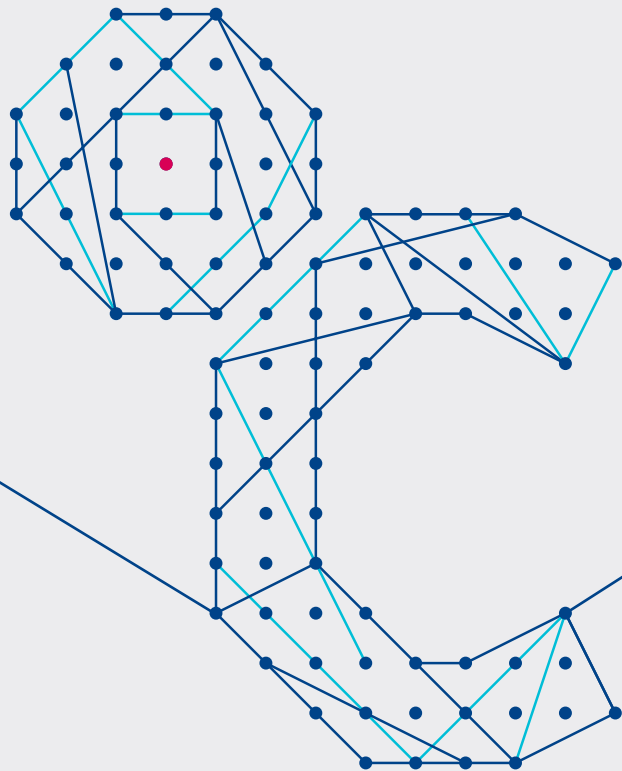




Accounting for climate

Integrating climate-related matters
into financial reporting

Supplementary paper 1



CDSB is an international consortium of business and environmental NGOs. We are committed to advancing and aligning the global mainstream corporate reporting model to equate natural capital with financial capital.

We do this by offering companies a framework for reporting environmental information with the same rigour as financial information. In turn, this helps them to provide investors with decision-useful environmental information via the mainstream corporate report, enhancing the efficient allocation of capital. Regulators also benefit from compliance-ready materials.

Recognising that information about natural capital and financial capital is equally essential for an understanding of corporate performance, our work builds the trust and transparency needed to foster resilient capital markets. Collectively, we aim to contribute to more sustainable economic, social and environmental systems.

For more information, visit cdsb.net or follow Climate Disclosure Standards Board on [LinkedIn](#) and Twitter [@CDSBGlobal](#).

We welcome your input and discussions. If you would like to comment on this document, please contact us at info@cdsb.net.

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1. Introduction

In December 2020, CDSB released guidance titled “[Accounting for climate: Integrating climate-related matters into financial reporting](#)”¹ in order to answer three questions that are challenging preparers of financial statements:

- Are climate-related matters relevant to financial reporting?
- How should climate-related matters be factored into a company’s financial reporting and what this might look like?
- What steps can companies take to integrate material climate-related matters into financial reporting?

The December 2020 guidance followed two papers published by the International Accounting Standards Board (IASB)² and the IFRS Foundation³ clarifying that existing IFRS standards require the incorporation of material information about climate-related matters in financial reporting, even though the term ‘climate-change’ is not explicitly referenced in the standards. Building on the work of the IFRS Foundation and IASB, the December 2020 guidance highlighted the importance of assessing materiality in order to be able to provide information on climate-related impacts that addresses investors’ common information needs, regardless of financial impact. In that paper, preparers were advised to consider whether:

- a) climate-related matters materially affect their financial statements, due to the magnitude of the effect; or whether
- b) the nature of climate-related matters results in investors expecting disclosure.

Since December 2020, a number of developments have maintained the pressing need for preparers to provide robust and clear disclosures on the impact of climate-matters on the financial statements, including disclosures of the significant judgements and estimates that could be materially impacted by climate-related risks:

- The ‘big 6’ accountancy firms have committed to engage with companies to encourage greater transparency on the impact of climate-related matters on companies’ financial statements.⁴
- The US accounting standards body, FASB, has also produced an educational paper on how entities may consider the effects of certain environmental, social and governance matters, including climate, that have a material direct or indirect effect on the financial statements and notes in a US GAAP context.⁵
- A recent review from the Carbon Tracker Initiative highlighted that despite the recent pressure and focus on this area, 70% of listed companies reviewed (including some of the world’s biggest emitters) did not fully account for climate-related risks in their 2020 financial statements.⁶

The December 2020 guidance explored in detail, how climate related matters might be considered when applying the principles of specific standards and what the relevant disclosures might look like in the financial statements and notes. The standards covered were IAS 1 – Presentation of Financial Statements, IAS 37 – Provisions, Contingent Liabilities and Contingent Assets, IAS 36 – Impairment of Assets and IAS 16 – Property, Plant and Equipment.

This paper provides supplemental guidance on how climate-related matters could be integrated in areas of the financial statements identified by the IASB and IFRS Foundation that were not considered in the December 2020 guidance. This document explores climate reporting in the context of the following standards:

- IFRS 13 – Fair Value Measurement;
- IFRS 9 – Financial instruments;
- IFRS 7 – Financial instruments: Disclosure;
- IAS 2 – Inventories;
- IAS 12 – Income Taxes; and
- IFRS 17 – Insurance Contracts

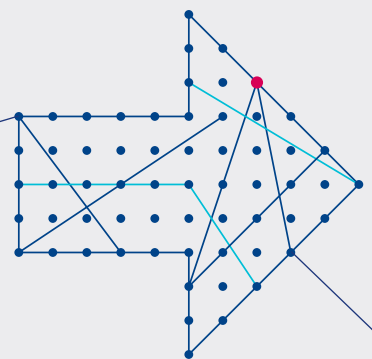
For each of the standards covered, this paper identifies essential accounting and disclosure matters relevant from a climate perspective. These are not exhaustive but illustrate key matters that companies might need to consider. Alongside this discussion, a number of illustrative examples have been developed, which are found in the Appendix. Readers should be aware that the examples included in

this guidance are only intended to demonstrate, as a starting point, the range of climate-related matters that preparers might need to consider as well as the relevant accounting considerations. The examples included in this supplementary paper are merely illustrative in nature and are not intended to be comprehensive or represent best or industry practice. We recognise that in practice, there is diversity of views and this is an emerging area of reporting.

Whether preparers are considering the financial statement impacts of a change in strategy (such as a new decarbonisation commitment) or are reassessing the implications of climate change on an existing business model and strategy, consideration of the potential recognition, measurement and disclosure implications from climate-related matters is vital. It is also important to remember that disclosure about why an entity is not exposed to a climate-related matter that is generally understood to affect its peers may be material if that information would affect investors' assessments of the entity.

IFRS 13

Fair Value Measurement



IFRS 13 – Fair Value Measurement

Context

The measurement of fair value is required in numerous contexts in IFRS financial statements, and IFRS 13 is referenced as the source of guidance for that measurement.

For example:

- Fair values are required to be calculated as at the date of specific events, such as business combinations.
- Fair values are required for the ongoing accounting for specific assets and liabilities including investment properties, biological assets, plan assets in defined benefit pension schemes, assets held for disposal and financial instruments measured at fair value through other comprehensive income, or fair value through profit or loss.
- Preparers may choose to hold assets or liabilities at fair value, for example property, plant and equipment, or intangible assets.
- Fair value measurement is also used when calculating impairment of non-financial assets (where the recoverable amount is the lower of fair value less cost to sell and value in use).

By definition, fair value is “*the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date*” [IFRS 13.9]. Fair value is a market-based measurement rather than being entity-specific, meaning that preparers would not be expected to bring in non-market related inputs. Fair value is measured using assumptions that market participants would use in pricing the asset or liability, including assumptions about relevant risks and opportunities – climate risks and opportunities inclusive.

To increase consistency and comparability, IFRS 13 establishes a fair value hierarchy based on the inputs to valuation techniques used to measure fair value. The inputs are categorised into three levels (1, 2 & 3). The highest priority is given to unadjusted quoted prices (level 1) in active markets for identical assets or liabilities, and the lowest priority is given to unobservable inputs (level 3).

Level 1 assets are traded in an active market where transactions take place with sufficient frequency and volume for pricing information to be provided on an ongoing basis [IFRS 13.76, A]. Where Level 1 inputs are available, IFRS 13 is clear that they should be used. That implies that no climate-related adjustment factor or overlay would be expected.

Fair value measurement approaches

The fair value measurement of Level 3 assets and liabilities in the financial statements may be affected by all climate-related matters – both risks and opportunities – because they are expected to impact revenues, costs and capital expenditure. Changes in legislation or regulatory actions as well as changing consumer and supplier behaviours may influence revenues and growth as well as the cost base. Changing investor and lender behaviour may impact financing costs or availability of funding. Acute physical impacts (e.g. wildfires, flooding, heatwaves etc) could also give rise to higher future costs or depressed revenue forecasts. Market participants’ perceptions of potential climate-related legislation or views that the company is undertaking activities damaging to the climate could affect the fair value measurement of an asset or liability or the fair value of the company itself.

In measuring the fair value of an asset or liability, IFRS 13 requires preparers to select valuation approaches and techniques that are appropriate in the circumstances and for which sufficient data is available to measure fair value. In practice, valuation techniques used to measure fair value fall under three approaches – *market approach, income approach and cost approach*. Any, or a combination, of the three approaches could be used to measure fair value if the techniques are appropriate in considering the climate related risks. However, this is a matter of judgement, bearing in mind that the use of multiple valuation techniques could result in different outcomes.

When calculating fair value, it is important to remember that financial impacts from chronic physical climate risks (such as rising sea levels) generally might be anticipated in the longer term, so that the present value of such impacts may be less pronounced because of the time

value of money. Nevertheless, these threats pose both systemic and idiosyncratic risks to investors. Where physical climate risks have been identified, whether acute or chronic, they should be taken into account in the measurement of fair value.

The table below sets out an illustration of how climate related risks and opportunities can be reflected in the three typical valuation approaches:

In reality, the way that climate-related factors may influence key inputs will be nuanced and complex to identify. For example, topics such as customer elasticity and the willingness of customers to pay for products that are more resilient to climate, or the direction of government regulations will be crucial to understand. The actual impacts will be highly dependent on the specific nature of the asset, the business and relevant economics.

Where Level 3 inputs are used, judgements are expected to be challenging, particularly whilst valuations toolsets and climate related risk disclosures evolve to allow more accurate measurement of physical climate risks and opportunities. A particularly important illustration of this is in determining terminal values.

Terminal values are used in models that assume existence into perpetuity. Whilst in many cases, this is expected to remain appropriate, the increasing prevalence and severity of climate risks calls into question for some industries whether the assumption of obtaining value into perpetuity is appropriate, whether that is because there is an increasing chance of there being an end date, or a discontinuity in future cashflows caused by physical impacts. Where assets are forecast to become stranded, the inclusion of any terminal value at all may be inappropriate.

Approaches	Market	Income	Cost
Typical valuation technique	Earnings and book value multiples	Discounted cash flows.	Replacement cost or net asset value
Key inputs	<ul style="list-style-type: none"> Earnings (e.g. Revenue, EBITDA, net earnings, etc.) Book value Market multiples (i.e. Transaction or trading) 	<ul style="list-style-type: none"> Forecast P&L and cashflows (including capex) Discount rate Terminal growth rate 	<ul style="list-style-type: none"> Cost to replace or redevelop the asset Functional and economic obsolescence
How climate risks may impact key inputs	<p>Climate risks may impact the revenue (e.g. lower volume or pricing) and/or cost base (additional maintenance, fines, emission taxes, etc.)</p> <p>Market multiples are obtained from traded comparable companies or comparable transactions. However, it may not be clear if/how climate risks are reflected by those comparators. Careful consideration should be given to the valuation subject given the asset-specific nature of climate risks.</p>	<p>Climate risks may impact the cashflows used to support this calculation by a combination of reducing cash inflows (lower volume or pricing), and/or increasing outflows (additional maintenance, fines, emission taxes, capex etc.).</p> <p>Alternatively, if cashflows are not adjusted for climate-related risks, the discount rate may be adjusted instead (through a relevant risk premium or discount).</p> <p>Long term prospects of the asset/business may be impacted and therefore an adjusted terminal growth rate may be applied, or alternative approach to calculating terminal value.</p> <p>Given the uncertainty in climate events, an expected value approach or simulation of multiple scenarios may be required.</p>	<p>Greater obsolescence may occur as a result of technology substitution (transition risk). The asset in question may be redundant for a future net-zero business.</p>

In practice, terminal values are typically calculated based on an extrapolation of the final year of cash flow projections, using a terminal or perpetual growth rate. For this to be appropriate, the final year of cash flow projections used must represent a company's steady state of operations or development. If a company has not yet reached a "steady state" in relation to the impacts from climate-related factors, then it may be necessary to make use of a longer explicit cash flow forecast period or make adjustments to reflect future climate-related impacts. The selection of an appropriate terminal growth rate is also highly judgemental because small changes in a perpetual growth rate can often change terminal value very significantly. Where a company is exposed to climate change and not effective in mitigating identified risks, it may suffer from lower or negative long-term perpetual growth rates.

Fair value disclosure requirements

For assets carried at fair value, assumptions around climate factors may also affect disclosures about fair value measurements. Increasingly, climate-related matters could be a significant component of the fair value assumptions required to be disclosed under IFRS 13. More specifically, for 'Level 3' fair values (i.e. those which use significant unobservable inputs in their measurement), IFRS 13 requires significant narrative as well as quantitative disclosure. Material information required by IFRS 13 might include:

- the valuation technique and inputs used;
- quantitative information about significant unobservable inputs used;
- a description of the valuation processes used (including how the policies and procedures are determined and how changes from period to period are analysed);
- a narrative description of the sensitivity of the fair value measurement to changes in unobservable input (if a change in those inputs might result in a significantly higher or lower fair value measurement); and
- description of the interrelationships between unobservable inputs.

Ultimately, the inclusion of climate-related factors into fair value is expected to evolve over the coming years as expectations of climate related laws and regulation change and markets become more sensitive to climate-related factors. However, it is already clear that climate-related factors are commonly expected to increase measurement uncertainty. Given this, the disclosure requirements in IAS 1 in relation to estimation uncertainty would apply. According to IAS 1.125, entities are required to:

"disclose information about the assumptions it makes about the future, and other major sources of estimation uncertainty at the end of the reporting period, that have a significant risk of resulting in a material adjustment to the carrying amounts of assets and liabilities within the next financial year. In respect of those assets and liabilities, the notes shall include details of (a) their nature, and (b) their carrying amount as at the end of the reporting period."

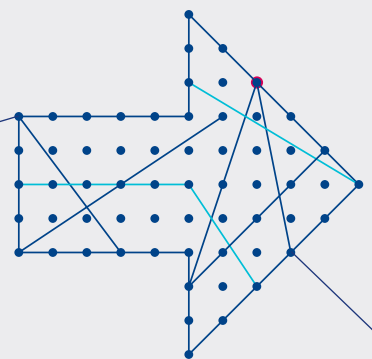
However, IAS 1.128 clarifies that:

"the disclosures in paragraph 125 are not required for assets and liabilities with a significant risk that their carrying amounts might change materially within the next financial year if, at the end of the reporting period, they are measured at fair value based on a quoted price in an active market for an identical asset or liability. Such fair values might change materially within the next financial year but these changes would not arise from assumptions or other sources of estimation uncertainty at the end of the reporting period".

Example A and **Example B** in the appendix illustrate how climate risks could impact fair value measurements and disclosures in the financial statements.

IFRS 9

Financial Instruments



IFRS 9 – Financial Instruments

Context

The objective of IFRS 9 is to “*establish principles for the financial reporting of financial assets and financial liabilities*” [IFRS9.1.1]. This includes both primary financial instruments (e.g. cash, receivables, debt and shares in another entity) and derivative financial instruments (e.g. options, forwards, futures, interest rate swaps and currency swaps).

This section considers implications on two key areas of IFRS 9, being the recognition and measurement of financial assets and liabilities, as well as the impairment of financial assets. Preparers may also need to consider any potentially relevant climate-related implications on hedge accounting (such as increased uncertainty in future forecasts leading to hedge ineffectiveness), which are not covered in this paper.

Whilst financial instruments are generally held and issued by both corporates and financial institutions, the impact of exposure of financial instruments to climate-related factors may be more evident in the financial sector. The impact of climate-related factors on financial

instruments may be particularly significant for banks that provide loans to customers, as well as investment management and fund entities that invest in securities (e.g. notes, bonds and equities) of companies with material exposure to climate-related risks (such as fossil fuel producers).

There has been a surge in the development of new and innovative financial products such as green or sustainable bonds, green loans, and new structured products linked to climate and other ESG metrics. This is in response to increasing pressure from investors and customers that financial institutions should play their part in the transition towards a lower carbon economy. Whilst such new financial products may be viewed as growth opportunities for financial institutions, the accounting implications of ESG features in the contractual terms of these products would need to be considered. As these financial products are generally defined as financial instruments under IFRS 9, their classification and measurement (which includes their impairment assessment) can impact their accounting. This is summarised in the table below, with further explanation in the paragraphs beneath:

Financial instruments	Accounting impact
Financial assets	<p>Classification of financial instruments may be impacted, potentially requiring instruments to be held at fair value, where:</p> <p>(a) Climate and other ESG features of financial instruments do not meet the “<i>solely payments of principal and interest on the principal amount</i>” (SPPI criterion); or</p> <p>(b) Acquired or newly invested financial assets within an existing portfolio that have ESG features are managed in a way not consistent with others in a hold-to-collect (HTC) portfolio. This consequently impacts the business model assessment and may warrant the use of a business model that was not previously used.</p> <p><i>Impairment</i></p> <p>Both physical and transition climate risks could affect the probability of defaults and collateral valuations and consequently have a significant adverse impact on the expected cashflows of the financial assets.</p>
Financial liabilities and derivatives	<p><i>Accounting for embedded derivatives</i></p> <p>Some climate-related features included in financial liabilities or other contracts that are not financial assets under IFRS 9 could be assessed as embedded derivatives that need to be separated and accounted for as separate financial instruments.</p> <p>Further assessment would be required to determine the fair value of any separate financial instrument.</p>

Classification and measurement of financial assets

Financial assets are commonly trade receivables, investments in securities or equities, loan receivables, and derivatives such as options, forwards, futures or swaps.

Under IFRS 9.4.1.1-3, the classification of financial assets other than equity or derivatives determines the measurement and depends on the following assessment (which is summarised in the table below):

- a) the business model for holding the financial instrument i.e. whether that is to hold to collect and sell, hold to collect or other models; and
- b) whether the contractual terms of the financial asset meet the SPPI criterion.

Business Model	SPPI Assessment	Classification of Financial Asset
Hold to collect (HTC)	Pass	Amortised cost
Hold to collect and sell (HTC&S)	Pass	Fair value through other comprehensive income (FVOCI)
Neither HTC&S nor HTC	Pass	Fair value through profit and loss (FVTPL)
Any of the above	Fail	FVTPL

The IFRS 9 classification assessment approach was designed based on the financial instruments in existence at the time that the standard was issued. Such instruments commonly earned interest based on fixed rates or benchmark rates such as inter-bank offered rates (IBOR) or more recently, Sterling Overnight Index Average (SONIA). Basic lending arrangements or plain vanilla loans are likely to meet the SPPI assessment, so their accounting is dependent on the business model of the asset holder to determine whether they are held at amortised cost or fair value. However, green or sustainable products are presenting new challenges as their contractual features were not considered at the time IFRS 9

was first issued. In particular, the presence of ESG features could result in financial assets failing the SPPI criterion and consequently, the financial asset will have to be accounted for as FVTPL, resulting in profit and loss (P&L) volatility. For financial institutions and in particular, banks, accounting for loans to customers at FVTPL is generally not the preferred accounting treatment.

The following are some common examples of financial instruments for which classification under IFRS 9⁷ could be complex:

- a) *Green loans and bonds*: Generally characterised by contractual terms that are similar to a basic lending arrangement, with the exception that the funds borrowed can only be used for specific “green” projects or purposes as specified in the contract. Unless the loans contain other contractual terms in relation to how the cashflows are determined, such instruments are generally expected to pass the SPPI criterion. Consequently, the classification of such financial instruments will depend on the business model of the asset holder.
- b) *Loans linked to green indices unrelated to the borrower*: Generally characterised by contractual cashflows linked to ESG metrics unrelated to the borrower e.g. the Euronext CDP Environment World EW Index 1. Such instruments are likely to fail the SPPI criterion as the return on the loan is inconsistent with a basic lending arrangement.
- c) *Loans with ESG features specific to the borrower*: Generally characterised by contractual cashflows linked to ESG metrics specific to the borrower which could be the borrower’s KPIs on GHG emissions or water usage. The interest rate on the loan varies with the performance of the borrower against the chosen metric(s). The SPPI assessment for such loans may be particularly judgemental as, unless such features are de minimis, a detailed analysis is required to assess whether they represent consideration for the various elements of “interest” such as credit risk of the borrower or profit margin for the lender.

The following considerations are required for ESG features in a financial asset, such as the examples described above:

Credit risk: To assess whether an ESG metric represents credit risk of the loan, it is important to determine whether that metric is linked to credit risk of the borrower and whether the correlation between the two would impact the probability of default (PD) of the loan. In practice, ESG features are mostly linked to a wider set of ESG targets which may not have a direct impact on the credit risk of the borrower or on the loan.

Profit margin: Interest in a basic lending structure includes the profit margin of the lender which is often fixed (i.e. it does not vary or create variability). Financial institutions may argue that the ESG feature is a component of the profit margin for the purpose of the SPPI assessment. If so, then it is important to note that IFRS 9 requires an assessment of the nature of the cashflows arising from the ESG feature. If the ESG feature in a lending arrangement is linked to another variable target or metric, then it would be difficult to justify that such a feature is a component of the profit margin.

De minimis feature: A basic lending arrangement may include a contractual feature that has a de minimis effect in all possible scenarios. If the variation of the interest (as a result of the non-performance by the borrower of its climate-related target) does not have a material effect on the cashflows of the financial asset, then it may be possible to argue that such features are de minimis and therefore consistent with a basic lending feature. It must be noted that de minimis is not the same as not material or significant and needs to be assessed at a financial instrument level.

Example C demonstrates how the presence of ESG feature in a financial asset could affect its classification.

Impairment of financial assets

Under IFRS 9, impairment is accounted for using an expected loss (ECL) model, which means that it is not necessary for a loss event to occur before an impairment loss is recognised. Therefore, just like any other risk that could impact the ability of the issuer to repay the instrument, climate-risk can impact

the initial and subsequent accounting for financial assets. The assessment of ECL is based on reasonable and supportable information – that is, information reasonably available without undue cost or effort at the reporting date. As understanding of climate-related risk, as well as the proximity and severity of impacts grows, the assessment may need to be refined for the measurement of ECLs.

Generally, measuring ECL starts with an estimation of borrower-specific (idiosyncratic) risk, adjusted for the risks posed by the wider macroeconomic environment (systemic risk). Climate-related factors can impact both of these types of risk as well as the range of potential future economic scenarios considered in measuring ECL. For example, physical risks such as wildfires or floods may negatively affect a specific borrower's ability to repay a loan due to the loss of the underlying collateral or a reduction in cashflows expected from a productive asset. Transition risks such as changes in laws that affect product obsolescence and the borrower's business strategy may also impact expected cash flows. The impact of both physical and transition risks on the wider macroeconomic environment, including macroeconomic variables such as GDP and unemployment rates, is difficult to predict and depends on the severity and timing of such events.

The effects of physical and transition risks could impact both the probability of default (PD) and loss given default (LGD) of the exposure. However, such impacts on ECL will depend on the timing and severity of these changes compared with the period over which the lender is exposed. In accordance with the guidance under IFRS 9, lenders need to be able to produce reasonable and supportable information about the extent to which climate-related risks have either already impacted or are expected to impact the borrower over the life of the loan.

For financial institutions with portfolios of financial assets, estimating the impact of climate-related risks may be particularly challenging because climate risks are expected to impact each asset and each portfolio differently, depending on factors such as industry, geography, and duration.

Classification and measurement of financial liabilities

Financial liabilities are commonly trade payables, bank and other borrowings, and derivatives such as options, forwards, futures or swaps.

The classification of financial liabilities under IFRS 9 does not follow the same model as financial assets.

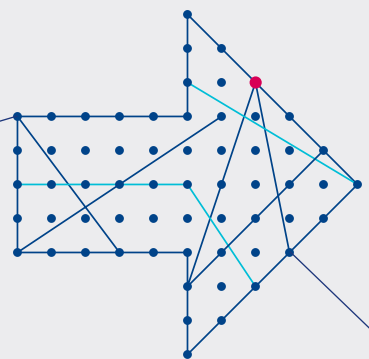
Generally, financial liabilities are measured at amortised cost or at FVTPL if held for trading or designated as such [IFRS 9.4.2.1].

Climate-related features are commonly seen in borrowings as opposed to trade and other payables. Consequently, one of the key considerations for borrowings or bonds is to determine whether they have features that meet the definition of an embedded derivative. If so, then the embedded derivative within such financial liabilities may need to be separated such that the host financial liability is accounted for at amortised cost, whilst the separated embedded derivative is at FVTPL.

Example D illustrates that certain financial instruments with ESG features may contain embedded derivatives that could require separation from the host financial liability.

IFRS 7

Financial Instruments: Disclosures



IFRS 7 – Financial Instruments: Disclosures

Context

IFRS 7 sets out the disclosure requirements for all financial instruments. The objective of the disclosures is to enhance financial statement users' understanding of:

- the significance of financial instruments to an entity's overall financial position and performance;
- the risk exposures resulting from such financial instruments; and
- how the entity manages those risks.

The general disclosure principle in IFRS 7 requires an entity to make qualitative and quantitative disclosures that enable users of the financial statements to evaluate the nature and the extent of risks arising from financial instruments to which the entity is exposed at the reporting date, and how the entity has managed them. The types of risks covered by the disclosures include, but are not limited to credit risk, liquidity risk and market risk.

There has been an increased focus on Environmental, Social and Governance (ESG) risks and in particular, climate risks, and scrutiny from industry regulators to consider these risks as part of overall risk management frameworks. This means that organisations, particularly in the financial sector, are required to tailor their risk management framework to:

- identify how these risks affect the financial instruments held or issued, and
- how these new risks are being managed.

Whilst preparers may determine that climate-related risk does not impact the current period financial position or performance, they should

assess whether there is disclosure under IFRS 7 that is material and as such, should be provided. In making this assessment, preparers should take account of the guidance on materiality discussed in the December 2020 guidance.

Preparers should also consider that IFRS 7 relates to the reporting of financial risks relating to financial instruments. There may be additional disclosures around climate risk required under IAS 1.

The risk categories used in IFRS 7 can be used to capture climate-related financial risks. These categories are credit risk, market risk and liquidity risk.

Credit risk

Climate risks, both physical and transitional, may have implications for the credit risk of financial assets that an organisation holds. Such risks could potentially impact the ability of the debtor or borrower to repay the receivable or loan, or for the organisation to recover the receivable. Preparers may need to provide qualitative disclosure on their concentration of credit risk based on certain shared characteristics. Depending on how concentrations of risk are considered to affect the organisation, the grouping based on shared characteristics may be associated with physical risks (e.g. exposure to high-flood risk zones) or transitional risks (e.g. credit risk rating or credit worthiness of the debtor or borrower affected by the transition to a greener economy).

In addition, as part of the disclosures of credit risk, organisations, particularly those that are financial institutions, may need to disclose the impact of climate risk on their expected credit losses (ECLs). The table below sets out an illustration of how climate related risks and opportunities can be reflected in the ECL model.

Examples of considerations	Relevant reference for disclosure in financial statements
Use of multiple scenarios (scenario analysis) incorporating impact of climate risk in macro-economic factors such as GDP.	IFRS7.35G
Incorporating climate risk in the client / exposure risk assessment, because it may impact businesses or the livelihood of individuals. Consequently, this could influence the obligor or facility risk ratings which is used in the identification of a Significant Increase in Credit Risk ("SICR") event or in determining / adjusting the probability of default for related exposure.	IFRS7.35G
Adjusting collateral values by applying an appropriate negative adjustment. For example, an additional decrease in the value of properties in wild-fire affected areas held against mortgages.	IFRS7.35G / - IFRS7.35K (b)

In addition to the considerations set out in the table above, a sensitivity analysis may be required on the particular assumptions made about the future (e.g. changes in regulatory approach) and other major sources of estimation uncertainty [IAS 1.125].

The impact of climate risk on the disclosures for credit risk exposures is illustrated in **Example E**.

Although the predominant impact would be expected to be on credit risk, climate-related factors also affect market and liquidity risks.

Market risk

Climate related risks and opportunities may affect the market or fair value of financial instruments. This is addressed in more detail in the IFRS 13 section. Climate risks, whether physical or transitional, can affect the future economic conditions, leading to potential price adjustments. Physical risks such as natural disasters are often associated with high volatility of stock market prices. Similarly, transitional risks and related changes could restrict the availability of funds to some sectors, leading to changes in borrowing costs and repricing of assets. Whilst views of physical risk are more likely to evolve over time, policy decisions or similar, could cause an entity's assessment of transition risks to change over a short space of time.

While in some cases, the impact on market risk may be captured through mechanisms such as premium pricing (for example in mortgages of high flood-risk properties), in other cases, it could result in a reduction or sudden change in the price of financial assets where potential adjustments for climate related risks have not yet been incorporated in market pricing.

Under IFRS 7, organisations are required to provide disclosures in relation to market risk. Such disclosures could include for example:

- i. concentration of risk based on similar characteristics such as geographical location or sector of the investee, including the methodology used for identifying the cluster for concentration;

- ii. sensitivity analysis [IFRS 7.41] on the impact of changes in factors influenced by climate risk. This could be changes to credit spreads or borrowing costs associated with:

- exposure to countries or geographical areas more susceptible to certain natural disasters such as extreme floods, heat resulting in forest fires, etc; or
- increases in the proportion of properties in high-risk zones, for mortgaged back securities.

In some circumstances, climate risk could result in a shift in the organisation's investment and risk management strategy for its investment portfolios. If so, the organisation should consider disclosing how climate change influenced that shift [IFRS 7.8B].

Liquidity risks

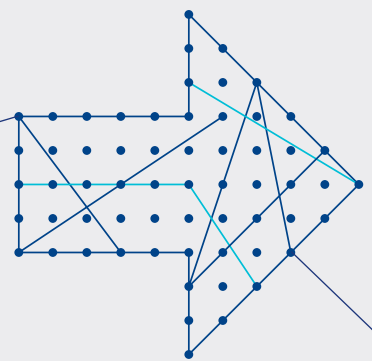
Climate risks could significantly affect organisations' access to funds and liquidity positions. In particular, organisations in carbon intensive industries could see limited access to funds. Investors have already started to show unwillingness to invest in such organisations. Those organisations who have obtained funding subject to climate-related covenants should consider whether there is any disclosure required to enable users to understand the impact on their liquidity positions of breaches of those ESG covenants resulting in early repayment of borrowings [IFRS 7.B10A].

Financial institutions could see a decrease in retail deposits (or more expensive ones) or a decrease in wholesale funding as a result of their ESG ratings. Similarly, financial institutions could also experience a decline in deposits and increase in drawdowns of credit lines due to the economic distress of customers as a result of climate-related disaster events.

Organisations reporting under IFRS may need to consider disclosing how they manage the liquidity risks arising from climate change [IFRS 7.39(c)].

IAS 2

Inventories



IAS 2 – Inventories

Context

Inventories are by definition “*assets that are held for sale in the ordinary course of business, in the process of production for such sale, or in the form of materials or supplies to be consumed in the production process or in the rendering of services*” [IAS 2.6]. For most industries, this means that inventories are short-term assets and as such, are less likely to be impacted by climate-related factors than longer-term assets such as properties, investments or goodwill.

Notwithstanding this fact, there are important climate-related factors to be aware of when accounting for inventory, particularly for sectors that hold longer-term inventories such as housebuilding or construction.

Firstly, as the primary objective of IAS 2 is to identify the “*amount of cost to be recognised as an asset and carried forward until the related revenues are recognised*” [IAS2.1], future changes to direct or overhead costs in the business caused by climate-related factors have the potential to drive changes in the future initial recognition of inventory. Such changes would be accounted for at that future time, and could include climate-related changes in depreciation of PPE used to generate the inventory.

Secondly, for the minority of industries where inventory is commonly held for a very long time, climate-related factors (both physical and transitional) may also cause impairment charges to be recorded, for example where inventories become obsolete or, the selling prices change.

Measurement of inventories.

Inventories are measured at the lower of “*cost and net realisable value*” [IAS 2.9].

As per IAS 2.10, “*the cost of inventories shall comprise all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition*”. Subsequent paragraphs further elaborate that certain costs must be excluded from the cost of inventories and recognised as expenses in the period in which they are incurred. This would include (amongst other items) abnormal amounts of wasted materials, labour or other production and storage costs.

Physical climate risks may cause interruptions in the production or development of inventories while costs are still being incurred which do not necessarily contribute to “*bringing the inventories to their present location and condition*”. In the event of a future interruption, following IAS 2, such costs should be excluded from inventory balances and expensed as incurred. Whilst this may be simpler to define for major climate-related events causing complete shutdown or extensive damage to manufacturing equipment, over time if management observed that the impact of climate-related factors was becoming more prevalent, care will need to be taken in defining ‘abnormal’ in accounting policies. For example, if management assess that there is an increased frequency of manufacturing stoppages due to excess heat, they may need to consider how to ensure consistent application of an accounting policy for ‘abnormal’ production costs. Management’s view of what is ‘abnormal’ should be consistent with the other climate-related judgements made, for example in relation to asset lives.

Transition risks could also impact the capitalised cost of inventories, where the additional regulatory driven costs are attributed to inventory. For example, this could include attributable carbon taxes.

Refer to **Example F** for an illustration of the accounting considerations in relation to the initial recognition of inventory.

Write-down to net realisable value.

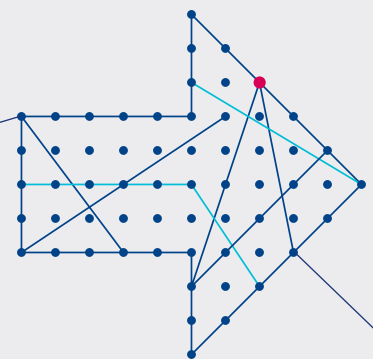
Net realisable value is the “*estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale*” [IAS 2.16]. The practice of writing inventories down below cost to net realisable value is consistent with the view that assets should not be carried at an amount that is higher than the amount expected to be realised from their sale or use.

A variety of climate-related transition issues may impact the net realisable value of inventory and increase the risk of inventories becoming obsolete altogether. Some of these transition risks will crystallise over a period that is longer than the inventory turnover of the business, meaning that the impact on inventory net realisable values is not expected to be significant. However, climate-related obsolescence may become increasingly significant where inventory is held over the longer term. An example of this could be in manufacturing, where spares or raw materials are commonly held over the longer term to support multiple product lines. Where changing technology or regulation requires the re-design of certain products, the related spares or raw materials held in inventory may become obsolete.

Example G demonstrates the accounting consideration in relation to the write down of inventories caused by climate risks.

IAS 12

Income Taxes



IAS 12 – Income Taxes

Context

The recoverability of deferred tax assets is commonly a judgemental area, relying on the reliable estimation of future taxable profits. As climate-related factors increase the level of uncertainty around future profits across many industries, the recoverability of deferred tax assets is likely to become an increasing area of focus for many preparers.

In addition to this, as governments across the globe attempt to drive forward climate action, taxation is a key area where we are likely to see increasing pressure applied on businesses to bring about change. This could be via incentivising positive climate action (e.g. additional R&D tax credits on activities to support climate change mitigation or adaptation) or penalising activities that incur potentially avoidable harm (e.g. increasing road or combustion vehicle taxes, introducing carbon taxes or other emissions-based levies). Such initiatives may impact either the taxable profits of entities or the tax base of assets and liabilities, or both.

The aim of this section is to illustrate examples of how accounting under IAS 12 may be affected by climate-related factors. This paper does not cover any local jurisdictional tax challenges or any specific taxes that may be introduced. Companies should monitor and review incoming tax legislation to understand the impact on their tax accounting.

When new tax-related legislation is introduced, it will be important to determine whether it is in fact within the scope of IAS 12, or would be treated under other standards. This could have implications on the timing and amount recognised. IAS 12.2 is clear that its scope covers only income taxes based on taxable profits and taxes (e.g. withholding taxes) that are payable by a subsidiary, associate or joint arrangement on distribution to the reporting entity. It would not include climate-related levies imposed, government grants to fund investment in climate mitigation activities or taxes that are based on revenue, fixed units of production or notional income from tonnage capacity. As such, guidance on the appropriate

accounting treatment for these exclusions should be sought under the relevant accounting standards e.g. IFRIC 21 – Levies or IAS 20 – *Accounting for Government Grants and Disclosure of Government Assistance*. Overall, it may be increasingly difficult to determine whether new taxes introduced are an income tax or not, as this is not always clear cut. The accounting for items such as carbon taxes which are commonly out of scope of IAS 12 may become increasingly material.

Recognition of current and deferred tax

Current tax is recognised on taxable profits or losses for a period, with a current tax liability (asset) recognised for income tax that is payable (recoverable) in respect of all periods to date [IAS 12.5, .12]. The charge (credit) and liability (asset) can be affected either by climate-related factors changing the underlying taxable profit or loss for the period or by the specific taxes or rates being levied on that profit or loss. Where local legislation includes that a “climate qualifier” materially changes the rate of tax, the deductibility of an expense, or the capital allowances permitted, this impact should be disclosed.

Deferred tax is the amount of income payable (recoverable) in future periods as a result of past transactions or events. The objective of IAS 12 states that “*it is inherent in the recognition of an asset or a liability that the entity expects to recover or settle the carrying amount of that asset or liability*”. Deferred tax is recognised (with certain limited exceptions set out in IAS 12.5) if it is probable that recovery or settlement of the carrying amount will make future tax payments larger or smaller than they would be if such recovery or settlement were to have no tax consequences. Preparers calculate the tax base of an asset or liability and compare that to its carrying value to calculate the taxable or deductible temporary difference. They then assess whether there is any recognition exemption and, if not, recognise a deferred tax liability in relation to taxable temporary differences or a deferred tax asset for deductible temporary differences, provided that in the latter case they are recoverable.

Climate-related factors can impact all stages in this calculation. For example, in calculating whether there are taxable or deductible temporary differences, it is important to consider that:

- The tax bases of assets and liabilities are dependent on the choices of governments in introducing new taxes and levies and making changes to existing legislation. It will be increasingly challenging to monitor and understand the impacts of such legislation on the accounting under IAS 12.
- Tax bases could also change where the business's climate-mitigation or adaption strategy includes changing the intended use or life of assets (e.g. a change from the intention to use an asset to an intention to scrap, when tax deductions are contingent on ongoing use).
- The carrying values of assets and liabilities are likely to be impacted increasingly in the future by climate-related factors. For example, it is expected that there will be an increase in impairments and write-offs, changes in the useful lives of assets and increases in climate-related provisions. This would create challenges to track the appropriate tax treatments.

Whilst there are multiple challenges, it should be noted that in some cases tax treatments are consistent with accounting treatments, with an effect on current tax but no effect on deferred tax. Climate-related factors may, for example, change underlying profit or loss, or alter the recoverability of an asset, but if the useful life for tax and accounting purposes remain aligned, it may still be the case that tax follows the accounting and no new temporary differences will arise.

See **Example H** for an illustration of the impacts of climate-related factors on tax accounting.

Assessment of recoverability of deferred tax assets

IAS 12 requires companies to recognise deferred tax assets for deductible temporary differences and unused tax losses and credits, to the extent that it is probable that future taxable profits will be available against which those amounts can be utilised [IAS 12.24, .34].

As climate-related factors change both the magnitude and level of certainty of future profits and the taxes charged thereon, the ability to recognise deferred tax assets will be an increasingly judgemental area. This will be particularly challenging where deferred tax assets recognised are very long-lived, potentially extending up to or beyond the target dates of a company's commitments on decarbonisation.

Both physical and transition climate-related risks and opportunities may affect a company's judgements and the assumptions applied on the estimate of future taxable profits and may result in the company being unable to recognise deferred tax assets and/or being required to derecognise deferred tax assets that were previously recognised.

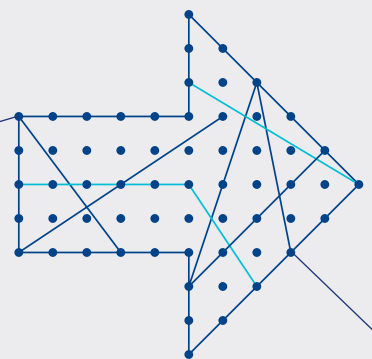
For example, transition related matters such as incoming regulation and government incentives, as well as changes in technologies, markets, policies and social norms, may drive changes in underlying profit forecasts that support the recognition of deferred tax assets. Similarly, if there are additional anticipated costs that management identify arising from physical risks such as increased exposure to extreme weather events, and management are not confident of recovering these costs via increased revenues, the probability of future taxable profits may reduce, such that they are no longer probable and therefore the recognition criteria in IAS 12 are not met. Where these changes are positive, it is possible that additional deferred tax assets may become recognisable, because it is deemed that sufficient taxable profits are probable.

When preparing projections of future taxable profits to support this assessment, a company needs to reflect expectations at the reporting date and use assumptions that are consistent with those used for other recoverability assessments – e.g. impairments on non-financial assets. The forecasts used for deferred tax recognition and impairments should be consistent, even if they are interpreted differently. IAS 36.33-38 discusses the basis for estimating future cashflows (see the December 2020 guidance for further information).

Example I provides an illustration of changes in the recoverability of deferred tax assets.

IFRS 17

Insurance Contracts



IFRS 17 – Insurance Contracts

Context

IFRS 17 *Insurance Contracts* will replace IFRS 4 *Insurance Contracts* from its effective date of 1 January 2023. The new standard contains detailed requirements for the recognition, measurement and disclosure of insurance contracts. The core measurement model (general measurement model) consists of an estimate of future cash flows within the contract boundary, an adjustment for the time value of money, a risk adjustment for non-financial risk and a contractual service margin representing unearned profit. A simplified model (premium allocation approach) applies for eligible short-duration contracts and allows a more basic measurement approach. A modification to the general measurement model (variable fee approach) exists for qualifying insurance contracts that are substantially investment-related service contracts.

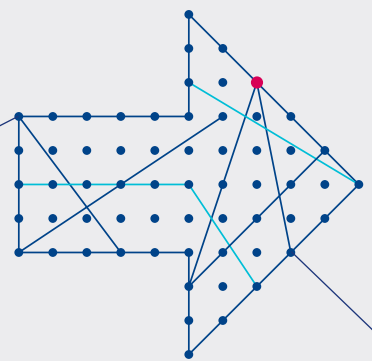
Under IFRS 17, the unit of account for measurement is a group of insurance contracts. Insurance contracts and reinsurance contracts are measured separately. The measurement of the insurance liabilities consists of the liability for remaining coverage which is the obligation to provide the policyholder with insurance contract services and a liability for incurred claims reflecting the obligation to pay valid claims to the policyholder that are made under the insurance contract. Climate-related factors may impact the key assumptions that drive the measurement of insurance liabilities. Examples would include the frequency, magnitude or timing of insured events such as business interruption, property damage, illness and death.

Disclosures under IFRS 17 are also likely to be impacted by climate related factors as the requirements include “*the significant judgements, and changes in those judgements, made when applying IFRS 17 and the nature and extent of the risks from contracts within the scope of IFRS 17*” [IFRS 17.93]. Insurers may also be required to disclose how climate-related matters impact exposure to risks [IFRS 17.124], concentrations of risk [IFRS 17.127], and “*information about sensitivity analysis that shows how profit or loss and equity would have been affected by changes in risk exposures that were reasonably possible at the end of the reporting period*” [IFRS 17.128].

Finally, insurers are ultimately large asset owners and it therefore follows that their investments are potentially susceptible to climate risk considerations. However, the measurement and disclosure principles relating to the investments are not included in IFRS 17 and will be covered by other accounting standards, such as IFRS 7, 9 and 13.

Example J and **Example K** demonstrate how climate risks could impact the accounting for insurance contracts in the financial statements. However, it must be noted that these examples do not include any specific considerations for transition to IFRS 17.

Appendix



Appendix – Illustrative examples

Example	Relevant accounting standards	Industry
A	IFRS 13	Telecommunications
B	IFRS 13	Automobile
C	IFRS 9	Banking
D	IFRS 9	Manufacturing
E	IFRS 7	Banking
F	IAS 2, IAS 1	Manufacturing
G	IAS 2	Construction
H	IAS 12, IAS 38, IAS 36, IAS 16	Mining
I	IAS 12	Airline
J	IFRS 17	Insurance
K	IFRS 17	Insurance

Example A – Determining the fair value of minority investments

Background

T Co, is a global telecommunications company providing mobile and wireless internet access across Europe, Africa and Asia. The company holds a number of minority equity investments. At 31 December 20X1, these include:

- A 10% shareholding in S plc, a cyber security software solutions provider. S became a premium-listed issuer 3 years ago.
- A 12% shareholding in W Ltd, an unlisted telecommunications infrastructure company with assets across Africa and the Middle East. The company principally owns and operates mobile phone masts.

At 31 December 20X1, the listed share price of S Plc was £12, which had increased significantly since the prior year, driven by a number of innovative new product launches. A review of the published climate disclosures of S plc highlights its exposure to global energy prices and carbon taxes via its significant ownership and operation of data-centres across the globe.

T Co also discussed the topic of climate risk management with the management of W Ltd. The comprehensive analysis performed by W Ltd highlighted material acute physical risks arising from its expectation of an increase in significant weather events, driving higher costs from damage repair and fines from temporary equipment outage. It also identified exposure to costs from chronic physical risks in its Middle East and African business arising from higher average summer temperatures causing key equipment to become unreliable. The analysis used the latest IAE pathways to understand the potential physical changes that the business was exposed to. The analysis investigated but did not identify material transition risks.

Accounting Analysis

As T Co does not have control or significant influence over either S plc or W Ltd, they are held as financial instruments measured in accordance with IFRS 9. Under IFRS 9, investments in equity securities are measured at fair value with changes recognised either in profit or loss or in other comprehensive income.

“All investments in equity instruments and contracts on those instruments must be measured at fair value” [IFRS 9.B5.2.3].

“A financial asset shall be measured at fair value through profit or loss unless it is measured at amortised cost or at fair value through other comprehensive income. However, an entity may make an irrevocable election at initial recognition for particular investments in equity instruments that would otherwise be measured at fair value through profit or loss to present subsequent changes in fair value in other comprehensive income” [IFRS 9.4.1.4].

To determine the fair value of S plc, T Co relies on the listed share price, a Level 1 input. This is in line with the principles of IFRS 13. Specifically, IFRS 13. 61 states that *“an entity shall use valuation techniques that are appropriate in the circumstances and for which sufficient data are available to measure fair value, maximising the use of relevant observable inputs and minimising the use of unobservable inputs”*. No adjustments are made for climate risk, as it is assumed that this is factored into that market price.

To determine the fair value of the unquoted equity investment in W Ltd, T Co creates a valuation model which considers the present value of the net cash flows expected to be generated by W Ltd. T Co verifies that the 5-year cash flow projections provided by W Ltd include specific assumptions and estimates around the impact of its acute physical climate-risks. The expected cash flows are discounted using an estimated market rate of return (e.g. WACC). However, in this case, as the cash-flows were adjusted for the impact of climate risk, the estimated market rate of return was not adjusted for specific climate-factors. The terminal value is modelled based on GDP forecasts, adjusted accordingly for the chronic physical risks faced by W Ltd.

Illustrative disclosures

T Co discloses the fair value of the investment held in S Plc as at 31 December 20X1, and that this is a Level 1 valuation.

T Co discloses that the valuation of the investment in W Ltd makes use of Level 3 inputs and describes the income-based method applied. The key inputs disclosed include the sales growth rate (based on the number of operational towers), expected profit margin (adjusted for anticipated revenue and cost implications from climate-exposed infrastructure), the discount rate and the terminal growth rate applied. As there is significant uncertainty around the future costs in the model, T Co discloses that the impact of higher tower repair costs would significantly decrease the anticipated fair value of the investment in W Ltd. If T Co assesses that the inputs to the valuation model represent major sources of estimation uncertainty, T Co should also consider the disclosure requirements under IAS 1.122 to .129, particularly around sensitivities.

Example B – Determining the fair value of customer relationships acquired as part of a business combination.

Background

A UK based original equipment manufacturing (OEM) group specialises in designing and manufacturing equipment and parts. The group's customers consist primarily of large automotive manufacturers.

Driven by the UK government's response to climate risks through regulations (by increasing efficiency standards, capping emission allowances, encouraging the purchase of electric cars and banning new diesel and petrol cars in the near future), large automobile manufacturers in the UK and Europe have set ambitious decarbonisation targets and are keen to partner with suppliers of energy efficient and lower emissions equipment. In order to compete, equipment manufacturers in the UK and Europe, including the group, have invested and continue to invest heavily in research and development activities. Similar to comparable suppliers, the Group owns a carbon efficient technology that will play a key role in meeting the decarbonisation targets of customers.

On 1 January 20X1, the Group acquired a local equipment manufacturer – Company X. The group and company X have historically competed in the same market, supplying equipment to automotive manufacturers within the UK and Europe. However, Company X does not have the carbon efficient technologies to remain competitive in the future and is therefore exposed to the risk of reduced demand and loss of key relationships. The acquisition of Company X provides the group with the opportunity to generate value by modernising X's manufacturing process through access to the Group's carbon efficient technology.

The group acquires a head office, several factories, inventories, customer relationships, manufacturing processes and an organised workforce.

At the date of acquisition, B considers the following in determining whether the highest and best use of the customer relationships would be on a stand-alone basis or in combination with its carbon efficient technology.

- A market participant without a complementary carbon efficient technology may realise lower value from the customer relationships, because of the probability of lower expected sales.
- A market participant with access to a complementary carbon efficient technology may realise higher sales and profits than on a stand-alone basis and would consider this in valuing the customer relationships.

In this example, the group concludes that the valuation premise for the customer relationships would therefore be in combination with the carbon efficient technology.

Application of accounting standards

IFRS 13 provides specific guidance on the valuation premise for non-financial assets. Under IFRS 13.31, a fair value measurement of a non-financial asset is based on its use either:

- In combination with other assets as a group or in combination with other assets and liabilities; or.
- on a stand-alone basis.

The valuation premise depends on the use that is consistent with what a market participant would perceive the non-financial asset’s highest and best use to be. If the highest and best use would be to use the non-financial asset in combination with other assets, then it is assumed that the other assets would also be available to market participants, and that this would be considered in pricing the asset.

However, if the highest and best use is to use the asset in combination with other assets, then the same valuation premise is used for the other non-financial assets with which it would be used.

Illustrative disclosure

Disclosures in relation to the valuation of the intangible asset (i.e. the customer relationships) acquired were as follows:

Assets acquired	Valuation technique.	Significant unobservable inputs and inter-relationship with fair value measurement
Intangible assets.	<p><i>Multi-period excess earnings method:</i> This method considers the present value of net cash flows expected to be generated by the customer relationships. It takes into account cash outflows related to the carbon efficient technology (one of the contributory assets)</p>	<p>The significant unobservable inputs include the following:</p> <ul style="list-style-type: none"> • The useful life of the intangible asset, taking into consideration the group’s ability to meet customers’ expectations around climate risks. • The expected future cash flows from customer relationships, taking into consideration climate related risks and opportunities (including emerging government policies on climate risks, changing customer expectation and behaviour, increase in demand and market share from expected availability of environment friendly components). • The expected useful life and future operating costs of the contributory asset (the carbon efficient technology). • The risk adjusted discount rate. In this case, as the expected future cashflows includes adjustment for the potential impact of climate risks and opportunities, the discount was not adjusted for climate risks. <p>The estimated fair value would increase or decrease if any or all the unobservable inputs discussed above increase or decrease.</p>

Example C – Sustainable linked loans and the SPPI assessment

Background

Bank C decides to offer a green loan to its customers, where the interest rate payable is dependent on the customer's GHG emissions reductions against its 20X0 baseline. The loans are held under a portfolio whose business model is to hold to collect. The loan contains the following features:

- Term: 5 years with a bullet principal repayment
- Interest: Payable quarterly. Initial fixed rate of 2% per annum. Customer's GHG emission levels are assessed on an annual basis at the end of each year. At the end of the first year, if the customer's GHG emission levels reduce by 10% compared to baseline levels, the interest rate on the instrument for that year will reduce to 1.8%. Alternatively, if the customer's GHG emission levels increase by 10% or more compared to current levels, the interest rate for the that year increases to 2.2%.

Application of accounting standards

In accordance with IFRS 9.B4.1.7A, contractual cash flows that meet the SPPI criterion are consistent with a basic lending arrangement. In such arrangements, "interest" is consideration for the time value of money, credit risk associated with the principal amount outstanding during a particular period of time and for other basic lending risks (e.g. liquidity risk), and costs (e.g. administrative costs) as well as a profit margin that is consistent with a basic lending arrangement.

Whilst IFRS 9 does not explicitly address ESG features, IASB staff guidance explained that ESG features can only be considered to be reflective of credit risk of the instrument if the adjustment to the interest rate is specific to the borrower and indicative of the changes in the credit risk associated with the principal amount outstanding of the loan. In general, most ESG targets are broader in nature and do not have direct effects on the credit risk of the borrower or the loan.

In this example, it is difficult to correlate the borrower's performance against baseline emissions to the credit risk on the principal of the loan.

Unless detailed analysis can prove otherwise, it is likely that the ESG feature on the interest rate is not linked to the credit risk of the customer. In this case, the ESG feature appears to have more than a de minimis effect on the contractual cash flows and the loan therefore fails the SPPI criterion and should be classified as fair value through profit and loss (FVTPL).

Illustrative disclosures

The impact of classifying the green loan as FVTPL are as follows:

Income statement

Bank C discloses in its accounting policies that it does not separate interest income and expenses on items measured at FVTPL from other fair value changes [IFRS 7.B5(e)]. Consequently, Bank C presents the entire change in fair value of the loan under the caption "net gains or losses on FVTPL" rather than separately recognising the interest income for an amortised cost loan.

Balance sheet

The carrying value of the green loan (which will be at fair value) should be classified as FVTPL. Additional disclosures in relation to the fair value hierarchy under IFRS 13 may also be required.

Example D – Embedded derivative in a sustainability-linked bond liability

Background

Tyre-maker D issues a five-year sustainability-linked bond with a 2.5% coupon and will use the proceeds to upgrade its production system to incorporate recycled rubber into its tyres. D's accounting policy states that EBITDA, profit, sales volume, revenue and the cash flows of one counterparty are considered to be non-financial variables. Increasing the proportion of recycled material is a key part of D's business net zero strategy. D is considering the following different options for the terms of the bond:

- a) *Bond A: The terms of the bond include a requirement for D's commitment to ensuring that each tyre it produces will contain at least 25% recycled rubber in three years' time. If this target is met, then the annual coupon payment on D's bond will reduce by 0.5% to maturity, but if it is missed it will increase by 0.5%.*
- b) *Bond B: The interest on the bond is linked to the price of recycled tyres after 3 years such that if the market price of the recycled tyre falls by 10% from the date of the bond issuance, then the annual coupon on the bond decreases by 0.5%.*

Application of accounting standards

The initial assessment is to determine whether the ESG features included in the two bonds:

- a) *Meet the definition of derivatives under IFRS 9; and*
- b) *Represent embedded derivatives that are closely related to the host bond.*

When making this assessment, the issuer considers first whether the sustainability-linked bonds are hybrid contracts that include both a non-derivative host instrument and one or more embedded derivatives. If an embedded derivative is identified, then a further assessment is required to determine whether the embedded derivative requires separation from the host contract (bifurcation) under IFRS 9 [IFRS 9.4.3.1, B4.3.1].

Under IFRS 9, an issuer separates an embedded derivative in a hybrid contract containing a financial liability host if:

- i. *the economic characteristics and risks of the embedded derivative are not closely related to those of the host;*
- ii. *a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative; and*
- iii. *the hybrid contract is not measured at FVTPL [IFRS 9.4.3.3, B4.3.1].*

D will need to assess whether the interest step features are embedded derivatives. If so, then under each Bond, D has two financial instruments – a host instrument (the bond) measured at amortised cost, and a derivative (the interest step-up feature) measured at fair value through profit or loss (FVTPL). If the fair value of the embedded derivative cannot be measured reliably, then D measures the whole hybrid contract at FVTPL [IFRS 9.4.3.6].

Bond A

In this example, the interest step-up feature might not meet the definition of a derivative if it were a separate instrument. The definition of a derivative excludes those instruments with a non-financial underlying variable that is specific to a party to the contract. Although IFRS does not provide specific guidance on how to determine whether a non-financial variable is specific to a party to the contract, it is generally best practice to consider the following questions when making such an assessment:

- i. Is the variable non-financial or financial? For Bond A, it is a non-financial underlying variable because it is linked to the successful upgrading of the tyre manufacturing process.*
- ii. Is it specific to a party to the contract? For Bond A, it is specific to the tyre-manufacturer and its ability to incorporate recycled materials into its new tyres.*

Therefore, given D's accounting policy, the interest step-up feature in this example does not meet the definition of a derivative because the underlying variable that drives the value of the feature is non-financial and specific to the issuer.

If D chooses this bond, it accounts for it as a financial liability measured at amortised cost. The features of the non-separable embedded derivative are included part of the contractual terms of the instrument.

Bond B

In this example, the ESG feature represents a derivative because it is linked to the price of recycled tyres. This is a financial underlying variable not specific to the borrower and therefore, there is a derivative. (Note it is assumed that there is no/little initial investment and the contract is settled at a future date.) The next step is to assess whether the feature is closely related to the host liability.

Determining whether an embedded derivative is closely related to the host contract requires consideration of the nature – i.e. the economic characteristics and risks – of the host contract and the nature of the underlying of the derivative. If the natures of both the underlying and the host contract are similar, then they are generally closely related.

In Bond B, the underlying risk of the host financial liability is the interest rate risk while the underlying risk of the ESG feature is market price of recycled tyres. These are different. Thus, the ESG feature is not considered closely related to the host debt instrument and would need to be separated and accounted for as an independent derivative (unless the entire instrument is measured at FVTPL, which could be relevant if the FV of the derivative cannot be determined independently).

Illustrative disclosures

IFRS does not address whether a separable embedded derivative should be presented separately in the statement of financial position. Therefore, the general presentation rules in IAS 1 and IAS 32 apply. If the host contract is a financial liability and the offsetting criteria are met for the host and the embedded derivative, then the embedded derivative and host contract should be presented on a net basis.

Even though an entity is not required to present a separable embedded derivative in a separate line item in the statement of financial position, it is required to disclose financial instruments carried at amortised cost and at fair value separately. Therefore, embedded derivatives that are separated from financial liabilities, but not presented separately in the statement of financial position, are disclosed in the notes to the financial statements.

Example E – disclosure of credit risk exposure

Background

Bank E provides corporate loans to customers operating across the US. The bank must consider the implications of climate risk on the corporates in which it invests, in order to understand its exposure to climate risk.

Application of accounting standards

The risk management policy and processes and changes thereto [IFRS 7.33 (b)]

Bank E would also need to disclose how it is managing the risks arising from climate change. This would include disclosures around how it embeds climate risk into the risk management framework such as initial credit assessment of the borrower, how it affects the borrower or facility risk ratings, and how the internal risk review teams consider climate risk as part of overall credit risk management.

Bank E may also need to identify and disclose details on how it is managing the exposures in high storm-damage risk zones such as:

- Adjusting the pricing for new mortgages to high storm-damage risk properties to reflect the additional risk; and/or
- Closely monitoring performance on loans in high storm-damage risk zones.

How management determinates concentration [IFRS 7.34(c) (i) & (ii)]

As required under IFRS 7.34, Bank E provides qualitative disclosures on how it determines the concentration of credit risk and the shared characteristic that identifies each concentration (e.g. counterparty, geographical area, currency, or market). Bank E explains that it determines concentration of credit risk based on the industries of the corporates, assessed into groupings determined by the level of exposure to physical risks (such as the physical location of the collateral) and transition risks (such as changes in market risk, policies and regulations that could impact customers' businesses). Preparing these disclosures requires Bank E to use and expand on existing information obtained through the credit underwriting process. It also describes in its financial statements the mechanism or factors considered in determining the severity of risks.

Impact of climate risk in determining ECL [IFRS 7.35B]

As part of its qualitative disclosures on how Bank E determines ECL, it also discloses, where material, how it incorporates the effect of climate risk. This could include disclosure of how it adjusts the collateral value in determining LGD, such as including a larger negative adjustment to the market value of the properties exposed to high climate risk zones. It could also include disclosure of how it adjusts the PD to reflect the increased physical risks. Given that E is a bank, it is likely that ECL would be a significant estimate. Therefore, Bank E should also consider the disclosure requirements under IAS 1.122 to 129, particularly around sensitivities. Bank E should also consider disclosing the assumptions, and where material, management overlay, particularly in relation to exposures in carbon intensive industries.

Illustrative disclosures

Bank E should disclose the amount of the risk exposure associated with all financial instruments sharing a particular characteristic. Quantitative information could include the gross carrying value of the exposure, information on collateral held against the exposure that mitigates the risk (such as loan to value (LTV) ratio), and the ECL or coverage ratio for the concentrated segment [IFRS 7.34(c) (iii)].

Example F - Interruptions caused by extreme weather conditions

Background

A large manufacturing company with primary operations in UK and Europe holds inventory relating to raw materials, work in progress and finished goods on its balance sheet at 31 March 20X1.

Following a wildfire which damaged a significant portion of a core manufacturing site, the board took the decision to suspend construction activity whilst emergency generators were installed and vital equipment was repaired. Significant volumes of raw materials were damaged by heat and water and needed repairing before they could be used in manufacturing. Following this suspension period, the site operated at a limited capacity for a three-month period whilst activities were undertaken to improve the fire defences of the site.

The disruption has resulted in incremental abnormal, non-productive costs including the costs of the generators, equipment repair costs and additional costs to rectify damage to raw materials. In addition, during the suspension period and subsequent period of limited productivity, the company continued to incur costs which would have ordinarily been capitalised into manufacturing costs. These costs include abnormal amounts of wasted site-based labour which did not contribute to bringing the inventory into its current location or condition during the aforementioned period of interruption.

Application of accounting standards

Under IAS 2.9-11, *"Inventories shall be measured at the lower of cost and net realisable value. The cost of inventories shall comprise all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition."*

In this example, the costs of purchase include raw materials (including those raw materials already incorporated into work in progress and finished goods). The costs of conversion include direct labour as well as a systematic allocation of fixed and variable production overheads. These overheads include depreciation and maintenance of factory buildings, lease costs of equipment used in the production process, the cost of factory management and administration and indirect materials and labour.

The additional costs incurred to repair raw materials are expensed as incurred because they do not increase productive capacity or extend the capacity of the asset.

The additional costs of emergency generators and equipment repair costs are expensed as incurred and excluded from overhead allocation calculations, following the principles of IAS 2.16 that *"abnormal amounts of wasted materials, labour or other production costs"* should be excluded from the cost of inventory.

The costs of idle labour during the suspension period and subsequent low production period are also expensed, following the principles of IAS 2.13 that *"the amount of fixed overhead allocated to each unit of production is not increased as a consequence of low production or idle plant. Unallocated overheads are recognised as an expense in the period in which they are incurred."*

Illustrative disclosures

Under IAS 2, there is no explicit disclosure requirement around costs that were excluded from recognition as inventory. However, under IAS 1, where such costs are material, it would be expected that they are disclosed. Where it is deemed that there is significant judgement around the costs that are capitalised within inventory, this should also be disclosed.

Example G – aborted land deals due to climate risks

Background

At 31 December 20X1, inventories held and recognised by a housebuilding group in its financial statements include land, as well as work in progress, show homes and part-exchange properties. The directors consider all inventory to be current in nature as they are expected to be realised within the group's normal operating cycle. Land inventory would be held for periods of c.5-10 years before the commencement of construction.

The group routinely enters into arrangements for the purchase of land. Where such arrangements are conditional on a future event, the group recognises option fees and other initial costs as they fall due, which are included initially in inventory and subject to regular impairment analysis. The group does not recognise the full cost of the land until the option to purchase the land has been executed.

Management are aware that lenders are withdrawing from providing finance on assets in a particular flood risk category and commission an independent review of flood risks applicable to its sites.

As part of annual testing of the net realisable value of inventory, the group incorporates findings from the flood risk review. In 20X1, this review indicated a heightened risk of flooding in certain brownfield locations, which has the potential to breach the group's policies around acceptable levels of risk (which are based on their lender's requirements), as well as potentially breaching local building regulations for acceptable flood risk in new developments. This leads to a board decision to abort or indefinitely suspend development on the impacted sites. A preliminary survey suggests that the resale value of the land would be negligible as it is deemed unlikely to receive funding or planning permission for any development due to the flood risk and it is not suitable for productive farmland. The board propose the creation of a nature reserve using the site.

Application of accounting standards

In accordance with IAS 2, the group's inventories are carried at the lower of cost and net realisable value. Net realisable value represents the estimated selling price (in the ordinary course of business) less all estimated costs of completion and overheads.

Management is required to employ judgement in assessing any impairment provisions which may be required. Estimated selling prices are normally reviewed on a site-by-site basis and amended based on local management's and the board's assessment of current market conditions, climate risks and impact of the attendant government regulations which have been put in place to curtail such risks.

In this example, as the net realisable value is assumed to be negligible, the inventory is fully impaired, with an expense recorded in the P&L. This includes the historic costs, option fees, site investigation costs and planning fees relating to the impacted land deals.

Illustrative Disclosure

Under IAS2.36, the group is required to disclose *“the amount of inventories recognised as an expense during the period and the amount of any write-down of inventories recognised as an expense.”*

In addition to this, the group records a key judgement that the sites are expected to fail the groups' flood risk policy, which led to the significant estimate that the net realisable value was nil. The disclosures provided would include details of the assessment made and reasoning for assuming that the net realisable value is nil.

Example H – Challenges arising in identifying temporary differences.

Background

A global mining company is considering the tax implications of a new decarbonisation strategy that it has announced. The company has investigated the potential impacts of climate-related factors on the business and is aware that it presents significant risks as well as opportunities. Certain divisions (e.g. thermal coal) are expected to be wound down, whilst others, particularly mining for materials required for semiconductor chips and battery materials, are experiencing dramatic growth.

The company's recent decarbonisation strategy update includes initiatives to reduce emissions from the company's own operations.

Key areas of the strategy that the finance team have been made aware of are:

- Increased investment in research into less carbon-intensive alternative technologies for use in its semiconductor materials operations. The company has invested £10m in this activity in the year. This was partially incentivised by a government initiative to allow 120% tax deductions for qualifying climate-change mitigation activities, to be received over the 5 years following the investment. The spend would all qualify for the deduction.
- The company will increase the use of alternative fuels in site equipment, with an 80% increase in the number of alternative fuel vehicles by 2030. The company currently operates significant diesel engine heavy equipment to transport material at the mines. They are investigating options to replace the machinery with alternatives able to run on lower carbon fuels or using electric vehicles. The tax team is aware of a new scheme enacted by the government to encourage retrofitting of older heavy machinery with alternative lower carbon engines. Under the approved and enacted scheme, the government is attempting to encourage the transition to alternative fuels without scrapping otherwise workable machinery. Under the scheme, the government allows that there would not be a clawback of previously claimed allowances on equipment, if the equipment is replaced by a low carbon alternative refurbished machine and the original asset is sold to an approved refurbishment business.

Application of accounting standards

The company considers each of the matters raised individually and in aggregate.

Research costs:

Under IAS 38.54, no intangible asset arises from the research phase of a project. Therefore, the company expenses its spend on research into alternative technologies as incurred. There is no asset or liability recognised on the balance sheet. The aggregate amount of research and development expenditure recognised as an expense is during the period is disclosed [IAS 38.126].

However, following the principles of IAS 12.9 that "some items have a tax base but are not recognised as assets and liabilities in the statement of financial position" the company investigates the deferred tax implications of the spend. Under local tax law, a deduction will be permitted over the next 5 years the as the tax base is assessed as £12m. Therefore, a deductible temporary difference of £12m arises. This is assessed to determine if a deferred tax asset should be recognised.

The company's forecasts show considerable taxable profits for the 5-year period for the semiconductor materials division which will be available when the temporary difference is expected to reverse. As such, management assess that recoverability of the deferred tax asset is probable. A deferred tax asset of £3m is recognised, based on the substantively enacted tax rate of 25%.

Asset replacement scheme:

The company currently recognises heavy machinery across all its sites with a carrying value of £160m and useful life ranging from 10 to 15 years. The assets have a tax base of £80m, and the company records a deferred tax liability of £20m based on enacted tax rates. If the asset was disposed of at its carrying value of £160m without making use of the government's scheme, there would be a clawback of previously claimed allowances. However, if the proceeds are invested in a qualifying asset, there is no clawback of allowances.

The company assesses the advantages and disadvantages of the new asset replacement scheme and determines that it presents a good opportunity for the company. The use of the scheme is included in cashflow forecasts, estimating that they will make use of the scheme within the next 5 years for all existing vehicles.

The depreciation model for the vehicles is altered. Rather than depreciating to nil over 10 to 15 years, the useful life of the vehicles is reduced to 5 years, with a residual value included based on current estimates of resale values of the vehicles at that date. This residual value will itself be sensitive to climate risks in that potential purchasers may follow a similar strategy as the company.

No impairment is identified to the vehicles as at the period end date. This is based on information from the resale market that the retail price of similar condition equipment is currently materially higher than the carrying value.

The company reassesses the recognition of the deferred tax liability. As it is the company's intention to make use of the asset replacement scheme, it is not expected that the difference between the carrying amount and the tax base will crystallise. Any capital gain would not be expected to be taxable. Therefore the entity releases the liability.

Illustrative disclosure**Research costs:**

There is no formal definition of investment tax credits (ITCs) under IFRS, but such government incentives are typically delivered through the tax systems e.g. in the form of reductions in income tax liabilities or increases in tax-deductible expenses. Accounting for ITCs is not addressed directly in the Standards because they are scoped out of IAS 12 and IAS 20. However, IAS 12 applies to all temporary differences arising from ITCs [IAS 12.4, 20.2(b)].

As such, the company recognises a deferred tax asset of £3m arising as a result of the research costs. The company discloses the deferred tax asset recognised in the notes as follows:

£'m	1 Jan 20X1	Research costs Dr/ (Cr)	Charge to income statement Dr/(Cr)	31 Dec 20X1 Dr/(Cr)
Capital allowances	0	3	(0.6)	2.4

Asset replacement scheme:

The company derecognises its deferred tax liability on its fleet of heavy machinery, disclosing the key assumptions that led to this assessment in the notes. The company also discloses the increase in the charge to the income statement for the year as a result of reducing the useful life of the assets from 10 and 15 years to 5 years.

Example I – Consideration of expected changes in government action in forecasts of future taxable profits.

Background

An airline group, providing air transport services for passengers and freight, has reported a loss before tax at the end of the financial period as a result of significant reductions in passenger volumes.

The aviation industry has been significantly affected by the COVID 19 pandemic with the International Air Transport Association (IATA) recently predicting that demand may not recover to 2019 levels until 2024. The group has assessed going concern and is confident in its ability to remain a going concern for the foreseeable future.

The group is based in a jurisdiction where its government has committed to bringing all greenhouse gas emissions to net zero by 2050. To deliver its commitment in the aviation sector, the government is proposing plans to increase non-domestic air passenger duty rates (APD) by incorporating an environmental levy on the passenger. This increase is expected to be enacted in the near future. The increase in APD would seek to constrain the overall demand for flights.

The group has deductible temporary differences of £5 million which are expected to reverse over the next five years. In addition, the group has taxable temporary differences of £2million reversing in the same jurisdiction and over the same period. The group is assessing the recoverability of its deferred tax assets.

Application of accounting standards

In accordance with IAS 12, when a company determines whether future taxable profits will be available, it first considers the availability of qualifying taxable temporary differences and then the probability of other taxable profits and tax planning opportunities [IAS 12.28-29].

Taxable profit used to support the recognition of deferred tax assets is different from taxable profit on which income taxes are payable. This is because, in order to avoid double counting, the group excludes reversals of existing taxable and deductible temporary differences in determining whether sufficient future taxable profits are available to recognise deferred tax assets in excess of taxable temporary differences [IAS 12.29].

Therefore, as a first step, the group recognises a deferred tax asset for deductible temporary differences of at least £2 million as the taxable temporary differences reverse in the same period as the deductible temporary differences.

Due to insufficient taxable temporary differences to recognise the deferred tax asset in full, as a next step the group will need to prepare a projection of future taxable profits. The group needs to consider the impact an expected increase in APD due to the government's reforms will have on its projections of future taxable profits. A five-year forecast is prepared for this purpose.

Illustrative disclosure

IAS 12 requires a company to disclose both the amount of the deferred tax asset and the nature of the evidence supporting its recognition when 1) the recoverability of a deferred tax asset depends on future taxable profits in excess of the profits arising from the reversal of existing taxable differences; and 2) the company has suffered a tax loss in the current or preceding period in a tax jurisdiction, in respect of which a deferred tax asset has been recognised in its financial statements [IAS 12.82].

When preparing its five-year forecast, the group considers the impact that an increase in APD, resulting from the proposed government reform will have on the demand for non-domestic flights. The group assessed and concluded that there will be suitable future taxable profits from which deferred tax assets can be deducted.

The group provides disclosures in the notes to the financial statements on the 'recoverability of deferred tax assets.' The group explains its deferred tax asset balances in relation to losses carried forward at the statement of financial position date in the notes. The group has concluded that the deferred tax assets will be recoverable against the unwind of the taxable temporary differences and the future taxable income based on the strategic plans of the group and taxable temporary differences at the statement of financial position date. The group notes that the forecast it prepared includes the expected impact of future governmental climate change actions to the extent it can be reliably forecast i.e. the expected increase in APD. The group notes that the losses it incurs can be carried forward indefinitely and have no expiry date in line with the jurisdiction's tax laws.

Example J – Change in risks accepted

Background

As part of an insurer's commitment to promote the transition to Net Zero carbon emissions by 2050, an insurer has implemented underwriting restrictions to ban renewals of reinsurance contracts relating to property and construction cover for coal mines, coal plants, oil sands extraction sites and associated pipelines. The insurer applies the General Measurement Model ('GMM') to measure all groups of insurance contracts containing insurance contracts covering these risks. The contract boundary of these contracts coincides with the period of cover, which is generally one to two years. After that contracts can be renewed.

As a result of the insurer's commitment, existing policies currently providing cover for these risks will not be renewed when the coverage period expires and will enter into run-off while no new contracts providing coverage of these risks will be accepted or written. Previously, the insurer had expected existing contracts to be renewed and had allocated a portion of insurance acquisition cash flows to the expected future renewals, recognising an asset in terms of IFRS 17.28B.

Application of accounting standards

The impact of the insurer's underwriting restriction results in future renewal premiums not expected to be received by the insurer. These cash flows relate to future insurance contracts and are outside of the boundary of the existing insurance contracts. IFRS 17.33 requires an insurer to "include in the measurement of a group of insurance contracts all future cash flows within the boundary of each contract in the group". Therefore, the underwriting restriction does not directly impact the cash flows included in the measurement of the existing property and construction policies.

In terms of IFRS 17.28E, "at the end of each reporting period, an entity shall assess the recoverability of an asset for insurance acquisition cash flows if facts and circumstances indicate the asset may be impaired. If an entity identifies an impairment loss, the entity shall adjust the carrying amount of the asset and recognise the impairment loss in profit or loss." Before any impairment is recognised, at the end of each reporting period, the insurer revises amounts allocated to groups of contracts reflect any changes in assumptions (if any) that determine the inputs to the method of allocation used [IFRS 17.B35B].

The insurer's commitment results in no future renewals being expected. Therefore, to the extent that insurance acquisition cash flows have been allocated to the future renewal of these contracts, the insurance acquisition cash flow asset may be considered to be impaired. Any impairment loss would be recognised immediately in profit or loss.

Illustrative disclosure

To the extent that the insurer's commitment affects significant judgements made in applying IFRS 17 to the property and construction risks, IFRS 17.117 would require an entity to "disclose the significant judgements and changes in judgements made in applying IFRS 17. Specifically, an entity shall disclose the inputs, assumptions, and estimation techniques used". For example, if management assesses that there is an increased risk of cancellation or policy lapses, and this is a significant input into the measurement model for these policies, IFRS 17.117 would require these changes to be disclosed.

IFRS 17.105B requires an entity to separately disclose any impairment losses recognised on the carrying value of any assets for acquisition cash flows. The insurer may therefore need to disclose the amount of impairment losses recognised in profit or loss that relate to assets for acquisition costs and support this disclosure with a narrative explaining what gave rise to the impairment loss.

IFRS 17.109A requires an entity to "disclose quantitatively, in appropriate time bands, when it expects to derecognise an asset for insurance acquisition cash flows". The impact of the insurer's commitment may have an impact on the expected run-off pattern for the assets for insurance acquisition cash flows which would need to be reflected in this disclosure. The assets may effectively be written down entirely, rather than have a specified run-off pattern.

Example K – Catastrophe Risks – claims**Background**

An insurer sells home insurance policies with guaranteed premium rates for three years. These insurance contracts are considered to have a contract boundary after three years. The insurer did not specifically take catastrophe risks into account in the measurement of insurance contracts under previous accounting and now needs to consider these risks. The insurer's policyholders live in an area where climate related events are increasing in frequency and severity (for example, there has been an increase in the frequency and severity of hurricanes).

Application of accounting standards

An element of the measurement of a group of insurance contracts, at initial measurement, is the estimate of future cash flows [IFRS 17.32]. The estimates of future cash flows should incorporate, in an unbiased way, all reasonable and supportable information about the amount, timing and uncertainty of those future cash flows that is available to the insurer without undue cost or effort [IFRS 17.33]. This would involve an entity estimating the expected value of the full range of possible outcomes [IFRS 17.33]. IFRS 17.B40 clarifies that the scenarios developed in estimating future cash flows relating to insurance contracts shall "include unbiased estimates of the probability of catastrophic losses under existing contracts. Those scenarios exclude possible claims under possible future contracts". Therefore, as part of the estimation of future cash flows relating to the insurance policies with guaranteed premium rates the insurer may need to factor in the increased frequency and severity of claims arising from climate related events. By doing so, the estimate of future cash flows would reflect the perspective of the entity and will be current [IFRS 17.33].

With regards to existing insurance contracts, IFRS 17.40 states that "the carrying amount of a group of insurance contracts at the end of the reporting period shall be the sum of the liability for remaining coverage and the liability for incurred claims". The liability for remaining coverage includes an estimate of the fulfilment cash flows relating to future service [IFRS 17.40]. This would include future cash outflows arising from future claims incurred. The estimation and measurement principles for the liability for remaining coverage is consistent with those of IFRS

17.33 described above. IFRS 17.B40 would apply and the entity needs to consider its estimate of future cash flows to *“include unbiased estimates of the probability of catastrophic losses under existing contracts. Those scenarios exclude possible claims under possible future contracts”*.

In addition, as the severity of claims and related uncertainty is expected to increase, the risk adjustment for non-financial risk related to the liability for incurred claims may also increase [IFRS 17.37 and B91]. There is a possibility that, upon subsequent measurement which takes into account the increased frequency and severity of claims arising from climate related events, groups of insurance contracts which were previously profitable become onerous in terms of IFRS 17.48. This may occur due to the insurer expecting an increase in the frequency and severity of claims relating to climate related events while the premium on the policy has been guaranteed or ‘fixed’ for the coverage period. To the extent that groups of insurance contracts become onerous, the insurer should *“establish (or increase) a loss component for the liability for remaining coverage”* which depicts the losses calculated in terms of IFRS 17.47 and IFRS 17.48. The loss component determines the amounts that are presented in profit or loss as reversals of losses on onerous groups and are consequently excluded from the determination of insurance revenue.

Where groups of insurance contracts are onerous, IFRS 17.50 states that *“the subsequent changes in the fulfilment cash flows of the liability for remaining coverage”* shall be allocated, on a systematic basis, between the loss component of the liability for remaining coverage and the liability for remaining coverage, excluding the loss component. This systematic allocation would result in the total amounts allocated to the loss component being equal to zero by the end of the coverage period of the group of insurance contracts [IFRS 17.52].

Illustrative disclosure

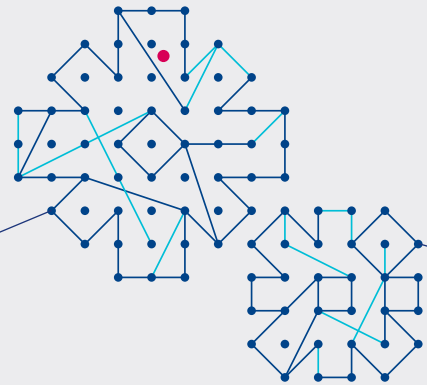
IFRS 17.117 would require an entity to *“disclose the significant judgements and changes in judgements made in applying IFRS 17. Specifically, an entity shall disclose the inputs, assumptions, and estimation techniques used”*. Given that management have changed their assumptions relating to the frequency and severity of claims due to climate related events, IFRS 17.117 may require these changes to be disclosed. IFRS 17.117 may also require information to be disclosed which would help users of the insurer’s financial statements understand the reason for the change and how the insurer determined the change.

IFRS 17.121 requires an entity to disclose *“information that enables users of its financial statements to evaluate the nature, amount, timing and uncertainty of future cash flows that arise from contracts within the scope of IFRS 17”*. The insurer may therefore need to consider disclosing the extent to which its insurance policies are impacted by the increased frequency and severity of claims due to climate related events. For example, the insurer could segment disclosures by geographic location to show the impact of the changed assumptions on policies per region as well as the type of cover provided per geographic region. This is relevant as only policyholders in the area subject to climate related events and who are covered for such events would be affected. This would also comply with the IFRS 17.127 requirement for an entity to disclose *“information about concentrations of risk arising from contracts within the scope of IFRS 17, including a description of how the entity determines the concentrations, and a description of the shared characteristic that identifies each concentration”*.

IFRS 17.100 requires an entity to disclose reconciliations, from the opening to the closing balances, of the net liabilities for the remaining coverage component (excluding any loss component) and the loss component. IFRS 17.103 states that this reconciliation should separately disclose the amount of insurance service expenses recognised in relation to changes that relate to future service, i.e. losses on onerous groups of contracts. Where any groups of insurance contracts have become onerous due to the change in the insurer’s assumptions relating to increased claim frequency and severity due to climate related events, this disclosure would be affected.

IFRS 17.101 requires an entity to disclose reconciliation from opening to closing balance of the estimates of future cash flows. IFRS 17.103 states that this reconciliation must separately disclose “*changes that relate to future service*”, separately showing “*changes in estimates that adjust the contractual service margin*”, “*changes in estimates that do not adjust the contractual service margin*” (i.e. losses on groups of onerous contracts) and “*the effects of contracts initially recognised in the period*”. The insurer’s adjustment to claim assumptions is likely to impact the profitability of the insurance contracts issued and therefore, the contractual service margin may be affected. The impact on the contractual service margin would be disclosed as part of this reconciliation.

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