



Applying IFRS

Accounting for climate change

December 2021

Contents

Overview	2
1. Disclosure requirements	4
1.1 What is the issue?	4
1.2 What is the impact?	4
2. Property, plant and equipment	12
2.1 What is the issue?	12
2.2 What is the impact?	12
3. Impairment of assets	17
3.1 What is the issue?	17
3.2 What is the impact?	17
4. Provisions	27
4.1 What is the issue?	27
4.2 What is the impact?	27
5. Fair value measurement	33
5.1 What is the issue?	33
5.2 What is the impact?	33
Appendix: Other climate-related accounting considerations	38

What you need to know

- ▶ There is an increased focus on the measurement and disclosure of climate-related matters in an entity's financial statements.
- ▶ The determination of the effects of climate change on an entity's financial statements may require significant effort and judgement.
- ▶ Entities are required, at a minimum, to follow the specific disclosure requirements in each IFRS standard. Entities may need to provide additional disclosures in their financial statements in order to meet the standards' disclosure objectives. Hence, in determining the extent of disclosure, entities are required to carefully evaluate whether users of financial statements are able to assess the effects of climate change on their financial position, financial performance and cash flows.
- ▶ This publication is intended to support entities in assessing and reporting on the effects of climate change by providing helpful observations and illustrations.

Overview

The efforts to reduce the society's impact on climate change have never been greater. At the same time, there is unprecedented pressure from stakeholders for entities to communicate clear commitments which is set to continue for the foreseeable future.

Although, there is no single explicit standard on climate-related matters under IFRS, climate risk and other climate-related matters may impact a number of areas of accounting. While the immediate impact to the financial statements may not necessarily be quantitatively significant, there are increasing expectations from stakeholders that entities explain how climate-related matters are considered in preparing their financial statements to the extent they are material¹ from a qualitative perspective. Stakeholders also expect robust disclosures on the most significant assumptions, estimates and judgements made related to climate change.

Investors have highlighted the importance of reducing entities' impact on the environment on their investment-making decisions and their assessment of management's stewardship. In November 2021, through the Glasgow Financial Alliance for Net Zero, over US \$130 trillion of private capital is committed to transforming the economy for net zero.

Climate change is expected to impact businesses in the decades to come. While it is imperative for entities to more explicitly address climate-related risks in their financial statements, considering practice in previous and recent years, accounting practice may evolve gradually over the next few years. As climate-related matters continue to evolve and entities make further commitments and take additional actions to tackle climate change, it is important for them to ensure that their financial statements reflect the most updated assessment of climate-related risks and their impact on the financial statements. Furthermore, entities should ensure consistency between information communicated in the financial statements and the information communicated to stakeholders outside the financial statements, such as in press releases, investor updates and disclosures in other parts of the annual report.

Most stakeholders that responded to the International Accounting Standards Board's (IASB) Third Agenda Consultation rated a potential project on climate-related risks as high priority.² We expect the IASB's work in this area to increase further when cooperating with the International Sustainability Standards Board, which has been established by the IFRS Foundation.

Regulators around the world in response have increased their focus on the need to report the impact of climate risk on financial statements and consistency between sustainability reporting and/or communication on one hand and the related disclosures in the financial statements on the other. In November 2020, the UK's Financial Reporting Council published the results of a [Thematic Review of Climate-Related Considerations](#) by boards, companies, auditors, professional bodies and investors. In the [European Common Enforcement Priorities for 2021](#)

¹ In accordance with IAS 1.7, information is material if omitting, misstating or obscuring it could reasonably be expected to influence decisions that the primary users of general purpose financial statements make on the basis of those financial statements.

² IASB, November 2021 meeting, Paper AP24A

[Annual Financial Reports](#), the European Securities and Markets Authority (ESMA) noted that 'it is key all issuers consider the climate-related matters holistically in their communications to the market by ensuring consistency in the information disclosed across the management report, the non-financial statement, the financial statements, and, where applicable, the prospectus'. A similar message was delivered in September 2021 by the U.S. Securities and Exchange Commission which published a [sample comment letter](#) that highlights the need to consider climate change disclosures in SEC filings.

Although in its [2021 Status Report](#), the Task Force on Climate-Related Financial Disclosures (TCFD) highlighted the 'greatest-ever growth in disclosures' made by entities, it also noted that 'companies continue to struggle to quantify the impacts of climate change, and to source the data they need to fully assess the threats of a changing climate'.

This publication is intended to support entities in assessing and disclosing the extent to which climate change affects their financial statements prepared in accordance with IFRS. Significant judgement may be required to identify the accounting considerations that are relevant to the entity's specific facts and circumstances. Any information included in this publication is, therefore, solely intended to provide helpful observations and illustrations and should not be interpreted as an indication that these would apply or be sufficient in all circumstances. Although this publication highlights the need for consistency with climate-related disclosures in other parts of the annual report, it does not address the management commentary (or MD&A) nor other sections outside the IFRS financial statements (for example, any separate sustainability reporting).

Extracts from financial statements presented herein are reproduced for illustrative purposes. They have not been subject to any review as to their compliance with IFRS or any other requirements, such as local capital market rules. Thus, they document practices that entities have developed to date; they are not intended to represent 'best practice'. The extracts presented here should be read in conjunction with the rest of the information provided in the financial statements in order to understand their intended purpose.

Although the extracts address entities' sometimes highly specific facts and circumstances, the judgements involved and the requirements in IFRS standards to disclose relevant information apply to all reporting entities. Therefore, we recommend that entities from all sectors consider these examples when reporting on the impact of climate change taking into account their own facts and circumstances.

Please see ey.com/IFRS for our most recent IFRS publications.

1. Disclosure requirements

1.1 What is the issue?

IAS 1 *Presentation of financial statements* states that the objective of financial statements is to provide information about the financial position, financial performance and cash flows of an entity that is useful to a wide range of users in making economic decisions. In order to support decision-making by the users of financial statements, information should have, at least in part, a forward-looking or predictive quality. Information pertaining to climate-related matters will be relevant if investors could reasonably expect that it will have a significant impact on the entity and, therefore, influence their investment decisions. Furthermore, IAS 1 requires an entity to consider whether any material information is missing from its financial statements.

As an overarching principle, IAS 1 requires entities to disclose information, for instance, climate-related matters, that is not specifically required by IFRS standards and not presented elsewhere, but which is relevant to an understanding of the financial statements.³ The requirements in IAS 1 are relevant to the entire financial statements. For example, IAS 1 requires the disclosure of assumptions and judgements relied on and uncertainties regarding going concern.

1.2 What is the impact?

Assumptions and estimates

IAS 1 requires disclosure of information about the assumptions an entity makes about the future that have a significant risk of resulting in a material adjustment within the next financial year.⁴ As such, assumptions in respect of climate-related matters may be required. In some cases, changes in key assumptions related to climate risk may not be expected to result in material adjustments in the short-term, but the chance of material adjustments in the longer term may be significant. In that context, it is important to acknowledge that entities must provide additional disclosures beyond the specific requirements in IFRS Standards when those requirements are insufficient to enable users to understand the impact of particular transactions, other events and conditions on an entity's financial position and performance. Thus, disclosures about key assumptions may be required although the risk of material adjustments in the short-term may be considered as low. Furthermore, the fact that investors and other users are requesting more transparency on climate-related matters, may, in itself, suggest that such disclosures are material, although the quantitative impact on financial measures in isolation may be deemed of little significance, as in the case of for instance assets with relatively short useful lives

BHP Group Limited (BHP) presented the impact of climate change and the transition to a low carbon economy in their 2021 annual financial statements. BHP disclosed two low carbon energy transition scenarios representing management's assumptions regarding the impact of the transition, as well as the items in the financial statements affected by those scenarios.

Disclosure of assumptions in respect of climate-related matters may be required.

³ Refer to IAS 1.112(c).

⁴ Refer to IAS 1.125.

Illustration 1-1 – BHP Group Limited- 2021 annual report

Transition risks

Global transition signposts and commodity impacts

In addition to the Group's targets and goals, significant judgements and key estimates are also impacted by the Group's current assessment of the range of economic and climate related conditions that could exist in transitioning to a low carbon economy, considering the current trajectory of society and the global economy as a whole. Despite recent progress, all 1.5°C pathways to 2050 represent a major departure from today's global trajectory and the Group does not believe the technological, regulatory, or economic foundations for a rapid transition to net zero emissions are currently in place. Acknowledging these signposts, the Group's current best estimate of the potential impacts of climate change and the transition to a low carbon economy are reflected in the following two scenarios, which consider existing policies, trends and commitments and the Group's view of the most likely range of futures for the global economy and associated sub-systems:

- ▶ Central Energy View: reflects, and is periodically updated to respond to, existing policy trends and commitments and currently tracks to approximately 3°C temperature increase above pre-industrial levels by 2100
- ▶ Lower Carbon View: currently tracks to approximately 2.5°C temperature increase by 2100, and accelerates decarbonisation trends and policies, particularly in easier-to-abate sectors such as power generation and light duty vehicles

These two scenarios are reviewed periodically to reflect new information.

These scenarios are currently being used as inputs to the Group's planning cases, informing updates to the Group's supply, demand and price forecasts, capital allocation and portfolio decisions. As such, these scenarios impact certain significant judgements and key estimates, including the determination of the valuation of assets and potential impairment charges (notes 11 'Property, plant and equipment' and 13 'Impairment of non-current assets'), the estimation of the remaining useful economic life of assets for depreciation purposes (note 11 'Property, plant and equipment'), the timing of closure and rehabilitation activities (note 15 'Closure and rehabilitation provisions') and the recoverability of certain deferred tax assets (note 14 'Deferred tax balances').

The Group continues to monitor global decarbonisation signposts and update its planning cases accordingly. Where such signposts indicate the appropriate measures are in place for achievement of a 1.5°C Paris-aligned scenario, this will be reflected in the Group's planning cases.

Equinor ASA provide disclosures of a commodity price sensitivity aligned to a Paris Agreement scenario in their 2020 annual financial statements.

Illustration 1-2 – Equinor ASA - 2020 annual report

10 Property, plant and equipment

Sensitivities

Commodity prices have historically been volatile. Significant downward adjustments of Equinor's commodity price assumptions would result in impairment losses on certain producing and development assets in Equinor's portfolio including intangible assets that are subject to impairment assessment under IAS36, while an opposite adjustment could lead to impairment-reversals. If a decline in commodity price forecasts over the lifetime of the assets were 30%, considered to represent a reasonably possible change, the impairment amount to be recognised could illustratively be in the region of USD 11 billion before tax effects.

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 oil and gas assets. A calculation of a possible effect of using the prices in a sustainable development scenario as estimated by the International Energy Agency (IEA) could result in an impairment of around USD 6 billion before tax.

These illustrative impairment sensitivities, both based on a simplified method, assumes no changes to input factors other than prices; however, a price reduction of 30% or those representing the Sustainable Development Scenario is likely to result in changes in business plans as well as other factors used when estimating an asset's recoverable amount. These associated changes reduce the stand-alone impact on commodity price sensitivity. Changes in such input factors would likely include a reduction in the cost level in the oil and gas industry as well as offsetting foreign currency effects, both of which have historically occurred following significant changes in commodity prices. The illustrative sensitivities are therefore not considered to represent a best estimate of an expected impairment impact, nor an estimated impact on revenues or operating income in such a scenario. In comparison, following the amended assumptions described above in the accounting assumptions section and the decline in commodity prices, the impairment impact recognised is considerably lower. A significant and prolonged reduction in oil and gas prices would also result in mitigating actions by Equinor and its licence partners, as a reduction of oil and gas prices would impact drilling plans and production profiles for new and existing assets. Quantifying such impacts is considered impracticable, as it requires detailed technical, geological and economical evaluations based on hypothetical scenarios and not based on existing business or development plans.

It may be necessary to provide sensitivity analyses for a range of scenarios.

The assessment, and more specifically, the quantification, of climate-related risks generally require the application of judgements about highly uncertain future developments, such as future technology developments, political

developments and government actions. A valuation may include multiple scenarios covering a wide range of possible outcomes. Therefore, it may be necessary to provide sensitivity analyses for a range of scenarios, as well as disclosures explaining how the entity has incorporated the uncertainties in the estimates relied on in the primary financial statements and in the sensitivities disclosed (as required by IAS 1). It may be that investor communities expect information about the potential future effects of specific future scenarios, such as those derived from the Paris Agreement. In that case, an entity may need to explain whether and how the entity's valuations align with those scenarios and, if they should differ, why the entity believes other scenarios are more realistic. BHP made disclosures to this effect:

Illustration 1-3 – BHP Group Limited – 2021 annual report

Transition risks

Sensitivity to demand for fossil fuels

The Group acknowledges that there are a range of possible energy transition scenarios, including those that are aligned with the Paris Agreement goals, that may indicate different outcomes for individual commodities. While not currently an input to the Group's planning cases, the resilience of the Group's portfolio to a 1.5°C Paris-aligned scenario (the Group's 1.5°C Paris-aligned scenario) has been considered, including the impact of Paris-aligned commodity price outlooks under that scenario on the Group's latest asset plans.

Although all potential financial reporting consequences under the Group's 1.5°C Paris-aligned scenario are currently impracticable to fully assess, the long-term commodity price outlooks under this scenario are either largely consistent with or favourable to the price outlooks in the Group's current planning cases, with the exception of energy coal, oil and natural gas.

There are inherent limitations with scenario analysis and it is difficult to predict which, if any, of the scenarios might eventuate and none of the scenarios considered constitutes a definitive outcome for the Group.

The long-term commodity price outlooks under the Group's 1.5°C Paris-aligned scenario, excluding energy coal, oil and natural gas, reflect:

- ▶ Copper and nickel benefiting from the dramatic pace of electrification over and above the Group's current planning cases
- ▶ Iron ore growth underpinned by the benefit to steel demand from the construction of renewables, particularly wind power
- ▶ Potash growth reflecting the potential for greater penetration of biofuels
- ▶ Metallurgical coal supported by the limited alternatives in steelmaking over the scenario timeframe

Given the positive long-term price outlooks for these commodities, the Group currently considers that a material adverse change is not expected to the valuation, and remaining useful life, of assets and discounting of closure and rehabilitation provisions for assets relating to these commodities under its 1.5°C Paris-aligned scenario.

For energy coal, oil and natural gas, long-term commodity price outlooks under the Group's 1.5°C Paris-aligned scenario are unfavourable to the price outlooks in the Group's current planning cases. However, recent portfolio

Illustration 1-3 – BHP Group Limited - 2021 annual report

announcements and impairments recognised in FY2021 limit the exposure of the carrying value of the Group's assets to long-term commodity prices for energy coal, oil and natural gas, as:

- ▶ the Group has announced a merger proposal to combine the Group's petroleum business with Woodside
- ▶ the Group has announced the signing of a Sale and Purchase Agreement to divest the Group's 33.3 per cent interest in Cerrejón
- ▶ following impairments recognised in FY2021, the carrying value of the Group's NSWEC assets is no longer material

Further, as management would alter its operating and investment plans in such a pricing environment for these assets to mitigate cash flow and valuation impacts, it is currently impracticable to fully assess the potential impacts on the significant judgements and key estimates used in the preparation of the Group's Financial Statements. However, given the factors outlined above, NSWEC closure provisions are considered the liabilities most susceptible to the long-term impacts of the Group's 1.5°C Paris-aligned scenario as reserves and resources may become incapable of extraction in an economically viable fashion prior to the current best estimate of remaining useful life. In such a scenario, closure activity may be performed earlier than the Group's current best estimate, impacting the closure provision.

In their 2020 annual report, Rio Tinto Plc note that climate change is one of the sources of estimation uncertainty in calculation of provisions.

Illustration 1-4 – Rio Tinto Plc - 2020 annual report

1 Principal accounting policies

(iii) Close-down, restoration and environmental obligations (note 25)

There is significant estimation uncertainty in the calculation of the provision and cost estimates can vary in response to many factors including:

- ▶ Changes to the relevant legal or local/national government requirements and any other commitments made to stakeholders;
- ▶ Review of remediation and relinquishment options;
- ▶ Additional remediation requirements identified during the rehabilitation;
- ▶ The emergence of new restoration techniques;
- ▶ Precipitation rates and climate change;
- ▶ Change in the expected closure date;
- ▶ Change in the discount rate; and
- ▶ The effects of inflation.

As noted above, in many cases, it will be appropriate to further explain how such factors have impacted the estimations made by the entity, by including details about the assumptions relied on, for instance the expected closure date

of a plant, as well as sensitivity disclosures reflecting what the impact of an earlier closure date would be.

Some consider that the impact of climate risk and potential future developments on the entity, including the sustainability of its current business model, is too uncertain to allow for meaningful representation, through measurement and quantified disclosures, in the financial statements. Generally, where there is a high level of uncertainty, entities should consider disclosing their sensitivity analyses. They can be particularly helpful in conveying relevant information in such cases, as illustrated by the examples discussed above.

Others may be in a position in which management has not yet fully explored the potential impact of climate risk on the entity's financial position and future performance and, as a consequence, climate risk is not incorporated in the relevant valuations and judgements. In such cases, at the minimum, entities should consider disclosing information clarifying their inability to reflect climate risk in the financial statements, along with an explanation of how they consider the financial statements to present fairly the financial position, financial performance and cash flows of the entity.

Judgements

The disclosure of judgements that have the most significant effect on the amounts recognised is also required by IAS 1. Many judgements will also be impacted by climate-related matters, so entities will need to consider disclosing these judgements. For instance, it may be that the climate-related uncertainties add complexity in assessing the remaining useful life of a coal-fired power plant because of increased uncertainty regarding the economic life of the underlying asset, in which case, the impact of the climate risk must be incorporated into the judgement disclosure required by IAS 1 (see illustration 4-1 in section 4).

When entities consider climate-related assumptions and judgements for their financial statements, they may need to update their processes for those activities. Historically, many of the assumptions and judgements that underpin financial reporting have been made using historical experience. However, with the pace of change in climate-related matters, such experience may be less relevant. For instance, entities may need to monitor the plans and commitments announced and initiatives put in place, including but not limited to technological, legal and social developments, by private and public sectors.

Going Concern

IAS 1 explains "going concern" by stating that financial statements are prepared on a going concern basis "unless management either intends to liquidate the entity or to cease trading, or has no realistic alternative but to do so". In assessing whether the going concern basis of preparation is appropriate, information regarding climate-related matters should be considered in conjunction with other uncertainties.

Climate-related matters may affect an entity's going concern assessment, with assumptions regarding the nature of future business activities and restrictions on bank financing likely to be factored into the assessment. Additionally, entities will need to consider external factors such as issues regarding water, energy, land use and waste management that are crucial to the continued operation of the business.

Entities will need to consider disclosing climate-related judgements.

Information regarding climate-related matters should be considered in conjunction with other uncertainties when assessing going concern.

In making their going concern assessments, many entities only consider the next 12 months and conclude that the going concern uncertainties are not significant. However, according to IAS 1, an entity needs to look at a period of at least 12 months from the end of the reporting period when assessing whether to prepare financial statements on a going concern basis. In other words, considering going concern for only 12 months, if known uncertainties impact the assessment over a longer term, is not consistent with the requirements in IAS 1.

Although an entity may conclude that the going concern basis is still appropriate, IAS 1 requires disclosure of material uncertainties, if any, that would cast significant doubt upon an entity's ability to continue as a going concern. Climate-related matters could create material uncertainties related to events or conditions that cast significant doubt upon an entity's ability to continue as a going concern. In such a case, although going concern may be assumed, additional disclosures explaining the uncertainties associated with the assumption would be required.

In their 2020 annual report with a 31 December 2020 reporting date, Rolls Royce Holdings Plc state that, based on a comprehensive going concern review over an eighteen-month period to September 2022, "...climate change is not expected to have a significant impact on the Group's going concern assessment to September 2022 nor the viability of the Group over the next five years" as part of their going concern disclosure.

Illustration 1-5 – Rolls Royce Plc - 2020 annual report

1 Accounting policies

Climate change

In preparing the Consolidated Financial Statements management has considered the impact of climate change, particularly in the context of the disclosures included in the Strategic Report this year and the stated net zero targets. These considerations did not have a material impact on the financial reporting judgements and estimates, consistent with the assessment that climate change is not expected to have a significant impact on the Group's going concern assessment to September 2022 nor the viability of the Group over the next five years. The following specific points were considered:

- ▶ The Group continues to invest in new technologies including hybrid electric solutions in Power Systems, continued development of the more efficient UltraFan aero engine, testing of sustainable aviation fuels, SMRs and hybrid and fully electric propulsion.
- ▶ The Group continues to invest in onsite renewable energy generation solutions for our facilities and investment is included in our five year forecasts to enable us to meet our 2030 target for zero greenhouse gas emissions (scope 1 and 2) from our operations and facilities.
- ▶ Management has considered the impact of climate change on a number of key estimates within the financial statements, including:
 - ▶ the estimates of future cash flows used in impairment assessments of the carrying value of non-current assets (such as programme intangible assets and goodwill) (see note 9);

Illustration 1-5 – Rolls Royce Plc - 2020 annual report

- ▶ the estimates of future profitability used in our assessment of the recoverability of deferred tax assets in the UK (see note 5); and
- ▶ the long-term contract accounting assumptions, such as the level of EFHs assumed, which consider our future expectations of consumer and airline customer behaviour (see note 16).

Although in many cases, climate risk may not add significant going concern uncertainty in the shorter term, it cannot be disregarded for the purpose of assessing an entity's ability to continue as a going concern. If, based on an analysis of the sustainability of an entity's business over the longer term, there is significant going concern uncertainty regarding that entity's ability to continue over that longer term, disclosures addressing those uncertainties should be considered.

How we see it

Climate risk is becoming a major source of estimation uncertainty and could add complexity to the judgements required in the application of IFRS. Furthermore, entities should consider uncertainties associated with future climate-related developments when assessing an entity's ability to continue as a going concern.

Entities should, therefore, ensure that relevant disclosures of assumptions and judgements are made, and those disclosures should be entity-specific taking care to avoid generic, boilerplate-type language. Entity-specific disclosures include quantifiable information about assumptions, if relevant, as well as explanations of deviations from known market expectations regarding the same assumptions. Furthermore, sensitivity disclosures, quantified if relevant, to illustrate the uncertainty embedded into the estimates relied on by entities, should also be made.

When assessing the uncertainty associated with an entity's ability to continue as a going concern, climate risk impacts beyond those expected to materialise in the short term, should be considered.

2. Property, plant and equipment

2.1 What is the issue?

IAS 16 *Property, Plant and Equipment* requires an item of property, plant and equipment (PP&E) to be recognised if it is probable that future economic benefits associated with the item will flow to the entity and its cost can be measured reliably.

An item of PP&E should be depreciated over its useful economic life in a manner that reflects the pattern in which the asset's future economic benefits are expected to be consumed by the entity. IAS 16 requires the useful life and residual value of an asset to be estimated on a realistic basis and reviewed at least at the end of each financial year.

An entity may be required by legislation to incur certain expenditures, for example, safety or environmental protection equipment, that do not directly increase the future economic benefits expected to flow from the asset. IAS 16 explains that these expenditures qualify for recognition as they allow an entity to derive future economic benefits from related assets in excess of those that would flow if such expenditure had not been made.

We refer to Section 3 below for a discussion on impairment requirements in relation to PP&E.

2.2 What is the impact?

Climate change, the legislation enacted to address it, and growing societal pressure have the potential to significantly affect the value of an item of PP&E, its economic life and its residual value. For example, some technologies will be phased out by legislation, renewable technologies are becoming cost competitive as a result of strong learning curve effects and research and development investments, and some assets are prone to damage from extreme weather events.

In particular, entities should consider the following in assessing the impact of climate on its PP&E.

- ▶ *Useful life* - Climate change, including associated legislation, may affect how and for how long items of PP&E are used. IAS 16 requires entities to review the useful life of an asset at least at the end of each year-end. Entities will need to consider climate-related factors annually when determining the expected useful life of their assets and, therefore, the period over which such assets are depreciated. An entity would need to assess whether it expects, for example, the early closure of fossil-fuel producing assets (e.g., coal producing assets) or continued use of carbon-emitting assets (e.g., high emission ships). Similarly, an entity would need to consider if its PP&E assets could be indirectly affected if, for example, it is used to provide services to customers in high emission industries.
- ▶ *Business models* - Climate-related ambitions will result in the development of new business models and projects with the aim of reducing carbon emissions. For example, carbon capture and storage may use a depleted oil or natural gas reservoir and utilise existing infrastructure that is partially or fully depreciated (e.g., pipelines or offshore facilities linked to producing or decommissioned oil and gas fields). In such a scenario, as the degree of certainty surrounding the future use of such assets increases, an entity

Climate-related matters may affect the value of an item of PP&E, its economic life and its residual value.

should assess whether it needs to change the method and/or period over which existing facilities are depreciated. That is, the useful life of existing infrastructure could be extended by a clean energy project.

- ▶ *Decommissioning* - If the useful life of an item of PP&E is shorter than previously expected, this would result in earlier decommissioning and would increase both the decommissioning provision and the decommissioning component of the asset as a result of the discounting effect. In addition, it should be noted that IFRIC 1 *Changes in Existing Decommissioning, Restoration and Similar Liabilities* creates profit and loss volatility in the case of end-of-life assets, which have a carrying amount that is small compared to the potential movements in the decommissioning liability.
- ▶ *Residual value* - The residual value of an item of PP&E should also be reviewed at least at each year-end. While residual values of PP&E assets are generally fairly predictable, this is not necessarily the case if there are relatively few buyers of second-hand PP&E assets that use technologies that are being phased out before a legal deadline. In the illustration below, easyJet describe in their annual report how the residual values of their fleet are affected by the impact of climate change:

Illustration 2-1 – easyJet Plc - 2020 financial statements

1A. SIGNIFICANT ACCOUNTING POLICIES

PROPERTY, PLANT AND EQUIPMENT

Residual values, where applicable, are reviewed annually against prevailing market rates at the end of the reporting period for equivalently aged assets and depreciation rates are adjusted accordingly on a prospective basis. The carrying value is reviewed for impairment if events or changes in circumstances indicate that the carrying value may not be recoverable. For aircraft, easyJet is dependent on Airbus as its sole supplier. This gives rise to a valuation risk which crystallises when aircraft exit the fleet, where easyJet is reliant on the future demand for second-hand aircraft. Future developments, such as the impact of climate change on the technological, market, economic or legal environment, are considered when assessing residual values and impairment where they can be reliably measured.

- ▶ *Development costs* -An entity may incur expenditure on the development of infrastructure relating to new technologies (i.e., hydrogen processing or carbon capture and storage (CCS) facilities). Such development costs are recognised as an item of PP&E if (and only if) it is probable that future economic benefits associated with the item will flow to the entity and the cost of the item can be measured reliably. The entity will need to consider at which point there is sufficient and reliable information to meet the PP&E recognition criteria. This is key as there will be more uncertainty about the total project costs of assets relating to new technologies compared to existing technologies. Therefore, there is greater potential for significant time and cost overruns.
- ▶ *Overhauls or redesigns* - In certain instances, major overhauls or redesigns may be required to convert or repurpose an existing asset (e.g., specialty ships used in the offshore oilfield services industry might be repurposed to service offshore wind farms). To the extent that such activities result in the replacement of asset parts, entities will need to apply the 'major inspection and overhaul' principles of IAS 16 in determining the appropriate treatment

Entities will need to ensure that sufficient and appropriate disclosure allows users to understand how PP&E is affected by the risks from, and exposures to, climate change.

of additional expenditure as well as the carrying value of pre-existing PP&E. As a result, entities may need to reconsider the useful lives of certain parts that are expected to be replaced earlier than previously expected.

- *Disclosures* - As noted above, climate-related matters have the potential to create significant uncertainty around the carrying value and accounting for items of PP&E. Entities will need to ensure that sufficient and appropriate disclosure allows users to understand those risks and exposures. Meaningful disclosures would address the uncertainties regarding useful life, residual value and decommissioning of PP&E, as well as any changes in those assumptions during the reporting period. In addition, entities may wish to consider whether or not the classes of PP&E presented in the financial statements are still appropriate. For example, an entity may conclude that it is no longer useful to combine the carrying amount of power stations regardless of underlying technology and carbon intensity. We refer to Section 1 for a discussion on disclosure requirements. In the illustration below, Electricité de France provide details in their annual report about their sustainable investment programme and how their initiatives will help achieve their commitments on energy transition:

Illustration 2-2 – Electricité de France SA - 2020 financial statements

20.4 SUSTAINABLE INVESTMENT, RESEARCH AND DEVELOPMENT, AND OTHER EXPENDITURE FOR PROTECTION OF THE ENVIRONMENT AND THE CLIMATE

20.4.1 Sustainable investment

In 2020 the Group continued its programme of gross operating investments, which amounted to €16.5 billion gross and included €16 billion of gross investments in intangible assets and property, plant and equipment (see notes 4 and 10.7) and €0.5 billion of gross financial investments.

As part of its work on the European taxonomy for sustainable activities, the Group has estimated its rate of gross operating investments validated as green by the European Union. Under the chosen methodology these investments do not include gross financial investments or “corporate” investments such as renewal of IT equipment or vehicle fleets.

In 2020, close to 94% of the Group’s investments met its low-carbon objectives: 51% of investments concerned the nuclear sector, and 43% were compliant with the European taxonomy for sustainable activities (by a method currently based on the Technical Expert Group report of March 2020) notably including production of renewable energies (e.g. hydropower, wind and solar power), networks, and energy services. These figures are likely to be revised in the light of changes in “Taxonomy” regulations, particularly when the delegated acts are published in 2021. The low-carbon investment strategy is also reflected in the objective of converting some of the Group’s coal or oil-fired units to low-carbon generation methods.

With the Ecomcombust project in France, the Group’s main objective is to optimise the performance by all of its fossil-fired plants by making innovative, ecological fuel that can be used in heating or electricity-generating installations that currently run on coal. If satisfactory results are achieved by the technical trials and impact studies required under the preliminary work programme validated by EDF and the Ministry for the Ecological and

Illustration 2-2 – Electricité de France SA - 2020 financial statements

Inclusive Transition, EDF will aim to begin industrial production of this new fuel in 2022. The fuel would then be used for co-firing, with a minority coal component, in the Cordemais plant's boilers from 2022.

EDF is also playing a part in the energy transition through investments in new activities. In 2017, the EDF group created its start-up incubator EDF Pulse Croissance, to explore the ecological and digital transition and provide its clients with innovative, competitive offerings and services. EDF Pulse Croissance is part of the Group's CAP 2030 strategy to develop a portfolio of assets focusing on carbon-free energy, services for customers and decentralised energy solutions.

In 2019 EDF Pulse Croissance invested in start-ups and formed subsidiaries that developed out of entrepreneurial projects. One of these is Hynamics, a subsidiary dedicated to the production and marketing of low-carbon hydrogen from water electrolysis, to meet the needs of industry and heavy-duty transport. Hynamics is also contributing to installing a network of hydrogen charging points across France for heavy-duty electric vehicles such as trains, buses, refuse collection trucks, commercial vehicles and river transport vessels.

As a consequence of the multi-year energy programme (PPE) fixing a final deadline of 2026 for the discontinuation of coal-fired power generation in France, and also due to the Ecocombust project, the ends of the depreciation periods for the Le Havre and Cordemais plants were changed in the first half of 2019 and set at 2021 for Le Havre and 2026 for Cordemais (for Cordemais, the date could still change depending on final decisions to be made about the Ecocombust project). The Group is also taking action under the PPE for the French island territories, which plans a progressive conversion to liquid biomass for plants that currently run on fuel oil.

Another reflection of the EDF Group's commitment to achieving carbon neutrality by 2050 is the management policy applied to its portfolio of dedicated assets held to finance long-term nuclear expenses in France (€33.8 billion at 31 December 2020). The group has drawn up a responsible investor's charter covering three areas (compliance with the United Nations' Principles for Responsible Investment; respect of the major international agreements on human rights; and an annual report on responsible investments). This charter is applicable both to assets managed directly and assets managed by specialist companies under delegated management arrangements.

In addition, on 17 December 2020, the Group finalised the sale of its Exploration and Production operations to Energean (see notes 1.4.2 and 3.1). The progressive disposal of the hydrocarbons Exploration and Production (E&P) operations is consistent with the priorities of the CAP 2030 strategy.

How we see it

Climate-related matters have the potential to significantly impact the useful life, residual value and decommissioning of PP&E. Climate change, and the associated legislation to promote sustainability, increase the risk that items of PP&E become 'stranded assets' whose carrying value can no longer be recovered within the entity's existing business model.

Given the uncertainties around the impact of climate change, disclosures should be enhanced to allow the users of the financial statements to understand and evaluate the judgements applied by management in recognising and measuring items of PP&E.

3. Impairment of assets

3.1 What is the issue?

IAS 36 *Impairment of Assets* requires an entity to assess, at the end of each reporting period (either year-end or interim reporting date), whether there are any impairment indicators for an entity's assets. If there are, the standard requires an entity to perform an impairment assessment. For goodwill, intangible assets with indefinite useful lives and intangible assets not yet available for use, IAS 36 requires an annual impairment test and also when indicators of impairment exist. Impairment indicators include significant changes in the technological, market, economic or legal environment that have an adverse effect on the entity, evidence of an asset's obsolescence and observable indications that the asset's value has declined. Increased awareness of the consequences of environmental change is triggering regulatory action, which is affecting stakeholder perspectives. In turn, this is impacting market prices for commodities and is driving entities to change the way they operate. An entity would need to consider whether such events and circumstances indicate impairment.

If one or more impairment indicators have been identified, the recoverable amount of an asset or cash-generating unit (CGU) has to be determined and compared with its carrying amount. In determining the recoverable amount an entity would need to consider both the direct and indirect impacts of environmental change.

Finally, IAS 36 requires an entity to disclose sufficient information for a user to understand how an asset or CGU was tested for impairment, such as key estimates and judgements, and the events and circumstances that led to the recognition of any impairment loss.

3.2 What is the impact?

Indication of impairment

Government actions to manage environmental change, such as committing to reach net-zero emissions by 2050 in line with the Paris Agreement, could indicate:

- ▶ There is a decline in the value of an entity's asset significantly exceeding what would be expected from the passage of time or normal use due to penalties for the use of assets exceeding certain emission targets. Additionally, it could indicate the asset would be abandoned earlier than previously anticipated.
- ▶ There is a significant adverse change to the market, economic or legal environment in which the entity operates. For example, a legal requirement to surrender carbon credits based on CO₂ emissions could mean certain activities become less profitable or even loss making in their current form. Alternatively, the introduction of a regulation to restrict certain production methods could mean an investment is required or production needs to be abandoned.
- ▶ There is significant adverse change to the technology employed by the entity, requiring significant investments in technology to adapt to the changes in the market.

Furthermore, stakeholders, such as investors, insurers, suppliers, lenders and customers are becoming more environmentally aware when making investment or purchasing decisions. They also factor in the exposure to certain industries. These developments could result in the presence of the following impairment indicators:

- ▶ The economic performance of an asset or CGU is likely to be worse than previously expected due to changes in customer preferences (e.g., competitors introducing more sustainable goods or services)
- ▶ Increase in general costs, for example when suppliers pass on higher costs, suppliers stop producing parts for certain assets, as well as increased maintenance costs due to physical impact of extreme weather events that may negatively impact the asset's or CGU's expected economic performance
- ▶ There is an increase in market interest rates or other market rates of return which are likely to affect the discount rate used in calculating an asset's or CGU's value in use. This, in turn, could decrease the asset's or CGU's recoverable amount materially. For example, an entity operating in an industry with high carbon emissions or high risk of flooding may face higher interest rates, or investors would require a higher rate of return to compensate for the increased risk they are exposed to from investing in such an entity. Whereas an entity operating in a 'green' industry may face lower interest rates, positively impacting their discount rate. A higher discount rate which reflects a higher risk specific to the asset or CGU would reduce the present value of the future cash flows and result in a lower value in use and vice versa.
- ▶ The carrying amount of the entity's net assets exceeds its market capitalisation. When investors are moving away from industries with high emissions, an entity's share price is likely to be negatively impacted, which could result in its market capitalisation dropping below the carrying amount of its net assets.
- ▶ There is an increase in insurance costs as insurers manage their risk exposure to environmental change by, for example, factoring in the increased probabilities associated with the physical impact of extreme weather events.

Finally, an entity's commitment to reduce its carbon footprint or more generally its impact on the environment, could indicate:

- ▶ Evidence of obsolescence of an asset. For example, an entity could look to abandon assets not compatible with their decarbonisation strategy.
- ▶ Significant changes in the extent, or manner, in which an asset is used or is expected to be used, have taken place in the period or soon after, that will have an adverse effect on it. For example, an entity could look at reducing certain activities to reduce its carbon footprint, its use of fossil fuels, or it could phase out assets with high energy consumption.
- ▶ The asset's or CGU's operating costs can be negatively affected by the required offsetting of its CO₂ emissions or investments to reduce energy and or water consumption.

ArcelorMittal describe in their annual report below how they have considered the impact of climate change as part of their impairment assessment:

Illustration 3-1 – ArcelorMittal SA - 2020 annual report

5.3 Impairment of intangible assets, including goodwill, and tangible assets

The Company considered its exposure to certain climate-related risks which could affect its estimates of future cash flow projections applied for the determination of the recoverable amount of its GCGUs and CGUs. With the switch to electric vehicles and the move to wind and solar power generation, the Company sees additional opportunities as customers deepen their understanding of embedded and lifecycle emissions of the materials where steel compares favorably. ArcelorMittal's most substantial climate-related policy risk is the EU Emissions Trading scheme ("ETS"), which applies to all its European plants. The risk concerns the Company's primary steelmaking plants which are exposed to this regulation and yet unprotected against competition from imported steel. The Company is committed to the objectives of the Paris agreement and announced its ambition to reduce carbon emissions by 30% in Europe by 2030 and achieve group-wide carbon neutrality by 2050. These announced goals would require significant longterm investments that are conditioned by outstanding requirements such as a global level playing field, access to abundant and affordable clean energy, facilitating necessary energy infrastructure, access to sustainable finance for low emissions steelmaking and accelerated transition to a circular economy. Therefore, given the uncertainties around these requirements, as per the Company's best estimate, the abovementioned significant long-term investments should not be included in the Company's assumptions for future cash flows of the recoverable amount of its GCGUs and CGUs. At the same time, the Company is engaged in developing in the near to medium term a range of low-emission technologies for the transition to decarbonized steel including the Smart Carbon route and the Hydrogen-DRI route and required investments are considered either in the Company's future cash flow projections or in the context of joint ventures, as an element of the Company's best estimate of capital expenditures which are committed and / or being implemented. Additionally, the Company's assumptions for future cash flows include an estimate for costs that the Company expects to incur to acquire emission allowances, which primarily impacts the flat steel operations in Europe. The assumption for carbon emission cost is based on historical experience, expected opportunities to mitigate or otherwise offset such future costs and information available of future changes. Due to economic developments, uncertainties over the pace of transition to low-emission technologies, political and environmental actions that will be taken to meet the carbon reduction goals, regulatory changes and emissions activity arising from climate-related matters, the Company's assumptions used in the recoverable amount calculations, such as capital expenditure, carbon emission costs and other assumptions are inherently uncertain and may ultimately differ from actual amounts.

Determining the recoverable amount

IAS 36 defines the recoverable amount as the higher of fair value less costs of disposal and value in use. When the recoverable amount is based on value in use and therefore requires an estimation of future cash flows, IAS 36 requires that the entity's cash flow projections are based on reasonable and supportable assumptions that represent management's best estimate of the range of economic conditions that will exist over the remaining useful life of the asset. When doing so, an entity would need to take into account various elements and

aspects of risk, which may be dealt with either as adjustments to the discount rate or to the cash flows. These elements include expectations about possible variations in the amount or timing, and other factors market participants would reflect in pricing the future cash flows the entity expects to derive from the asset, as well as the price for bearing the uncertainty inherent in the asset/CGU. With the general uncertainty about the impact of climate change and limited availability of historical information to assess assumptions against, significant challenges are expected when preparing the forecast or budgets for future cash flows.

Variations in amount or timing of cash flows

Entities should consider the statement in IAS 36 that greater weight is given to external evidence when factoring in environmental change.

Factoring in environmental change, means the need to address significant uncertainties about the future impact, which is beyond an entity's control, and requires incorporating data which may not have been incorporated in the past. Therefore, entities cannot ignore external evidence and should consider the statement in IAS 36⁵ that greater weight is given to external evidence. The best information available to the entity should be used, and the entities' own data should be adjusted if "reasonably available information indicates that other market participants would use different data or there is something particular to the entity that is not available to other market participants such as an entity-specific synergy". For example, entities could use projected energy prices, commodity prices or carbon prices (we refer to the example in Illustration 3-7 below). Incorporating projected prices is complex and requires significant judgement of, among others, the relevant timeframe and the climate change scenario used. Forecasts for commodity prices could, for instance, be obtained from commodity brokers or some banks. Whereas the spot carbon price of the relevant markets could be a starting point for carbon pricing. Alternatively, entities can start with the downscaled scenarios for carbon pricing provided by the Network for Greening the Financial System (NGFS), International Energy Agency (IEA), and the World Economic Outlook (WEO). Judgement will be required to determine the appropriate source for the jurisdictions in which the entity operates.

When the inputs for the cash flow forecast have been determined, the next consideration is the extent to which an entity is able to pass these costs on to customers, which depends on the specific contract and the price elasticity in the market.

Beach Energy Limited disclose in their financial statements below how they considered the impact of climate change and factored carbon pricing into their impairment assessment:

Illustration 3-2 – Beach Energy Limited - 2021 annual report

Impairment and impairment reversal indicator modelling

In determining whether there is an indicator of impairment, in the absence of quoted market prices, estimates are made regarding the present value of future cash flows for each CGU. These estimates require significant management judgement and are subject to risk and uncertainty, and hence changes in economic conditions can also affect the assumptions used and the rates used to discount future cash flow estimates.

⁵ See IAS 36. 33(a) regarding the measurement of value in use. Also, see section 5 of this publication for the determination of fair value in relation to the measurement of fair value less costs of disposal.

Current climate change legislation is also factored into the calculation and future uncertainty around climate change risks continue to be monitored. These risks may include a proportion of a CGU's reserves becoming incapable of extraction in an economically viable fashion; demand for the Group's products decreasing, due to policy, regulatory (including carbon pricing mechanisms), legal, technological, market or societal responses to climate change and physical impacts related to acute risks resulting from increased severity of extreme weather events, and those related to chronic risks resulting from longer-term changes in climate patterns. In most cases, the present value of future cash flows is most sensitive to the assumptions outlined below. Notwithstanding that there is currently no price on carbon in Australia, the Group has further assessed the carrying value of its producing assets in Australia against NPVs including a carbon pricing slope of \$25/tCO₂e increasing to A\$50/tCO₂e by 2030 then increasing to A\$70/tCO₂e by 2040 (real) and incorporating the benefits of carbon capture and storage and the delivery of projects related to Beach's '25 by 25' initiative which would also not result in any impairment being required as at 30 June 2021 had this been in place. The present value of future cash flows for each CGU were estimated using the assumptions below with reference to external market forecasts at least bi-annually. The assumptions applied have regard to contracted prices and observable market data including forward values and external market analyst's forecasts.

Inclusion of future investments

It is key to understand whether the investment is required to continue operating the assets and, therefore, would be akin to maintenance.

Another aspect to consider is how investments in fixed assets need to be considered in a cash flow forecast used to determine the recoverable amount of an asset or CGU. When assessing fair value less costs of disposal, these investments should be reflected, if a market participant would make such investments. However, when assessing the CGU's value in use, the guidance in IAS 36 is more prescriptive. Future cash flows are estimated for the asset in its current condition and do not include estimated future cash inflows or outflows that are expected to arise from future restructuring to which an entity is not yet committed or that improve the asset's performance. This raises the question to what extent such cash flows should be included where an entity is trying either to achieve certain sustainability targets or to cut their CO₂ emissions, which would require capital investments. It is key to understand whether the investment is required to continue operating the assets and therefore would be akin to maintenance. In contrast, if such capital investments, in effect, would represent improvements or enhancements to the asset, they should only be included when the entity is committed to and has substantively commenced the investment.

Use of multiple scenarios

Where significant uncertainty and judgement exists, an expected cash flow approach, based on probability-weighted scenarios, may be more appropriate.

Significant uncertainty and judgement also arise when considering how different scenarios of environmental change may materialise, for instance, the speed of decarbonisation and the extent to which the average global temperature is increasing. Where significant uncertainty and judgement exists, an expected cash flow approach, based on probability-weighted scenarios, may be more appropriate than a single best estimate for estimating value in use (see the example in Illustration 3-3). In practice, this could mean probability weighting

scenarios (i.e., worst case, base case and best case), as well as factoring in different pricing curves. Even where a probability-weighted scenario approach is used, an entity would still need to consider adjusting the discount rate for the general uncertainties and risks not reflected in the cash flows. Scenario analyses will be particularly relevant for highly impacted industries, such as extractives and manufacturing industries. Industries impacted to a lesser extent, could instead consider incorporating the exposure from environmental change through the discount rate and perform sensitivity analysis. For a discussion of fair value see section 5 of this publication.

Tesco describe how they have probability weighted their cash flow forecasts and considered climate change scenarios in their annual report, as shown below:

Illustration 3-3 – Tesco Plc - 2021 annual report

Impairment methodology - Value in use - Retail

Estimates for value in use calculations include discount rates, long-term growth rates, expected changes to future cash flows, including volumes and prices, and the probabilities assigned to cash flow scenarios. Estimates are based on past experience and expectations of future changes in the market, including the prevailing economic climate and global economy, competitor activity, market dynamics, changing customer behaviours, structural challenges facing retail and the resilience afforded by the Group's operational scale.

Cash flow projections are based on the Group's three-year internal forecasts, the results of which are reviewed by the Board. The forecasts are extrapolated to five years based on management's expectations, and beyond five years based on estimated long-term average growth rates. Long-term growth rates for the Retail business are based on inflation forecasts by recognised bodies.

In the current year, the Group applies an expected cash flow approach by probability-weighting different cash flow scenarios. The greatest probability weighting is applied to the cash flows derived from the three-year internal forecasts. Additional scenarios take account of the risks presented by Brexit, COVID-19, a macroeconomic downturn and climate change consistent with the viability statement scenarios (see the longer-term viability statement in the Strategic report) as well as an upside scenario.

Eni have not factored in climate risk in a scenario analysis, but rather describe how the discount rate has changed as a result of the increase in climate-related risk associated with the oil and gas sector.

Illustration 3-4 – Eni SpA - 2020 annual report

Impairment of non-financial assets

The discount rates of future cash flows associated with the use of the assets were estimated on the basis of Eni's weighted average cost of capital, adjusted to discount the specific risks of the operating context of the Group's countries of activity (WACC adjusted). Eni's WACC for 2020 of 6.7% decreased compared to 2019 (7.4%), mainly due to the decline in the yields of risk-free assets of benchmark countries, which turned negative. This trend

was mitigated by the greater weight attributed to the short-term volatility of Eni stock (beta determined from independent sources) which compared to the prior year is affected by a greater perceived risk of the Oil & Gas sector due to climate-related risks and structural weaknesses of the industry, also amplified by the pandemic crisis.

Due to climate change, some entities may experience significant difficulties in preparing future cash flow projections beyond the next few years.

Period of reliable cash flow projections

As a result of the significant uncertainty outside an entity's control, the period for which reliable cash flow projections are available and the impact of climate change on the growth rate applied to the last year of cash flow forecast needs careful consideration. While IAS 36 states that cash flow projections for value in use must cover a maximum period of five years, it allows for a longer period if it can be justified. Due to climate change, some entities may experience significant difficulties in preparing future cash flow projections beyond the next few years. Basing the extrapolation of longer-term cash flows on the short-term cash flow forecasts may also raise challenging questions. Other entities could be required to forecast longer before calculating a terminal value, and some may even find that the cash flow projections should be made for the full remaining estimated useful life of the asset or CGU.

Terminal value

Entities significantly exposed to climate change risk will have to assess the impact on the growth rate applied and might even need to consider negative growth rates.

Value in use for many long-term assets will mainly be driven by the terminal value and, therefore, by the level of cash flows in the final year of cash flow projections and the growth rate applied to it. As such, it is important to ensure that the final year of the cash flow forecast represents a sustainable level, also reflecting climate-related aspects. If it does not, adjustments to reflect future expenditure to address the impact of climate change may be required (see the above discussion on the inclusion of future investments). It is important to ensure that the growth rate applied is appropriate and that it considers the impact of climate-related matters. IAS 36 requires the application of a steady or declining growth rate, unless an increasing rate can be justified. Entities significantly exposed to climate change risk will have to assess the impact on the growth rate applied and might even need to consider negative growth rates. Furthermore, the terminal value may become particularly challenging when different growth rates need to be considered depending on the time passed.

In the illustration below, Enel SpA disclose how they have considered climate change in the impairment test, and, in particular, the impact it has on the terminal value and the growth rate assumed.

Illustration 3-5 – Enel SpA - 2020 annual report

Goodwill

The nominal growth rate (g-rate) is equal to the long-term rate of growth in electricity and/or inflation (depending on the country and business involved) and in any case no higher than the average long-term growth rate of the reference market. The Group has also taken account of the long-term impact of climate change, in particular by considering in the estimation of the terminal value a long-term growth rate in line with the change in electricity demand in 2030-2050 based on the specific characteristics of the businesses involved.

The Group therefore confirmed its strategic direction based on the trends associated with the energy transition. The use of capital has been focused on decarbonization through the development of generation assets that use renewable sources, on the enabling infrastructures linked to the development of networks and on the implementation of platform models, making the most of technological and digital evolution, which will foster the electrification of energy consumption, as well as the development of new services for end users.

In 2020, Enel updated their decarbonisation roadmap to capture both the acceleration in the spread of renewables and the reduction in thermal generation capacity envisaged in the new 2021-2023 Strategic Plan. At their 2020 Capital Markets Day, they set their objectives for 2030 in line with the Paris Agreement target. In their 2020 financial statements, they explain that the same assumptions were used in the goodwill impairment test:

Illustration 3-6 – Enel - 2020 annual report

TIME HORIZON	GREENHOUSE GAS (GHG) REDUCTION TARGET
Short term	2023 > Direct emissions of Scope 1 greenhouse gases to 148 gCO _{2e} /kWh (-32% compared with 2020)
Medium term	2030 > Direct emissions of Scope 1 greenhouse gases to 82 gCO _{2e} /kWh (-80% compared with 2017, consistent with the 1.5 °C path as certified by the SBTi) > 16% reduction in Indirect Scope 3 emissions associate with gas consumption by end users compared with 2017
Long term	2050 > Full decarbonization of energy mix
...	

BP disclose in their annual report how they have revised their pricing assumptions, and how these pricing assumptions compare to external pricing forecasts.

Illustration 3-7 – BP Plc - 2020 annual report

Judgements and estimates made in assessing the impact of climate change and the transition to a lower carbon economy

Climate change and the transition to a lower carbon economy were considered in preparing the financial statements. These may have significant impacts on the currently reported amounts of the company's assets and liabilities discussed below.

Impairment of investments

The energy transition is likely to impact the future prices of commodities such as oil and natural gas which in turn may affect the recoverable amount

of property, plant and equipment, and goodwill in the oil and gas industry. Management's best estimate oil and natural gas price assumptions for value-in-use impairment testing were revised downwards during 2020 and the period covered extended to 2050. The revised assumptions sit within the range of external forecasts considered by management and are broadly in line with a range of transition paths consistent with the goals of the Paris climate change agreement. Impairments were recognized during 2020 on certain investments where the subsidiary company holds Upstream oil and gas properties, as a result of the lower price assumptions. The energy transition may also affect the future development or viability of exploration prospects. The lower price assumptions and work to develop bp's new strategy resulted in a review of the recoverability of exploration and intangible assets during 2020. Certain intangible assets were subsequently written-off, which has resulted in the company recognizing impairments against investments in subsidiary companies holding these assets.

...

Entities should disclose how climate change and climate-related goals have been translated into assumptions and are reflected in the impairment test.

Disclosures

Where entities use significant assumptions and judgements to reflect the climate risk in their impairment test, this should be reflected in the disclosures. It is important to disclose how climate change and climate-related goals have been translated into assumptions and are reflected in the impairment test, or alternatively, why these have not been considered. For example, entities committed to meet the Paris Agreement target of net zero emissions by 2050 may consider disclosing how this is translated into assumptions on pricing commodities, levies, forced decommissioning of assets, divestments of businesses, etc. This would help users understand the interaction between what the entity discloses in their financial statements and other sections of the annual report, such as the sustainability report or press releases. We refer to Section 1 for more discussion on disclosures.

The effects of published ambitions in terms of climate change on financial reporting are addressed by Coles, where the entity stated that it did not identify any material financial reporting impact as a result of climate risks.

Illustration 3-8 – Coles Group Limited - 2021 annual report

Forecast future cash flows

Forecast future cash flows are based on the Group's latest Board approved internal five-year forecasts and reflect management's best estimate of income, expenses, capital expenditure and cash flows for each asset or CGU. Internal forecasts have considered the ongoing impacts of the COVID-19 pandemic on income and expenses. Changes in selling prices and direct costs are based on past experience and management's expectation of future changes in the markets in which the Group operates.

In addition, consideration has been given to the potential financial impacts of climate change related risks on the carrying value of goodwill through a qualitative review of the Group's climate change risk assessment. This review did not identify any material financial reporting impacts.

When calculating the FVLCOF of an asset or CGU, future forecast cash flows also incorporate reasonably available market participant assumptions such as enhancement capital expenditure.

A sensitivity analysis can be useful to explain the impact a reasonable possible change in the inputs used has on the headroom, or the change in assumptions required to cause an impairment. We refer to Illustration 3-1.

How we see it

- ▶ The extent to which certain assets, processes or activities will be impacted by climate-related business requirements and how climate-related risks and opportunities will affect an entity's forward-looking information, such as cash flow projections in the prognosis period may require significant judgement.
- ▶ Entities should consider what information users rely on in assessing the entity's (lack of) exposure to climate-related risks.

4. Provisions

4.1 What is the issue?

IAS 37 *Provisions, Contingent Liabilities and Contingent Assets* requires a provision to be recognised when an entity has a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation, and a reliable estimate can be made of the obligation. At the same time, IAS 37 does not allow an entity to recognise a provision for future operating losses.

Except in the case of an onerous contract, the amount required to be recognised as a provision is the best estimate of the expenditure required to settle the present obligation at the end of the reporting period. In the case of an onerous contract, the amount required to be recognised as a provision is not based on an estimate of an expected outcome. Instead, the provision reflects the lower of the costs of fulfilling the contract and any compensation or penalties from a failure to fulfil it (regardless of what the entity expects to do).

If any of the conditions for recognition are not met, no provision is recognised and an entity may instead have a contingent liability. Contingent liabilities are not recognised, but explanatory disclosures are required, unless the possibility of an outflow in settlement is remote.

IAS 37 requires disclosures to enable users to understand the nature, timing and amount of provisions and contingent liabilities. For both provisions and contingent liabilities, this includes an indication of the uncertainties relating to the amount or timing of any outflow.

4.2 What is the impact?

As entities take action to address the consequences of climate change, these actions may result in the recognition of new liabilities or, where the criteria for recognition are not met, new contingent liabilities may have to be disclosed.

In particular, entities should consider the following in assessing the impact of climate on provisions and contingent liabilities.

New laws or regulations

Legislation introduced in response to climate change may give rise to new obligations that did not exist previously. For example, new requirements could be introduced for the recycling or removal of products, such as the first EU Directive on 'Waste Electrical and Electronic Equipment in 2003.⁶ Where a new law is proposed but not yet enacted, an obligation arises only when the legislation is virtually certain to be enacted as drafted⁷. In many jurisdictions, this will not be until the law is enacted.

Legal requirements to incur expenditure in order to operate in a particular way in the future will not, in themselves, justify the recognition of a provision if there

⁶ IFRIC 6 *Liabilities arising from Participating in a Specific Market - Waste Electrical and Electronic Equipment* was developed to provide guidance on identifying the obligating event for recognition of a provision in accordance with paragraph 14(a) of IAS 37. However, it was the existing guidance in IAS 37 that required recognition of a provision where there is a past obligating event, and a probable outflow of resources that could be reliably measured.

⁷ Refer to IAS 37.50

Actions to address the consequences of climate change may result in the recognition of new liabilities or the disclosure of new contingent liabilities.

is no present obligation to incur the future expenditure, as illustrated in Example 1 below.

Example 1: Legal requirement to incur future expenditure

Under legislation passed in 2021, an entity is required to replace gas heating systems in all owned properties with hydrogen or other low-carbon alternatives by 30 June 2025. The company does not start to replace its heating systems until 2026.

At the end of the 2022, 2023 and 2024 reporting periods, no event has taken place to create an obligation. Only when the heating systems are replaced or the legislation takes effect, will there be a present obligation as a result of a past event.

At 31 December 2025, there is still no obligating event to justify provision for the cost of replacing heating systems required under the legislation because the heating systems have not been replaced. However, a provision would be recognised for the best estimate of any fines and penalties if, as at 31 December 2025, it is determined to be more likely than not that such fines and penalties will be imposed.

In addition, new levies may be introduced by governments to encourage or discourage specified activities, for example, an environmental tax charged on the energy that businesses use. Applying the guidance in IFRIC 21 *Levies*, the activity that creates the obligation under the relevant legislation to pay the levy is the obligating event for the purposes of the recognition of a provision, in this case the consumption of energy.

Entities should assess whether public commitments created a constructive obligation.

Constructive obligations

An entity may make a public commitment to behave in a certain way or undertake certain activities in response to climate change. Such an entity must assess whether they have created a constructive obligation that requires recognition of a provision. Under IAS 37, only those obligations arising from past events that exist independently of an entity's future actions can be recognised as a provision.

Decommissioning and asset retirement obligations

Provisions may not have previously been recognised for the decommissioning costs of assets such as coal, or oil and gas plants, because they were considered to have indefinite useful lives. Climate change, and the resulting associated legislation, may require this judgement to be reconsidered and new decommissioning provisions recognised, or new contingent liabilities disclosed, as Royal Dutch Shell disclosed in the below extract:

Climate change, and the resulting associated legislation, may require past judgements to be reconsidered.

Illustration 4-1 – Royal Dutch Shell Plc - 2020 annual report

Note 25 - Legal proceedings and other contingencies

Decommissioning and restoration of manufacturing facilities

Industry practice has been not to recognise decommissioning and restoration provisions associated with manufacturing facilities in Oil Products and Chemicals. This was on the basis that these assets were considered to have

indefinite lives and, therefore, that it was considered remote that an outflow of economic benefits would be required.

In 2020, the changed macroeconomic fundamentals were considered, together with Shell's plans to rationalise the Group's manufacturing portfolio. It was also reconsidered whether it remained appropriate not to recognise decommissioning and restoration provisions for manufacturing facilities.

It was concluded that the assumption of indefinite lives for manufacturing facilities is no longer appropriate, and the need for either recognition of decommissioning and restoration provisions or contingent liability disclosure was reviewed. In 2020, provisions have been recognised for certain shorter-lived manufacturing facilities (See Note 18).

As well as creating new decommissioning obligations for entities, climate change or related legislation could also result in earlier decommissioning. This would result in an increase to a previously recognised provision, as a result of the impact of discounting. The decommissioning component of the related PP&E asset would also increase as a result of the requirements of IFRIC 1. Changes in the estimated cost of decommissioning activities as a result of climate-related matters may also impact the measurement of existing decommissioning and asset retirement obligations as BP and Rio Tinto discussed in the extracts below:

Illustration 4-2 – BP Plc - 2020 annual report

1. Significant accounting policies, judgements, estimates and assumptions

Judgements and estimates made in assessing the impact of climate change and the transition to a lower carbon economy

Provisions: decommissioning

The energy transition may bring forward the decommissioning of oil and gas industry assets thereby increasing the present value of associated decommissioning provisions. The majority of bp's Upstream oil and gas properties are expected to start decommissioning within the next two decades and management does not expect any reasonable change in the expected timeframe to have a material effect on the Upstream decommissioning provisions, assuming cash flows remain unchanged. Decommissioning cost estimates are based on the known regulatory and external environment. These cost estimates may change in the future, including as a result of the transition to a lower carbon economy.

Illustration 4-3 – Rio Tinto Plc - 2020 annual report

Note 25 Provisions (including post-retirement benefits)

Closure cost composition as at 31 December	2020 US\$m	2019 US\$m
Decommissioning, decontamination and demolition	3,131	2,066
Closure and rehabilitation earthworks ^(a)	4,223	3,889
Long-term water management costs ^(b)	966	920
Post closure monitoring and maintenance	1,318	855
Indirect costs, owners' costs and contingency ^(c)	3,697	3,360
Total	13,335	11,090

The underlying costs for closure have been estimated with varying degrees of accuracy based on a function of the age of the underlying asset and proximity to closure. For assets within ten years of closure, closure plans and cost estimates are supported by detailed studies which are refined as

Illustration 4-3 – Rio Tinto Plc - 2020 annual report

the closure date approaches. These closure studies consider climate change and plan for resilience to expected climate conditions with a particular focus on precipitation rates. For new developments, consideration of climate change and ultimate closure conditions are an important part of the approval process. For longer-lived assets, closure provisions are typically based on conceptual level studies that are refreshed at least every five years; these are evolving to incorporate greater consideration of forecast climate conditions at closure.

(a) A key component of earthworks rehabilitation involves re-landscaping the area disturbed by mining activities utilising the largely diesel powered heavy mobile equipment. In developing low-carbon solutions for our mobile fleet, this may include electrification of the vehicles during the mine life. The forecast cash flows for the heavy mobile equipment in the closure cost estimate are based on existing fuel sources; these could reduce if this power is sourced from renewable energy.

(b) Long-term water management relates to the post-closure treatment of water due to acid rock drainage and other environmental commitments and is an area of research and development focus for our Closure team. The cost of this water processing can continue for many years after the bulk earthworks and demolition activities have completed and are therefore exposed to long-term climate change. This could materially affect rates of precipitation and therefore change the volume of water requiring processing. It is not currently possible to forecast accurately the impact this could have on the closure provision as some of our locations could experience drier conditions whereas others could experience greater rainfall. A further consideration relates to the alternative commercial use for the processed water which could support ultimate transfer of these costs to a third party.

Onerous contracts

Increased costs related to the use of new environmentally friendly materials or processes could mean that contracts previously expected to be profitable are now expected to be loss making. If determined to be onerous, a provision may be required for the least net cost of exiting from the contract, which is the lower of the cost of fulfilling it and any compensation or penalties arising from failure to fulfil it. However, if there are no fines or compensation payable on exiting the contract, no provision would be allowed, even if the entity chooses to honour the contract.

Business model

Climate change and related legislative changes could mean that certain areas of current operations of an entity are no longer feasible in their current form, for example, operations related to drilling for oil, or building diesel engines. This may mean that contracted projects, or capital commitments are abandoned resulting in possible onerous contracts, or in more extreme cases, restructuring or closure of individual divisions or businesses. Entities will need to assess whether, and when, business model changes require the recognition of related restructuring provisions.

Legal claims

In most situations, assessing the need to provide for legal claims is one of the most difficult tasks in the field of provisioning. This is due mainly to the inherent uncertainty in the judicial process itself, which may be very long and drawn out. Whether an entity should make provision for the costs of settling a case or to meet any award given by a court will depend on a reasoned assessment of the particular circumstances, based on appropriate legal advice. Entities may expect

Climate change and related legislative changes could mean that certain operations are no longer feasible.

lawsuits linked to climate-related matters to become more common in the future and the outcome more uncertain, as is discussed in the below disclosure made by Royal Dutch Shell.

Illustration 4-4 – Royal Dutch Shell Plc - 2020 annual report

Note 25 - Legal proceedings and other contingencies

Climate change litigation

In the USA, 18 lawsuits have been filed by several municipalities and/or states against oil and gas companies, including Royal Dutch Shell plc. The plaintiffs seek damages for a variety of claims including harm to their public and private infrastructure from rising sea levels and other alleged impacts of climate change caused by the defendants' fossil fuel products. A similar suit has been filed by a crab-fishing industry group claiming harm to their fisheries as a result of alleged ocean-related impacts of climate change. In the Netherlands a case has been filed against Shell by a group of environmental non-governmental organisations (eNGOs) and individual claimants seeking a court order that emission levels from Shell's activities and sold energy products are unlawful and that by 2030 it should reduce those emissions by least (net) 45%, alternatively 35% or 25% (as compared with 2019 levels). Management believes the outcome of these matters should be resolved in a manner favourable to Shell, but there remains a high degree of uncertainty regarding the ultimate outcome of these lawsuits, as well as their potential effect on future operations, earnings, cash flows and Shell's financial condition.

New legislation related to climate change may also mean that outflows for existing legal claims become probable rather than possible, resulting in the need to recognise a provision rather than disclose a contingent liability.

Disclosure

The timing and impact of the effects of climate change is uncertain. Entities will need to ensure that sufficient and appropriate disclosure allows users to understand those uncertainties and the assumptions and judgements made in recognising and measuring provisions. Where relevant, companies should disclose how climate transition has been taken into account in the measurement of a provision or disclosure of a contingent liability, disclosure of the values assigned to key assumptions (such as the timing of decommissioning outflows), any material changes to key assumptions in the reporting period, the reason for the changes, and sensitivities of material decommissioning provisions to changes in cost or timing assumptions. Refer to Section 1 for more discussion on disclosures.

Where relevant, companies should disclose how climate transition has been taken into account when accounting for provisions.

How we see it

Climate-related matters have the potential to have a significant impact on the recognition and measurement of provisions, and the need for disclosure of contingent liabilities. However, under IAS 37, only those obligations arising from past events that exist independently of an entity's future actions can be recognised as a provision.

Given the significant uncertainties involved in assessing the extent and impact of climate change, entities should ensure that sufficient disclosures are provided to allow users of financial statements to understand those uncertainties, how climate transition has been taken into account in the measurement of a provision or disclosure of a contingent liability, and the assumptions and judgements made by management in recognising and measuring provisions.

5. Fair value measurement

5.1 What is the issue?

IFRS 13 *Fair Value Measurement* defines fair value as an exit price and requires an entity to use the assumptions that market participants would use when pricing the asset or liability. Fair value is not the value specific to the reporting entity and it is not the specific value to one market participant whose risk assessment or specific synergies may differ from other market participants.

Since fair value focuses on what market participants in the principal (or most advantageous) market would consider when pricing the asset or liability, care is needed in determining whether, and to what extent, climate change might affect the assumptions used to measure fair value. This may include, for example, how market participants believe climate-related risks would affect the price of the asset or liability; the effect of restrictions imposed on assets in response to climate change (if it is a characteristic of the asset); and the highest and best use of a non-financial asset, which must be physically possible, legally permissible and financially feasible, and is presumed to be the entity's current use.

IFRS 13 requires an entity to prioritise the use of observable inputs over unobservable ones. This may be more challenging if risks are not yet priced in a market and would affect the categorisation of the fair value measurement (as a whole) within the fair value hierarchy. Among other disclosure requirements, IFRS 13 requires entities to provide a narrative description of the sensitivity of recurring Level 3 fair value measurements to changes in the unobservable inputs used, if changing those inputs would significantly affect the fair value measurement. For financial instruments, further quantitative information is required about the effects of reasonably possible alternative assumptions.

5.2 What is the impact?

Measurement

Entities should ensure that the relevant fair value measurements appropriately consider the relevant climate-related risk factors. Climate change can have a tangible effect on an entity's assets and liabilities now or in the future (e.g., rising water levels, changing weather patterns, increased pollution levels). A government or entity's response to climate change may be known (e.g., changes to legislation or regulation, commitments to agreed targets or spending to mitigate effects of pollution) or only anticipated (e.g., potential changes in business models, changing behaviours of consumers, competitors, suppliers, lenders and investors). All of these could potentially affect the fair value of an asset or liability, whether the risk or opportunity is real or perceived.

IFRS 13 requires fair value to be measured consistent with the unit of account for the asset or liability being measured. Therefore, entities need to understand to which assets and/or liabilities climate-related factors are attributable, and ensure they do not double count or omit relevant factors. For example, anticipated increases in costs due to climate-related developments may affect the value of an item of property, plant or equipment held by a mining company and also a related rehabilitation provision. However, when measuring the fair value an item of property, plant or equipment, the entity would need to consider

Entities should ensure that the fair value measurements appropriately consider relevant climate-related risk factors.

only those inputs that market participants would consider relevant when pricing the asset.

If market participants would consider adjustments for the inherent risk of the asset or liability or for the risk in the valuation technique used to measure fair value (e.g., the valuation technique did not explicitly consider climate-related matters), then such risk adjustments should be considered in the fair value assumptions. However, despite the increased focus on climate-related factors, incorporating such factors into a fair value measurement may be particularly challenging and inputs might not be observable at this stage. In some cases, there might be no standard framework to measure, validate and monitor related programmes. In others, changes may be agreed in principle, but the timing may be unknown or subject to change. Even if the risk can be quantified and timing estimated, the market(s) and market participants might not yet know how to adjust for it in the price of the asset or liability. As a result, entities need to consider whether, and how, they can factor relevant climate-related risks into a fair value measurement.

The ability of market participants to reliably price climate risk and incorporate climate change variables into valuations is expected to gradually improve. This may be similar to the gradual process that market participants took when switching to overnight index swap (OIS) discounting from London interbank offering rate (LIBOR) discounting for collateralised derivatives. There was a period of time during which only some market participants switched to using OIS discounting and others continued using LIBOR discounting. During the transition period, entities may be required to exercise significant judgement to determine the appropriate market participant assumptions.

When considering whether adjustments should be made in a fair value measurement, the following questions could be relevant:

- ▶ Are market participants likely to incorporate climate change variables into the fair value measurement?

An entity may consider the effect of climate change variables in its use, and value, of an asset, but if other market participants do not incorporate these variables in transactions, then it would be inappropriate to include them as inputs in an IFRS 13 fair value measurement.

- ▶ When using a proxy as part of the market approach, are climate change variables considered in the choice of the appropriate proxy?

It is important that the chosen proxy displays similar exposure to climate risk factors as the item being valued. For example, when valuing an investment in an oil company, the equity valuation of an oil company that has invested heavily in developing a renewable energy product offering is likely to be impacted differently by climate risk factors than the equity valuation of a similar oil company that does not have a transition plan to develop its product offering. If using a proxy with different climate risk factors, an adjustment may be necessary.

- ▶ When using a proxy in measuring the credit valuation adjustments (CVA) against less liquid uncollateralised derivative counterparties, are climate change variables considered when choosing the appropriate proxy?

If there is no observable counterparty-specific credit spread and a proxy is used, the CVA measurement might need to be adjusted when that counterparty is materially exposed to climate risks (provided the adjustment is consistent with those that market participants would make).

- ▶ Have any restrictions on the assets been considered?

If the restrictions are a characteristic of the asset being measured (as opposed to a characteristic of the entity itself), then the restrictions should be factored into the fair value measurement. For example, if a portion of a forest is restricted from harvest as part of a carbon capture scheme, this restriction would be considered since it does represent a characteristic of the asset being measured.

When using the income approach (e.g., a discounted cash flow technique), the following questions could be relevant:

- ▶ Does the technique incorporate the impact of climate risk factors and, if so, to what extent?

Entities need to check whether the projected cash flows and/or the discount rate factor in the existence of climate risk factors and are internally consistent. For example, for the equity valuation of an automotive company producing internal combustion engines (ICEs), it may not be appropriate to assume indefinite sales growth from ICEs in their cash flow projections given the regulatory risks that threaten the longevity of ICEs.

- ▶ Have any climate change risk factors been double counted?

Double counting the risk in both the cash flow projection and discount rate should be avoided. Conversely, to the extent the risks are not adequately captured in the cash flows, then an adjustment to the discount factor may be warranted (provided the adjustment is consistent with adjustments that market participants would make).

For non-financial assets, the following questions could be relevant:

- ▶ Have developments in response to climate risk changed the entity's current use of the asset?
- ▶ Are there any indications that market participants have changed the use of similar assets?
- ▶ Is the asset positively or negatively affected by current and/or anticipated changes in the climate (e.g., rising water levels, changing weather patterns)?
- ▶ If the current use differs from its highest and best use, why?

For stranded assets, for example, an entity may believe the value from their perspective is low (perhaps because it is not part of their future plans given their selected climate change transition business plans), IFRS 13 would consider the highest and best use from a market participant's perspective, which may result in a fair value measurement that is higher than when assuming the entity's current use.

Disclosure

Regardless of whether an entity can adjust for relevant risks in measuring fair value, disclosure of those risks and their potential effect will be important. In particular, users of financial statements will need to understand whether, and

Users of financial statements will need to understand whether, and how, the relevant climate-related factors have been incorporated within the methodologies and inputs.

how, the relevant climate-related factors have been incorporated within the methodologies and inputs.

In instances where climate risk factors have a material impact on the fair value measurements, additional disclosures would be required, particularly for those categorised within Level 3 of the fair value hierarchy. This includes any changes in the valuation processes, and sensitivity to changes in unobservable inputs and the interrelationship of those inputs. Entities may need to consider whether additional information is needed to meet the disclosure objective in IFRS 13.

Should entities wish to convey more information (e.g., the entity's incorporation of climate-related factors for its own purposes, rather than financial reporting), entities need to consider whether disclosure within the financial statements is appropriate or it is better presented in the management's discussion and analysis (MD&A).

Illustration 5-1 below contains an example of disclosures that could be included in the financial statements. It shows, for a Level 3 fair value measurement, a description of the impacts of climate change on the relevant inputs into the fair value measurement. It highlights how climate-related factors (e.g., water scarcity, fire risks) affect the inputs that are considered by market participants and used in the fair value measurement.

Illustration 5-1 – Mondi Group ASA - 2020 annual report

14 Forestry assets

The fair value of forestry assets is a level 3 measure in terms of the fair value measurement hierarchy, consistent with prior years.

The following assumptions have a significant impact on the valuation of the Group's forestry assets:

- ▶ The net selling price, which is defined as the selling price less the costs of transport, harvesting, extraction and loading. The net selling price is based on third-party transactions and is influenced by the species, maturity profile and location of timber. In 2020, the net selling price used ranged from the South African rand equivalent of €15 per tonne to €45 per tonne (2019: €17 per tonne to €48 per tonne) with a weighted average of €28 per tonne (2019: €31 per tonne).
- ▶ The conversion factor, which is used to convert hectares of land under afforestation to tonnes of standing timber, is dependent on the species, the maturity profile of the timber, the geographic location and a variety of other environmental factors, such as the anticipated impact of climate change on water scarcity and fire risks. In 2020, the conversion factors ranged from 8.2 to 23.6 (2019: 8.5 to 24.3).
- ▶ The risk premium on immature timber of 14.3% (2019: 13.9%) is based on an assessment of the risks associated with forestry assets in South Africa and is applied for the years the immature timber has left to reach maturity. A risk premium on mature timber of 4.0% (2019: 3.5%) was applied. The risk premium applied to immature and mature timber include factors for the anticipated impact of climate change on water scarcity and fire risks.

How we see it

Entities should ensure that any climate change variables incorporated in a fair value measurement are those that market participants would consider when pricing the asset or liability to ensure it is an IFRS 13 fair value measurement.

Entities may need to use significant judgement when considering climate-related factors in their fair value measurements, which may lead to greater estimation uncertainty and a need for more transparent disclosure.

Appendix: Other climate-related accounting considerations

Below we have listed other potential climate-related accounting considerations that could have an impact on entities. As practice develops and as more information becomes available, we will update the publication and address some of these issues separately.

Standard	Potential accounting considerations
IAS 2 <i>Inventories</i>	Have inventories become less profitable (due to carbon offsetting charges, additional import duties, product conversion/redesign costs) or obsolete (due to changes in customer demand or regulatory restrictions)? Should levies on emissions during production be included in the cost of the produced inventories?
IAS 10 <i>Events after the Reporting Date</i>	Do specific regulatory or market developments that occur after the reporting date represent non-adjusting events?
IAS 12 <i>Income taxes</i>	How is the entity's ability to generate future taxable profits impacted by climate-related developments? Are there substantively enacted climate-related changes to tax legislation (e.g., penalties or cost deductibility restrictions on certain sectors, regions, activities) with a significant impact on the income taxes that the entity expects to pay?
IAS 19 <i>Employee Benefits</i>	Do any of the entity's employee benefits depend on the achievement of specific climate-related targets?
IAS 20 <i>Accounting for Government Grants and Disclosure of Government Assistance</i>	Have government incentives or assistance been introduced or revised in response to specific climate-related initiatives? Are conditions attached to any government grants linked to climate-related targets or initiatives? Have circumstances changed that would affect the entity's ability to meet those conditions or could require repayment of a grant?
IAS 41 <i>Agriculture</i>	Have there been any events related to climatic, disease and other natural risks that have given rise to a material item of income or expense for which the nature and amount needs to be disclosed in the financial statements? Have entities that hold, or are planting, trees as carbon sinks or to produce carbon offsets considered which standard applies to those assets? ⁸
IFRS 2 <i>Share-based Payments</i>	Do any of the entity's share-based payment plans depend on the achievement of specific climate-related targets?
IFRS 7 <i>Financial Instruments: Disclosures</i>	Should the current risk segmentation in the disclosures be updated to reflect changes in risk appreciation towards certain sectors/regions heavily reliant on fossil fuels or carbon inefficient activities (e.g., in the disclosures on the expected credit losses and/or risk concentration)?

⁸ Refer to our publication [IFRS Developments- Accounting for trees held to generate carbon offsets for use or sale](#) for further details.

Standard	Potential accounting considerations
IFRS 8 Segment Reporting	<p>Is the information presented in the segment reporting consistent with the information disclosed in other parts of annual report/other communication to investors (e.g., when information for commodity / non-commodity businesses are reviewed by CODM)?</p> <p>Does the entity adjust the IFRS information for internal management reporting purposes to fully reflect any climate-related impact of its activities?</p>
IFRS 9 Financial Instruments	<p>Do financial assets with climate-related targets (such as green bonds) meet the criteria for measurement at amortised cost?</p> <p>Does the approach for the estimation of expected credit losses on accounts receivables and contract assets appropriately reflect the climate-related risks or uncertainties to which specific customers are exposed?</p> <p>Do climate uncertainties influence the extent to which forecast transactions remain highly probable?</p>
IFRS 10 Consolidated Financial Statements	<p>Do new climate-related regulatory developments result in the loss of control over a particular business or activity (for example, due to the inability to continue to operate certain activities or influence the key decisions)?</p>
IFRS 15 Revenue from Contracts with Customers	<p>Is the entity facing increased uncertainties related to revenues recognised over time due to climate-related developments?</p> <p>Are climate-related developments affecting the extent to which variable consideration is expected to be entitled by the entity (including its assessment of the constraint on variable consideration)?</p> <p>Are customers charged an optional or required fee to offset emissions with their purchase? If so, has the entity assessed the impact on its accounting (e.g., whether there is a promised good or service, whether they are agent or principal)?</p> <p>Have any climate-related developments led to modifications of contracts with customers (e.g., switching to goods or services with a smaller carbon footprint)?</p> <p>Have any climate-related developments affected anticipated revenue contracts (e.g., renewals), such that recognised contract cost assets need to be assessed for impairment or the amortisation period revised?</p>
IFRS 16 Leases	<p>Have there been changes (e.g., changes in business models or restructuring plans) that require a reassessment of the lease term and lease liability?</p> <p>Are lease agreements modified due to climate-related changes in the market or legal environment (e.g., the inability to operate certain asset or activities)?</p>
IFRS 17 Insurance Contracts	<p>Do the entity's risk assumptions appropriately reflect climate-related developments (e.g., increased frequency or magnitude of insured events)?</p> <p>Does the entity provide the relevant disclosures on climate risk management for users to understand their effects?</p>

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