climate change or net-zero transition risk. Nevertheless, the issuer disclosed the processes followed and assessments made when verifying how climate-related matters impact key assumptions in the ViU calculations considered in impairment test models:

EXAMPLE 9 – TELIA COMPANY AB

Page 165

 ESMA emphasis added in *Orange*

Impairment testing

(...)
 The key assumptions in the value in use calculations were **sales growth, Adjusted EBITDA margin development, the weighted average cost of capital (WACC), CAPEX-to-sales ratio (CAPEX excluding Right-of-use assets), and the terminal growth rate of free cash flow. CAPEX for Right-of-use assets has been considered in the impairment test model.**

(...)
Approved forecasts consider potential significant climate related risks (as well as other types of risks in Telia Company's Risk Universe) and the group's ongoing and future mitigating activities. **Climate related risks are considered through, for example, the sales growth forecasts which include offerings based on circular business models (e.g., pre-owned phones, Device as a Service and buy back initiatives to enable reuse and recycling) and products and services that enable our customers to reduce GHG emissions and energy use (e.g., remote meetings, IoT and other data-driven services).**

Further the EBITDA-margin and CAPEX-to-sales forecasts include impacts of higher energy prices and Telia Company's activities to manage the energy impacts and costs, including:

- **increasing energy efficiency through new network hardware and power saving features.**
- **managing power consumption through decommissioning legacy networks and modernizing sites, for example copper-based access is replaced with mobile and fiber connectivity and relevant units are placed outdoors to reduce the need of cooling and**
- **using renewable electricity when powering our operations covered by Guarantees of Origins or secured through long-term Power Purchasing Agreements for solar and wind and looking for alternatives to remaining fossil-based energy sources.**

The **CAPEX-to-sales forecasts are considering that investment decisions are preceded by environmental screening of energy consumption, waste and GHG emissions**, which in turn affects for example product and service development and network construction. The group-wide re-use and recycling program for network equipment is part of the forecasts.

(...)

Disclosures on how climate-risks were considered in impairment testing (narrative information of sales growth forecasts, energy costs), even though the impact of climate risks did not lead to an impairment.

4.2.2.2 Sensitivity Analysis

31. The following subsection provides illustrations on how climate risks were considered when preparing sensitivity analyses as required by IAS 36.
32. In the following example, chemicals company Arkema SA provides information regarding the assumptions used in sensitivity analysis in particular the potential impact that the increase of CO₂ prices may have on EBITDA and consequently in the determination of the recoverable amounts of different CGUs.

EXAMPLE 10 – ARKEMA SA

Page 323

 ESMA emphasis added in *Orange*

8.5 Asset value monitoring

(...)
 Sensitivity analyses carried out at 31 December 2022, evaluating the impact of reasonable changes in the basic assumptions – in particular the impact of a 1-point increase in the discount rate, or of a change of minus 0.5 of a point in the perpetuity growth rate, **or minus 10% in EBITDA, or plus 20% in capital expenditure – confirmed the net carrying amounts of the different CGUs, excluding the Hydrogen Peroxide CGU, for which the assumption of a change of plus 20% in capital expenditure would lead to impairment losses of up to €20 million.**

In addition, **these EBITDA and capital expenditure sensitivity analyses include any climate related impacts in terms of increases in the price per tonne of CO₂ and additional investments enabling the Group to meet its target to reduce its Scope 1 and 2**

Sensitivity analysis to an increase in CO₂ prices and investments required to meet CO₂ emission targets.

greenhouse gas (GHG) emissions and its Scope 3 emissions by 46% by 2030 relative to 2019. This target is supported by an increase in investments contributing to decarbonization, which could **reach €400 million by 2030 and which is included in the Group's recurring capital expenditure budget.** (...)

33. In the following example, energy company ENI S.p.A. provides information regarding the assumptions used in its sensitivity analysis in particular the potential impact that the increase of CO₂ emission prices will have on the determination of the recoverable amounts of different CGUs. It also establishes a link between their Net Zero Emission strategy and the assumptions used in impairment testing.

EXAMPLE 11 – ENI S.P.A.

Pages 283-285

ESMA emphasis added in *Orange*



15 Reversals (Impairments) of tangible and intangible assets and right-of-use assets.

Sensitivity of outcomes to alternative scenarios.

The recoverability test of carrying amounts of Oil & Gas cash generating units (CGUs) **is the most important of the critical accounting estimates in the preparation of Eni's consolidated financial statements.** This owes to the relative weight of the invested capital in the sector on total consolidated assets.

Future expected cash flows associated with the use of Oil & Gas assets are based on management's judgment and subjective evaluation about **highly uncertain matters like future hydrocarbons prices, assets' useful lives, projections of future operating and capital expenditures, including CO₂ emission costs** relating to geographies where legal obligations are present, the volumes of reserves that will ultimately be recovered and costs of decommissioning Oil & Gas assets at the end of their useful lives.

Forecasts of hydrocarbons prices adopted by Eni are based on the review of the fundamentals of supply and demand in the long term, considering the possible evolution of the global energy mix by 2050 in relation to the decarbonization commitments of the countries and the EU in view of the **achievement of the goals of the Paris Agreement, the pace of the energy transition**, global economic and demographic growth, the evolution of technologies and the evolution in consumers' preferences. These assumptions are reflected in the corporate strategies and investment decisions, as well as being used in recoverability assessments of the carrying amount of oil & gas projects.

(...)
 Below are the **main price assumptions** for assessing the recoverability of Oil & Gas assets, expressed in 2021 real terms.

	2023	2025	2030	2040	2050
Brent \$/bbl	73	63	62	53	43
TTF natural gas price \$mmBtu	23.5	13.5	6.0	6.0	5.3

(...)
 Considering **the subjectivity of the assumptions underlying the estimates of the VIU, management has elaborated the following sensitivity analysis of the Oil & Gas CGUs values to different scenarios: (i) a linear cut of -10% of hydrocarbon prices in all the years of the cash flows projections; (ii) the projections of hydrocarbon prices and CO₂ costs of the decarbonization scenario Net Zero Emission 2050 (NZE 2050) elaborated by IEA.** Those sensitivity analysis included assets of all consolidated entities, joint ventures and associates, excluding Vår Energi ASA, Azule Energy Holdings Ltd and an asset under arbitration procedure. The results of the sensitivity test in terms **of changes in the cumulated headroom of Oil & Gas CGUs and potential pre-tax income statement impacts are provided below:**

Consistency (according to the issuer) of CO₂ price assumptions with the goals of the Paris Agreement.

Sensitivity analysis to CO₂ prices and information of the headroom versus carrying amounts (ENI and IEA NZE 2050 scenarios).

	Value in use of the O&G CGUs Headroom vs. Carrying amounts		Assumption at 2050 in real terms USD 2021		
	tax-deductible CO ₂ charges	non tax-deductible CO ₂ charges	Brent price	European gas price	Cost of CO ₂
Eni's scenario	>100%	-	43 \$/bbl	5.3 \$/mmBTU	CO ₂ costs projections in the EU/ETS + projections of forestry costs
10% haircut of Eni's prices assumptions	80%	-	39 \$/bbl	4.8 \$/mmBTU	CO ₂ costs projections in the EU/ETS + projections of forestry costs
IEA NZE 2050 scenario	55%	49%	24 \$/bbl	3.8 \$/mmBTU	250-180\$ per tonne of CO ₂ (*)

Sensitivity - 10% to Eni prices assumptions

(€ billion)

Exploration & Production assets

Sensitivity

(0.7)

Hydrocarbon prices and CO₂ costs of the IEA NZE 2050 scenario

(€ billion)

Exploration & Production assets

Sensitivity

Tax-deductible CO₂ charges

Non tax-deductible CO₂ charges

(2.1)

(2.8)

34. In the following example, constructions & materials company Saint-Gobain SA provides information regarding the assumptions used in its sensitivity analysis and, in particular, the potential impact that the increase of CO₂ prices has on the determination of the recoverable amounts of different CGUs. It also indicates the sources for such price assumptions estimations.

EXAMPLE 12 – SAINT-GOBAIN SA

Pages 277-278

ESMA emphasis added in **Orange**



Note 3 Climate issues

(...)

Basis of measurement applicable to assets incorporating the cost of emissions per tonne of CO₂

The Group's commitments to carbon neutrality were taken into account when carrying out the sensitivity tests as part of the annual impairment testing of its cash-generating units (CGUs).

(...)

For the European Union scope, the Group has calculated projected CO₂ emissions reductions up to 2030 based on detailed roadmaps by activity, taking into account historical business levels, a factor reflecting exposure to the risk of carbon leakage, and a cross-sector adjustment factor, as well as the stock of CO₂ emissions allowances held at the end of December 2022.

It should be noted that the annual sensitivity tests for 2022 also factored in the assumption dated December 18, 2022 put forward by the European Council and Parliament regarding carbon market reform, according to which free CO₂ emissions allowances granted to industry under the European Union Emissions Trading Scheme (EU ETS) would be gradually phased out between 2026 and 2034 (100%), with 2.5% phased out by 2026, 5% by 2027, 10% by 2028, 22.5% by 2029 and 48.5% by 2030.

These CO₂ emissions were valued on the basis of a euro price per tonne resulting from a panel of 11 analysts as of November 11, 2022 (source: Carbon Market Pulse Limited, an independent private company based in London).

(in euros/tonne)	2023	2024	2025	2026	2030
Average (11 analysts)	77	90	103	120	140

Narrative information about the specific regulations regarding CO₂ emissions considers CO₂ prices used for Europe (external source) and non-Europe (internal source) between 2023-2030.

For the **non-Europe scope, tonnes of CO₂ emitted were priced in the tests as from 2023 assuming a fixed price of €75 per tonne until 2030** and no government support schemes such as CO₂ emissions allowances. **This assumption of €75 per tonne is consistent** with the application of an internal carbon price set by Saint-Gobain, and is conservative in that few countries outside Europe have so far defined a price per tonne of carbon.

In addition to the action plans rolled out at its production sites, the Group has set two internal carbon prices:

- **€75 per tonne for major industrial investment projects** and investments related to a change in energy source;
- **€150 per tonne for R&D** investment in breakthrough technology, particularly “low carbon” projects.

(...)
Sensitivity tests were carried on the Group’s assets across all of its industrial activities (excluding Distribution and the recent Chryso/GCP and Kaycan acquisitions).

The discounted future cash flows, calculated on the basis of the three-year business plan (2023-2025) were extrapolated to 2029 and then impacted by the projected cost of CO₂ emissions net of the free emissions allowances received. These discounted cash flows were compared with the net value of the assets at December 31, 2022 (property, plant and equipment, intangible assets and working capital).

As a result of the sensitivity tests performed based on the aforementioned assumptions, no impairment would be recognized against the Group’s non-current assets, since the headroom (€20.4 billion), i.e., the difference between discounted future cash flows and the net value of the assets tested (€20.9 billion) is significantly positive. (...)

Sensitivity analysis considers the impacts of CO₂ price forecasts in cash flows up to 2029.

4.2.3 Adding perspective: Connectivity across the AFR in relation to impairment of non-financial assets

35. In the following example, chemicals company BASF SE connects the assumptions used in impairment tests with the information included in management report regarding sustainability.

EXAMPLE 13 – BASF SE

Pages 83; 164; 242-244

ESMA emphasis added in **Orange**



Financial Statements

14 Intangible assets

(...)
The fundamental transformation of the automotive industry will have a significant impact on the emissions catalyst business, which belongs to the Catalysts (excluding battery materials) cash-generating unit. Because there were no material changes in planning assumptions from the previous year, **the growth rate for perpetual annuity remained unchanged at -0.7%**. In the planning period, the **demand for catalysts is still expected to remain stable as a result of higher environmental standards**. In the medium term, the transition from combustion engines to electromobility will lead to a steady decline in demand.

(...)
After determining the recoverable amounts for the cash-generating units, the conclusion was that reasonable possible deviations from the key assumptions would not lead to the carrying amount of any unit exceeding the respective recoverable amounts **except in the Catalysts (excluding battery materials) and Surface Treatment divisions, which are allocated to the Surface Technologies segment**.

(...)
A weighted cost of capital after taxes of 7.75% (2021: 6.63%) and an EBITDA margin in the last detailed planning year as the basis for calculating the final value of 29.60% were used for the annual

Non-financial Information

Surface Technologies

(...)
The segment’s sales decrease was mainly attributable to significantly lower volumes in the Catalysts division’s precious metal trading business. Volume growth in the chemical and refinery catalysts businesses was unable to compensate for this. Sales volumes were significantly higher in the Coatings division, mainly due to improved supply chain conditions in North America and the government stimulus program in China.

Financial Opportunities and Risks

Impairment Risks

(...)
Climate policies are also causing fundamental changes in the automotive industry, one of BASF’s key customer industries. The transition to electromobility **will have a long-term negative impact** on the emissions catalyst business. This development was accounted for **in the adjustment of the growth rate for the goodwill impairment test and did not lead to an impairment**. Other BASF businesses will benefit from this transformation; for example, demand for innovative lightweight components and battery materials will grow.

impairment test of the Catalysts (excluding battery materials) cash-generating unit. The recoverable amount for this unit exceeded the carrying amount by €179 million. The recoverable amount would be equal to the unit's carrying amount if the weighted average cost of capital rose by 0.25 percentage points, the growth rate were 0.66 percentage points lower, or the EBITDA margin in the last detailed planning year as the basis for calculating the final value were 1.07 percentage points lower.

Quantification of the growth rate (e.g., negative in one segment) in the accounts.
Explanation that climate risks affect a business segment indirectly (i.e., the issuer is a supplier of companies directly exposed to climate change).

36. In the following example, electricity company Uniper SE connects the assumptions used in impairment tests and the recognition of impairment charges with the information included in management report regarding its coal phase-out strategy.

EXAMPLE 14 – UNIPER SE

Pages 132; 220; 224

ESMA emphasis added in **Orange**



Financial Statements

(17) Impairment Testing in Accordance with IAS 36

(...)

Non-current assets:

Intangible assets, property, plant and equipment, including right-of-use assets, and groups of these assets, as well as companies accounted for under the equity method, are tested for impairment as indicated at the level of the individual asset or the CGU. Impairment testing of the aforementioned assets or CGUs is performed whenever there are indications of impairment. In the European Generation segment, **for example, the tests are based on remaining useful life, which can be shorter than the technical useful life specifically in coal-fired power plants, due to measures taken in specific countries to mitigate climate change, and on other plant-specific valuation parameters.** Uncertainties relating to a variable regulatory environment are generally accounted for by means of scenario evaluations. Recoverable amounts were usually determined using the value in use.

(...)

Some of the **coal phase-out pathways already adopted in specific countries have been considered accordingly in the impairment tests performed.** In cases where Uniper sees the use of fossil energy sources ending early, this has been reflected accordingly. **No fossil-fuel power plants were modeled Group-wide from 2050 forward.** In the European Generation segment, a 50% reduction of Scope 1 and Scope 2 emissions by 2030 (compared with 2019 levels) and climate neutrality by 2035 were applied in the modeling. In the Global Commodities CGU, a 35% reduction of indirect (Scope 3) carbon emissions by 2035 (compared with 2021 levels) and climate neutrality (in terms of Scope 1 through Scope 3) from 2050 were planned and modeled.

(...)

Full-Year Presentation for 2022

(...)

The most substantial individual impairment in the European Generation segment in the 2022 fiscal year in terms of amount related to the Datteln 4 hard-coal power plant and amounted to €87 million. Aside from the price-driven adjustments made in the context of regular medium-term corporate planning that reflected the impact of the

Non-financial Information

Decarbonizing the Coal and Gas Business

In 2022, Uniper's coal-based power production in Europe amounted to 17.3 TWh, which is a decrease of 1.3 TWh from 2021. The temporary security of supply measures has impacted Uniper's original coal exit path. Nonetheless, Uniper remains committed to its decarbonization pledge: **Aligned with its coal phase-out strategy and relevant national legislations, Uniper will end coal-fired power generation in the United Kingdom by 2024, in the Netherlands by 2029, and in Germany by 2026 with the divestment of the Datteln 4 hard-coal-fired power plant.**

(...)

increased cost of carbon and the costs incurred for climate neutrality, among other factors, revised regulatory and legal as well as political assessments resulted in these impairment losses at year-end. (...)

Disclosure highlights the link between the abandonment of coal-fired power plants and the recognition of impairment.

4.2.4 Areas for Continued Focus



To keep in mind

See also...

- a) Depending on the sectors and significance of the environmental regulations, issuers might need to consider **reassessing** if the **CGUs (or a group of CGUs)** that have been used historically are still appropriate considering **challenges and opportunities arising from climate-related matters** (such as the ones arising from changes in business models).
- b) Issuers should consider disclosing how climate-related matters were considered in the **estimation of future cash flows, discount or growth rates** (for instance, whether they expect that climate-related matters may lead to an increase of costs in the future, such as increase of costs of energy, CO₂ prices, or to potential reductions of revenues). Issuers should consider explaining **the growth rate in perpetual annuity or, where applicable, the discount rate¹² used**, especially when they belong to sectors or report segments highly exposed or affected by climate-related matters.
- c) When determining the value in use, issuers should consider, as far as practicable, providing **quantified disclosures regarding key assumptions** related to climate matters (e.g., CO₂ prices per geography - Europe vs. outside Europe, commodities prices). To this end, issuers should consider disclosing information on **how such key assumptions were determined**. In this respect, greater weight shall be given to **external evidence** (for example, an external vs. an internal source of such key assumptions).
- d) Issuers may consider using **multiple future scenarios when estimating the future cash flows of a CGU** (i.e., when considering scenarios linked to physical risks on assets, such as the impact of +2°C, rainfall or drought projections). When this is the case, issuers should consider providing **disclosures** on how these **assumptions/scenarios were incorporated in cash flows projections** and their respective probabilities of occurrence.
- e) When issuers include **capital expenditures** arising from climate-related matters in future cash flows used in the value in use impairment test, they should consider

[2021 ECEP](#)
[2022 ECEP](#)
[2023 ECEP](#)

[2021 ECEP](#)
[2022 ECEP](#)
[2023 ECEP](#)

[2022 ECEP](#)

[2022 ECEP](#)

¹² When climate risks have been considered in the discount rate.

explaining how such decisions reconcile with the provisions included in IAS 36 that forbid the inclusion of estimated cash flows expected to arise from future restructuring, improvements or enhancements to assets.

- f) Where relevant, issuers should consider including **sensitivity analyses regarding key assumptions related to climate matters** (e.g., CO₂ prices, commodities prices). Whenever sensitivity scenarios deviate significantly from market-based scenarios (such as those published by IEA), issuers should consider providing **explanations supporting the use of such diverging elements** (e.g., why the issuer decided to use internal assumptions). In this respect, issuers may also consider disclosing **sensitivity analyses and/or the headroom of CGU(s)** if the issuer would have used market-based scenarios and/or assumptions.

4.3 Useful lives of tangible and intangible assets

4.3.1 Accounting requirements to consider

IAS 16 – Property, Plant and Equipment / IAS 38 – Intangible Assets

IAS 16: Paragraphs 7, 51, 73, 76 / IAS 38: Paragraphs 9-64, 102, 104, 118, 121, 126

As climate change is impacting the world on multiple dimensions, this may prompt issuers to adapt or change business models, operations and research and development to remain viable and relevant, all of which entails costs. Accounting for such adaptations or changes, and accompanying expenditures, are guided by the requirements of IAS 16 and IAS 38, which specify the accounting treatment for recognising costs as assets and prompts the review of estimated residual (terminal) values and expected useful economic lives of assets at least every financial year-end.

Climate-related matters are also relevant considerations from the perspective of IAS 16 and IAS 38 given that they might incur potential changes to the amount of depreciation or amortisation that is recognised in current or future periods. Since certain assets may become obsolete, inaccessible or subject to legal restrictions as a result of climate change, the estimated residual (terminal) value and expected lives of assets are therefore potentially impacted. Issuers need to disclose this fact for each asset class, together with the amount and nature of any change in the estimated residual (terminal) value and expected lives of assets.

4.3.2 From principles to practice: relevant examples from selected issuers

37. In the following example, automotive company Mercedes Benz Group AG provides information on how useful lives of certain assets have been impacted by the transition from internal combustion engines to electric vehicles.

EXAMPLE 15 – MERCEDES BENZ GROUP AG

Pages 214; 228

ESMA emphasis added in *Orange*



Intangible assets

(...)
Other intangible assets with finite useful lives are generally amortized on a straight-line basis over their useful lives (three to ten years). The amortization period for intangible assets with finite useful lives is reviewed at least at each year-end. **Possible impacts from the transformation of the automotive industry, such as the transition to electric drive systems, are also taken into account.** Changes in expected useful lives are treated as changes in accounting estimates. The amortization expense on intangible assets with finite useful lives is recorded in functional costs.

As part of the periodic review of the useful lives of intangible assets, the planned transition to fully electric vehicles made it necessary to reassess the useful lives of the capitalized development expenditure as of year-end 2021 and to adjust them for individual vehicle projects. This change in estimates has been applied from 1 January 2022. The positive effect on earnings before interest and taxes (EBIT) amounted to €0.2 billion in 2022. A positive effect on EBIT of €0.2 billion is also expected for 2023.

(...)

(please see note D.32 of Mercedes Benz Group AG)

Consideration of sustainability related aspects in connection with the recognition and measurement of assets and liabilities

(...)
Accounting estimates and management judgments in connection with sustainability-related aspects are taken into consideration in particular in the accounting of assets and liabilities described below:

The determination and review of the useful lives of the capitalized development costs are based on the expected product life cycle. Changes in the originally envisaged product life cycles can result from the transformation to all-electric vehicles. Due to the resolutions regarding the accelerated transformation new developments in the area of conventional powertrains are reduced and already capitalized development expenditure will partly be used for longer.

(...)

In the same way, the useful lives of property, plant and equipment assets are regularly reviewed in the light of the transformation to all-electric vehicles. This did not require any material adjustments of the useful lives up to the reporting date as the production facilities of the Group are basically flexible in use.

(...)

Quantitative disclosure of the effect of reassessing useful lives due to the transition to electric drive systems.

38. In the following example, electricity company Iberdrola SA provides information as to why useful lives of certain assets have not been impacted by climate risks.

EXAMPLE 16 – IBERDROLA SA

Pages 56-57

ESMA emphasis added in *Orange*



Useful lives:

(...)
The IBERDROLA Group did not amend the useful life of its assets in financial year 2022, insofar as, at the date of preparation of these financial statements, the roadmap for achieving carbon neutrality for the carbon equivalent emissions of scopes 1 and 2 by 2030 has not been drawn up. Emissions from the production mix will be reduced, either by investing in new renewables, or by offsetting any residual emissions.

(...)

It should also be borne in mind that some of the Group's businesses, such as gas transmission and distribution in the United States and the United Kingdom, as well as part of gas retail supply

Explanation as to why the useful lives of certain assets were not adjusted at the year-end.

in Spain and the United Kingdom, for example, are regulated businesses. Any possible withdrawal from these activities would require regulatory authorization. **In addition, the role of these assets in each country's energy transition is uncertain and depends on the future policies and measures adopted by governments or regulators. Therefore, their useful life has not been changed in these financial statements either. Should any decisions be taken by the regulator, such as shortening the useful life of these assets, the IBERDROLA Group considers that the economic effects would not have a significant impact, as the regulation would compensate the Group through tariffs, given that the regulation itself guarantees the profitability of the investments made.**

Consequently, in general, the IBERDROLA Group considers it impractical to accelerate the depreciation of emitting assets, either because they are required as back-up or because their useful life depends on actions by third parties beyond the IBERDROLA Group's control. Nor has it accelerated the timing of provisions for the closure or decommissioning of facilities as a result of climate change. However, it will continue to monitor the system's needs and the decisions of governments and regulators to determine whether it will need to accelerate the depreciation of these assets in the future.

39. In the following example, industrial transportation company Hapag-Lloyd AG provides quantified information regarding the re-assessment of useful lives derived from the impact of new environmental regulations.

EXAMPLE 17 – HAPAG-LLOYD AG

Page 163

ESMA emphasis added in *Orange*



Property, plant and equipment

(...)
The provisional assessment of the impact of new environmental regulations on the economic viability and efficiency of some older vessels particularly affected by these regulations resulted in a recalculation for these vessels in the third quarter of 2021 and thus a shortening of their estimated remaining useful lives by one to five years. The rules for implementing these provisions have now been clarified, permitting these vessels to remain in use for longer. Therefore, these vessels are now to be decommissioned later than had been assumed in the previous year. Due to the individual extension of their useful life by one to three years, this improved EBIT both in the second half and for the 2022 financial year as a whole in the amount of EUR 77.0 million. The effect for Q4 2022 amounts to EUR 38.5 million. The effect will be reversed in the three complete consecutive financial years from 2023 onwards. However, the general useful life of vessels remains unchanged at 25 years.
 (...)

Quantitative disclosure of the effect of reassessment of useful lives of assets (shortening of estimation by one year to five years in 2021, revised in 2022 following clarification of national legal framework).

4.3.3 Areas for Continued Focus

To keep in mind

- 
- a) Issuers should consider explaining how their **plans to reduce carbon emission due to regulations** have been incorporated in the **assessment of assets' useful lives**. For example, issuers should consider detailing to which extent issuers' transition plans (or changes in business plans) to more environmentally friendly alternatives affect an asset's useful life (e.g., the issuer plans to prematurely replace older assets with assets that are more environmentally friendly before the original period of use has come to an end). Issuers might also consider **disclosing and quantifying the exposed assets**.
 - b) Issuers should consider **disclosing quantitative information about R&D costs** linked to environmental risks and opportunities and commitments of the issuer

See also...

[2021 ECEP](#)
[2022 ECEP](#)

(i.e., in the automotive industry, changing from fossil to electric drive systems). In doing so, issuers are encouraged to disclose the **amounts capitalised** in the statement of financial position and **expensed** in the P&L and, where applicable, link this information to **potential changes in useful lives** of the impacted assets.

- c) Issuers may need to consider any **potential indirect impacts to the useful economic lives** of their assets, if **changes in the supply chain** can be anticipated (i.e., when the issuer is part of the supply chain of issuers highly exposed to climate matters, its business may be indirectly affected by changes in their customers).

4.4 Provisions

4.4.1 Accounting requirements to consider

IAS 37 – Provisions, Contingent Liabilities and Contingent Assets / IFRIC 21 – Levies

IAS 37: Paragraphs 14-83, 85-86 / IFRIC 21: Paragraphs 8-21

The requirements of IAS 37 *Provisions, Contingent Liabilities and Contingent Assets* ensure that issuers consider and use appropriate recognition criteria and measurement bases for provisions, contingent liabilities and contingent assets. In addition, IAS 37 requires that issuers disclose sufficient information in the notes about any indications of uncertainties relating to the nature, amount, or timing of any outflow. Climate-related matters may impact the recognition and measurement of provisions and the disclosure of those provisions and any contingent liabilities.

Issuers should consider, in their assessment of the impact of climate on provisions and contingent liabilities, the potential for any new contingent liabilities that may arise due to potential litigation, regulatory requirements to remediate environmental damage, additional levies or penalties related to environmental requirements as well as contracts that may become onerous, or restructurings to achieve climate-related targets.

4.4.2 From principles to practice: relevant examples from selected issuers

40. In the following example, electricity company Électricité de France SA discloses information on the recognition and movements of provisions related to climate matters. Specifically, Électricité de France SA provides information regarding the measurement of provisions for environmental schemes including provisions for greenhouse gas emission rights, renewable energy certificates and energy savings certificates.


17.2 Other provisions (...)

(in millions of euros)	31/12/2021	Increases	Decreases		Changes in scope	Other changes ⁽¹⁾	31/12/2022
			Utilisations	Reversals			
Provisions for contingencies related to subsidiaries and investments	585	315	(17)	(257)	(9)	(12)	605
Provisions for tax liabilities (excluding income tax)	112	2	(56)	(10)	(1)	2	49
Provisions for litigation	327	89	(66)	(32)	-	3	321
Provisions for onerous contracts and losses on completion	1,651	117	(360)	(654)	(3)	(113)	638
Provisions related to environmental schemes	1,572	2,341	(1,932)	(2)	-	(53)	1,926
Other provisions for contingencies and losses	2,568	4,197	(3,553)	(164)	1	(38)	3,011
TOTAL	6,815	7,061	(5,984)	(1,119)	(12)	(211)	6,550

⁽¹⁾ Other changes principally concern foreign exchange effects resulting from adjustment of the provisions for onerous contracts concerning Dunkirk LNG, and the rise of the pound sterling against the euro.

(...)

Provisions related to environmental schemes

Provisions related to environmental schemes include provisions to cover shortfalls in greenhouse gas emission rights, renewable energy certificates and where relevant energy savings certificates, based on the assigned obligations (see notes 5.5.4, 10.2, 20.1 and 20.2.1).

Through the renewable energy certificates scheme, the EDF group has an obligation to surrender renewable energy certificates, particularly in the United Kingdom and Belgium. At 31 December 2022, a provision of €1,117 million was booked in connection with the obligation to surrender renewable energy certificates at that date, essentially concerning EDF Energy (United Kingdom) and Luminus (Belgium). A large portion of these obligations is covered by purchases of certificates included in intangible assets (see note 10.2).

One of the main features of the fourth period (2021-2030) of the **European Union greenhouse gas emission quota system (SEQUE-EU or EU-ETS) is to achieve the emission reduction targets set in the 2030 Climate and Energy framework, and the EU's contribution to the Paris Climate Agreement adopted in 2015.** One key step was accelerating **annual quota reductions to 43 million tonnes per year.** In the EDF group, the entities concerned by this European system are EDF, Edison, Dalkia, PEI and Luminus. **Free emissions quota allocations for the Group stopped in 2020.**

The volume of emissions at 31 December 2022 stood at 18 million tonnes (17 million tonnes for 2021). Actual greenhouse gas emissions amounted to €799 million at 31 December 2022 (€380 million at 31 December 2021) and are included in provisions in the balance sheet.

In 2022, the Group surrendered 17 million tonnes in respect of emissions generated in 2021 under the EU ETS (in 2021 it surrendered 16 million tonnes in respect of emissions generated in 2020). Now that Brexit has taken place, the United Kingdom is no longer a member of the European system (EU ETS) and has set up its own system (UK ETS - Emissions Trading Scheme). The UK ETS, which uses a bidding system, covers the same sectors as the EU ETS and operates under generally similar rules, with comparable accounting treatment.

The volume of EDF Energy's emissions at 31 December 2022 stood at 0.1 million tonnes (2 million tonnes for 2021). Actual greenhouse gas emissions amounted to €9 million at 31 December 2022 (€36 million at 31 December 2021) and are included in provisions in the balance sheet.

In 2022, EDF Energy surrendered 2 million tonnes in respect of emissions generated in 2021 under the UK ETS (in 2021 it surrendered 3 million tonnes in respect of emissions generated in 2020).

(...)

20.2.1 Provisions relating to environmental issues

Most of these provisions are provisions related to nuclear generation, which comprise provisions for back-end nuclear cycle expenses (management of spent fuel and radioactive waste), provisions for plant decommissioning and provisions for last cores. (...)

They also include **provisions for environmental schemes including provisions for greenhouse gas emission rights, renewable energy certificates and energy savings certificates. At 31 December 2022, these provisions totalled €1,926 million (€1,572 million in 2021, see note 17.2).**

Qualitative and quantitative disclosures about different types of environmental provisions. Explanation of the main movements of the year.

Impacts of the renewable energy certificates schemes on the balance sheet (provisions).

Quantification of the impacts of CO₂ emissions (both in tonnes and euros).

Contingent liabilities also exist in connection with environmental litigation, described in note 17.3.5, such as the litigation following the sale of Ausimont (the Bussi site) to Solvay 3 by Edison in 2002.

41. In the following example, multi-utilities company RWE AG discloses information on the recognition and movements of provisions related to climate matters. In particular, RWE provides information regarding the measurement of provisions such as discount rates, interest accretion and sensitivity analysis.

EXAMPLE 19 – RWE AG

Pages 175; 177

ESMA emphasis added in **Orange**



Provisions for nuclear energy and mining € million	Balance at 1 Jan 2022	Additions	Unused amounts released	Interest accretion	Amounts used	Balance at 31 Dec 2022
Provisions for nuclear waste management	6,029	541		-454	-412	5,704
Provisions for mining damage	4,993	2,260	-3	-730	-82	6,438
	11,022	2,801	-3	-1,184	-494	12,142

(...)
Provisions for mining damage also consist almost entirely of non-current provisions and fully covered the volume of obligations as of the balance-sheet date. They are reported at their settlement amount discounted to the balance-sheet date. **The cost estimates are based on internal planning and estimates and are largely backed by external expert opinions.**

In discounting the amounts used in the coming 30 years, we have oriented ourselves towards the current market interest rates for risk-free cash investments. Since no market interest rates are available for later periods, a sustainable, long-term interest rate **is used to discount the amounts used after the next 30 years. The average discount rate was 3.2 % (previous year: 2.1 %).** The majority of the provisions pertains to claims that are expected to materialise over the next 30 years. **The average escalation rate based on current inflation expectations was 2.2 % (previous year: 1.5 %).** As a result, the real average discount rate applied for mining purposes, which is the difference between the average discount rate and the average escalation rate, amounted to 1.0 % (previous year: 0.6 %).

A decline of 0.1 percentage point in the real discount rate would increase the present value of the provision by around €130 million, while an increase of 0.1 percentage point would reduce the present value by around €120 million.

Excluding the interest accretion, additions to provisions for mining damage amounted to €2,260 million in the reporting period. **These mainly include the additional costs for recultivation of the Garzweiler opencast mine area due to the early phaseout of lignite-fired power generation in 2030, the inflation-driven increase in the obligatory volume and updates of the cost estimates, of which €177 million was capitalised in the item 'property, plant and equipment'. The interest accretion reduced provisions for mining damage by €730 million, of which €66 million was offset in 'property, plant and equipment'.**

Quantitative description of provisions for mining damage.

Cost estimates based on internal planning and largely backed by external opinions.

Sensitivity analysis based on the real discount rate on provisions.

42. In the following example, energy company Repsol SA discloses information on the recognition and movements of provisions related to climate matters such as dismantling provisions and CO₂ emissions allowances. In addition, Repsol SA provides information on the expected maturity of the provisions.

EXAMPLE 20 – REPSOL SA

Pages 18; 48-49

ESMA emphasis added in **Orange**



3.5.2) Estimates and accounting judgments related to the risks and implications of climate change, decarbonization and the energy transition

(...)
CO₂ emission allowances. In 2021, phase IV of the EU Emissions Trading System (EU-ETS) Directive began in Europe for the period 2021-2030. This would mean a reduction in the global number of emission allowances at an annual rate of 2.2% from 2021 to 2025. From then on, new rules, currently under discussion in the EU Parliament,

Council and Commission, will be applied to increase the reduction of CO₂ emissions (in line with the new objective of a reduction of 55% in CO₂ emissions in the total European economy by 2030 compared to 1990 – Fit for 55) and to address its social impact. In this regard, at the end of 2022, a provisional tripartite agreement was reached to increase the reduction of emissions by 2030 to 62% in the sectors covered by this regime.

In 2022, Group companies were assigned free CO₂ allowances equivalent to 7.3 million tons of CO₂. The net expense for CO₂ emissions in 2022 was €493 million (mainly due to CO₂ emissions from Industrial complexes in Spain). For further detailed information on the recognition and valuation of CO₂ allowances, see Notes 15.1 and 16.

(...)

15.1) Provisions

At December 31, 2022 and 2021, the balance of these headings and the changes therein are as follows:

Provisions for current and non-current contingencies and charges

	Million				
	Asset decommissioning ⁽³⁾	Consumption of CO ₂ emission allowances	Legal contingencies	Other provisions ⁽⁴⁾	Total
Balance at January 1, 2021	1,773	281	891	1,367	4,312
Provisions charged to income ⁽¹⁾	85	479	73	247	884
Provisions reversed with a credit to income	(10)	(3)	(10)	(18)	(41)
Cancellation due to payment	(101)	(1)	(43)	(117)	(262)
Changes in scope of consolidation	(17)	—	—	(325)	(342)
Translation differences, reclassifications and other ⁽²⁾	(21)	(287)	(132)	177	(263)
Balance at December 31, 2021	1,709	469	779	1,331	4,288
Provisions charged to income ⁽¹⁾	113	1,099	29	468	1,709
Provisions reversed with a credit to income	(28)	—	(25)	(60)	(113)
Cancellation due to payment	(81)	—	(51)	(231)	(363)
Changes in scope of consolidation	—	—	—	—	—
Translation differences, reclassifications and other ⁽²⁾	26	(477)	47	15	(389)
Balance at December 31, 2022	1,739	1,091	779	1,523	5,132

⁽¹⁾ In 2022 and 2021, this line item included €66 million and €59 million, respectively, reflecting the discounting to present value of provisions and "Other provisions" included the provision corresponding to the use of CO₂ allowances for €1,099 million and €479 million, respectively. In 2022 "Other provisions" includes the provision for the oil spill that occurred in the Pampilla refinery (see Note 29.1 and 15.2).

⁽²⁾ In 2022 and 2021, "Consumption of CO₂ allowances" includes the derecognition of the allowances consumed for emissions in the years 2021 and 2020, respectively, and "Other provisions" includes the negative value update of the investments in Petroquiriquire and Cardón IV (see Note 13).

⁽³⁾ In 2022, includes recognition of decommissioning provisions for refineries in Spain and Peru (see Note 20.1). In 2022, a change in the discount rate of +/- 50 basis points would decrease/increase provisions by €-71 million and €70 million.

(...)

The following table provides an estimate of maturities of provisions at year-end 2022:

Due dates of provisions	Due dates ⁽¹⁾ € Million			
	Less than one year	From 1 to 5 years	undetermined	Total
Provisions for field decommissioning	41	317	1,381	1,739
Provisions for consumption of CO ₂ emission allowances	1,091	—	—	1,091
Provision for legal and tax contingencies	1	774	4	779
Other provisions	446	377	700	1,523
TOTAL	1,579	1,468	2,085	5,132

⁽¹⁾ Due to the nature of the risks provisioned, these timing assessments are subject to uncertainty and changes that are beyond the Group's control. As a result, this schedule could change in the future depending on the circumstances on which these estimates are based.

Information regarding the maturities of the provisions in a table (including CO₂ consumption), the nature of the risks (timing and uncertainty).

4.4.3 Areas for Continued Focus



To keep in mind

- a) Issuers might consider whether **regulations** related to climate matters give rise to **constructive or present obligations** and thus, to **recognition of provisions or disclosure of contingent liabilities**. Please also refer to IFRS Interpretation Committee (IFRS IC) discussions on negative low emissions vehicle credits¹³.
- b) Where provisions related to climate matters are recognised, issuers should provide information on the **measurement of such provisions** (including information on sources of such assumptions – **external vs internal**, different geographies), especially when such provisions require estimations of future prices (such as CO₂ emissions).
- c) Issuers are reminded that an **obligation** stemming from possible new laws or regulations introduced in relation to climate change (for example, new environmental and decommissioning obligations) can arise **only when the legislation is enacted**. As such, issuers are encouraged to continue **monitoring government actions and introductions of or changes to regulations relating to climate** and consider whether these may give rise to specific conditions where a provision must be recognised.
- d) Issuers should consider **disclosing sensitivity analyses** regarding key assumptions related to climate matters used on the recognition or measurement of provisions or contingent liabilities.
- e) Issuers should also consider **disclosing the maturities expected and timing** related to unwinding provisions recognised related to climate matters (in particular, when such provisions may affect long term periods – such as decommissioning provisions).

See also...

[2021 ECEP](#)
[2022 ECEP](#)

4.5 Other Accounting Topics

Two further topics to consider, among many others¹⁴:

IFRS 2 – Share-based Payment

IAS 10 – Events After the Reporting Period

Because of the pervasive and ubiquitous nature of climate risks, issuers must pay attention to multiple areas where climate-related matters may be materially impactful. Issuers should subsequently evaluate and, where material, be required to disclose the assessment made as well as the potential or incurred effects of climate-related matters in their financial statements.

¹³ Please refer to IFRS IC decision on [negative low emissions vehicle credits](#)—IAS 37, 20 July 2022.

¹⁴ [IASB Educational Document](#), Effects of climate-related matters on financial statements, July 2023. (republished).

To illustrate some other areas where it may not be obvious that climate-related matters may materially impact financial statements, ESMA identified disclosure examples of climate-related matters concerning (i) share-based payments and (ii) events occurring after the reporting period. In this respect, disclosure requirements relate to (i) whether any of an issuer's share-based payment plans are dependent on the achievement of specific climate-related targets, or (ii) whether there are developments (i.e., market or regulatory) occurring after the balance sheet date related to climate matters that may represent non-adjusting events.

43. In the following example, oil equipment & services company Technip Energies NV discloses information on how climate-matters, including the achievement of the issuer's climate strategy and commitments, impact the remuneration of the Board of Directors and share-based payments under IFRS.

EXAMPLE 21 – TECHNIP ENERGIES NV

Pages 269; 276

ESMA emphasis added in **Orange**



1.8. Other sources of estimation uncertainty (...) Climate-related matters

(...) Share-based compensation and remuneration policy applied to Executive Officer, Executive Committee members, Senior Managers, and other key employees

The Compensation Committee of the Board of Directors has granted to the Executive Officer, Executive Committee members, Senior Managers, and other key employees (e.g., technical experts, high potentials) a Long-Term Incentive plan in the form of Performance Stock Units (PSUs) and Restricted Stock Units (RSUs). **The PSUs vesting is subject to the satisfactory achievement of performance conditions.** As of 2022, the performance conditions comprise the total shareholder return ("TSR"), EPS and **a set of three weighted ESG indicators directly derived from our ESG Roadmap to support Technip Energies vision in accelerating energy transition for a "better tomorrow" and to strengthen the alignment with sustainable long-term value creation. One of these indicators is a climate-friendly objective: 30% decrease in scope 1 and 2 greenhouse gas emissions between 2019 and 2025.**

In addition, the Compensation Committee **reviewed the Executive Director's remuneration and notably reinforced the weighting of the ESG component in the Short-Term Incentive program with ESG KPIs derived from the Company's ESG roadmap. These changes have been introduced in 2022 and are described in section 6.6.1. Executive Director remuneration.** As compared to December 31, 2021, **the ESG business performance indicators weighting increased from 15% to 25% to emphasize ESG performance and to signal the Company's commitment to embed sustainable, socially responsible and ethical business practices.**

(...) Note 8. Share-based compensation

(...)
An E.S.G. performance metric, representing 25.0% of PSUs performance conditions, combines 3 Key Performance Indicators. They are evenly weighted and described below:

- **E: reduce 30% on scope 1&2 GHG emissions by 2025 compared to 2019,**
- S: 25% of women in leadership positions including ExCom by 2025,
- G: reduce by 2025 non-mandatory commercial intermediaries by 100%.

(...)
Under the 2022 Program, €21.0 million were authorized for awards. A first grant of 1,659,182 shares (897,084 PSUs and 762,098 RSUs, representing €18.9 million at €11.36 (closing stock price at the grant date) was made on March 28, 2022. A second grant of 167,476 shares (94,792 PSUs and 72,684 RSUs) was performed on September 19, 2022 representing €2.1 million at €12.60 per share (closing stock price at the grant date).

Description explaining the link between the share-based compensation and the remuneration policies related to climate objectives.

44. In the following example, electricity company Fortum Oyj discloses a significant event occurring after the balance sheet date which is related to climate-matters. A new operating

licence will significantly impact the activity of the issuer in the future (including segment reporting) and has an overall effect on the issuer's financial and sustainability reporting.

EXAMPLE 22 – FORTUM OYJ

Page 109

 ESMA emphasis added in *Orange*

39 Events after the balance sheet date

On 16 February 2023, the Finnish Government granted a **new operating license for both units at Fortum's Loviisa nuclear power plant until the end of 2050**. Over the course of the new licence period, **the plant is expected to generate up to 170 terawatt hours of CO₂-free electricity. Investments related to the continuation of operations and lifetime extension will amount to an estimated EUR 1 billion until 2050.**

Over the past five years, Fortum **has already invested approximately EUR 300 million in refurbishing the Loviisa power plant**. The Loviisa power plant is the first nuclear power plant in Finland. The power plant has two units: unit 1 started operating in February 1977, and unit 2 in November 1980.

At the beginning of March 2023, the Fortum Board of Directors resolved on Fortum's new strategy. Fortum's strategic priorities **are to deliver reliable clean energy and drive decarbonisation** in industries in the Nordics. The strategy includes new financial and sustainability targets:

- Updated financial guidance to ensure credit rating of at least BBB and optimal financial flexibility for future growth: **long-term financial net debt-to-comparable EBITDA of 2.0–2.5 times.**

- **Disciplined growth in clean energy with capital expenditure of up to EUR 1.5 billion during 2023–2025. Investment hurdles of project WACC + 150–400 basis points will be applied and evaluated against the company's climate and biodiversity targets.**

(...)

- **Fortum has brought forward its target to reach carbon neutrality to 2030 (Scopes 1, 2, 3) and will exit all coal already by the end of 2027. To reach carbon neutrality, Fortum is committed to setting emission reduction targets based on the climate science (SBTi 1.5°C), assuming Russia exit. To measure progress, mid-point targets have been set for specific emissions at below 20 g CO₂/kWh for total energy production and at below 10 g CO₂/kWh for power generation by 2028.**

(...)

At the beginning of March 2023, **the Fortum Board of Directors resolved on revising the financial segment reporting to match the new business structure and strategy**. As of the beginning of 2023, Fortum will report its financial performance in the following reporting segments:

- **The Generation segment will include the Hydro Generation, Nuclear Generation, Corporate Customers and Markets and Renewables and Decarbonisation business units.**

- The Consumer Solutions segment includes the Consumer Solutions business unit.

- The Other segment includes the Circular Solutions business unit, Innovation and Venturing activities, enabling functions and corporate management. (...)

Quantification of the issuer's commitments regarding investments directly related to environmental targets.

Changes on segments due to new business structure and strategy.

4.5.1 Areas for Continued Focus


To keep in mind

- a) Issuers are encouraged to consult **IASB educational material**, which points to areas (not addressed in this report) where effects of climate-related matters may be relevant and material for financial statements (e.g., those relating **to operating segments, income taxes, financial instruments, or insurance contracts**). As applicable for all other selected topics, where material, issuers should quantify

See also...

[IASB Educational Document](#)

and specify the various climate-related assumptions and impacts on financial information derived from the application of other standards.

- b) When **share-based compensation and the remuneration policies** are related to climate objectives, issuers might consider providing: (i) **detailed disclosures** as to how the **assessment of remuneration** of the Board of Directors and share-based payments **linked to climate objectives is conducted**, for example which ESG indicators are used, how the issuer determines that the objectives have been fulfilled or not and (ii) which portion of the **remuneration (quantification) relates to the fulfilment of ESG criteria**.
- c) Issuers' climate-related matters may lead to **changes in their business activities** and also in the way those activities are reported to and monitored by management. Where this is the case, issuers should consider whether these changes impact the **identification of issuers' operating segments** in accordance with the requirements of IFRS 8 *Operating Segments*. For example, issuers should assess to which extent new segments should be created or if the application of the aggregation criteria to existing segments should not be revised.
- d) Climate-related activities may affect the **nature, amount, timing and uncertainty of entity's revenue**, impacting, for example, how information about the entity's revenue is presented in and outside the financial statements. This is also in consideration of the **upcoming European Sustainability Reporting Standards (ESRS)** requirements. Therefore, issuers should consider whether there is a need to change the **selection of categories used to disaggregate revenue** and whether further information should be disclosed.
- e) Climate-related matters may additionally impact **issuers' assessment of expected credit losses** calculated for financial assets subject to the impairment requirements of IFRS 9 *Financial Instruments*. Entities should consider providing explanations on how these matters were incorporated in their **ECL calculations**.

2021 ECEP

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5 Conclusion

45. ESMA recommends that issuers (including their management, supervisory boards and audit committees) and auditors consider the illustrative examples in this report when looking at how to assess and disclose climate-related matters in IFRS financial statements. As climate risks potentially impact all areas of an organisation, issuers should consider if the procedures in place facilitate the internal interactions between its different departments. In this respect, ESMA highlights the importance of audit committees and Boards in having an enhanced supervisory role to ensure that this interaction is in place and is efficient.
46. ESMA recommends that issuers consider the observations in the areas of continued focus that accompany the excerpts presented in this report, and not excessively concentrate on the individual facts and circumstances presented in the examples (which are specific to the concerned entities, and which are not intended to be read as applicable or satisfactory in all circumstances and for all issuers).
47. ESMA and enforcers will continue to monitor the progress of issuers in this area and document practices of disclosure of climate-related matters in IFRS financial statements as they evolve, in the expectation that such material provides a useful and helpful tool to stakeholders.



Annex I: List of Selected Issuers

As per the **Objectives section**, the inclusion of the following issuers in the report does not constitute a form of validation, compliance check or quality control of the information reported by the issuer, either from ESMA's perspective or from that of enforcers. The extracts presented are therefore reproduced solely for illustrative and educational purposes.

The extracts of the disclosures included in this report were drawn from the English-language PDF versions of the 2022 AFRs publicly available on the issuers' website. Note that these versions are variants of the official versions compliant with the provisions of Commission Delegated Regulation (EU) 2019/815 (the ESEF Regulation – European Single Electronic Format), retrievable from the national databases (Officially Appointed Mechanisms, or “OAMs” - the national mechanisms for centrally storing Regulated Information under the Transparency Directive).¹⁵ Also note that in multiple instances, this English-language version of the AFR is an issuer's translation from the original language of the AFR. In the event of any discrepancy, the original language version prevails.

Efforts were made to provide accurate external links to the reports available on the issuers' public websites, prior to the publication of the report. Note that the external links provided in the table below will not be updated and in time may no longer function. To this end, please refer to the official versions retrievable from the OAMs, as outlined above.

Country	Issuer Name	Sector [Industry Classification Benchmark]	Link to 2022 Annual Financial Report
Belgium	Solvay SA	Chemicals	Link
Finland	Fortum Oyj	Electricity	Link
France	Air Liquide SA	Chemicals	Link
	Arkema SA	Chemicals	Link
	Électricité de France SA	Electricity	Link
	Imerys SA	Industrial Metals and Mining	Link
	Saint-Gobain SA	Construction and Materials	Link
	Germany	BASF SE	Chemicals
Germany	Hapag-Lloyd AG	Industrial Transportation	Link
	Mercedes-Benz Group AG	Automobiles and Parts	Link
	RWE AG	Gas, Water and Multi-utilities	Link
	Traton SE	Automobiles and Parts	Link
	Uniper SE	Electricity	Link
Italy	Enel SpA	Electricity	Link
	Eni SpA	Oil, Gas and Coal	Link
Netherlands	Technip Energies NV	Oil, Gas and Coal	Link
Norway	Equinor ASA	Oil, Gas and Coal	Link
Spain	Endesa SA	Electricity	Link
	Iberdrola SA	Electricity	Link
	Naturgy Energy Group SA	Gas, Water and Multi-utilities	Link
	Repsol SA	Oil, Gas and Coal	Link
Sweden	Telia Company AB	Telecommunications	Link

¹⁵ Hyperlinks to the OAMs are accessible from ESMA's "[Databases and Registers](#)" website page, *Corporate reporting (Transparency Directive)* header.