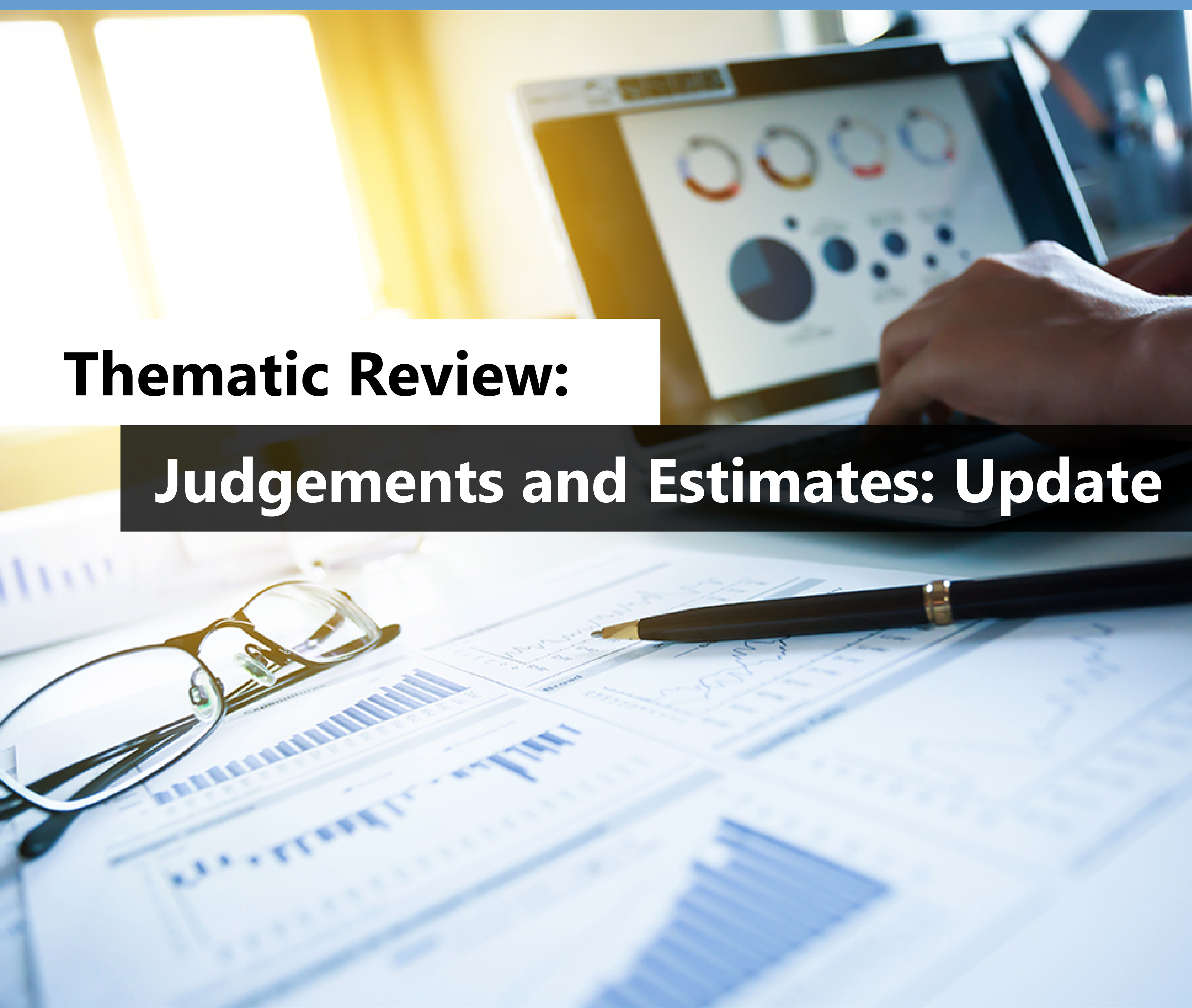


Financial Reporting Council

Thematic Review:

Judgements and Estimates: Update

July 2022

Contents

1. Executive summary

Introduction

Disclosures about significant accounting judgements and sources of estimation uncertainty provide important information about reports and accounts. These disclosures allow readers to assess how the accounting policies applied have been affected by the judgements taken by management. They facilitate a better understanding of assumptions made about the future and the extent to which changes to those assumptions may affect a company's future position.

Better examples of these disclosures are tailored to a company's circumstances and explain the specific judgements and assumptions made. Sources of estimation uncertainty should be quantified and other relevant information such as sensitivities or ranges of potential outcomes should be provided where these help readers understand management's judgements about the future. The requirements for IFRS reporting in this area are provided in IAS 1[1]. To the extent that topics such as climate change or the ongoing effects of the Covid-19 pandemic affect significant judgements or sources of estimation uncertainty, we expect these to be discussed.

Our first thematic on the topic of judgement and estimate disclosures was published in November 2017 ('our 2017 review')[2]. It included examples of better disclosure and set out the FRC's expectations for good quality reporting. These messages have been reinforced in the FRC's 'Annual Review of Corporate Reporting' ('Annual Review')[3], which has consistently featured the topic in the Corporate Reporting Review (CRR) team's Top Ten matters of challenge.

We produced this follow-up report due to the frequency with which issues on this topic had continued to be identified. The additional monitoring work performed for this review focuses on three areas: the use of sensitivity and range-of-outcome disclosures, mineral reserve estimates, and judgements and estimates relating to climate change. This report also includes a summary of our overall expectations on judgement and estimate disclosures (on page 22).

Both our thematic review and recent routine monitoring in 2021/22 have identified some improvement in the quality of judgement and estimate disclosures since our previous report. Consequently, in our forthcoming Annual Review, we do not expect judgements and estimates to be the most frequent area of challenge, as has previously been the case. However, there is still room for improvement and this report summarises the findings from this thematic review update. The opportunities for improvement and better practices are identified in the report as follows:

- Represents good quality application that we encourage other companies to consider when preparing their annual reports.
- Represents opportunities for improvement by companies to move them towards good practice.
- Represents an omission of required disclosure or other issue. We want companies to avoid such issues in their annual reports.

1. IAS 1, 'Presentation of Financial Statements', paragraphs 122-133
2. https://www.frc.org.uk/getattachment/42301e27-68d8-4676-be4c-0f5605d1b467/CRTR_Judgements-and-Estimates-v5.pdf
3. https://www.frc.org.uk/getattachment/8430f391-6f44-4ec3-b1f8-c3d6b00c9a1e/FRC-CRR-Annual-Review_October-2021.pdf

1. Executive summary (continued)

Summary of key observations

Our review identified many good examples of detailed, granular disclosure explaining management's judgements and the nature of the uncertainties relating to significant estimates. We were pleased that we did not find much in the way of irrelevant or boilerplate narrative; companies had generally made an effort to tailor their disclosures.

Significant estimates were supported by quantification, such as information about assumptions made and the specific amount at risk of material adjustment. Almost all of our general selection of companies (defined on page 6) provided some degree of sensitivity disclosure, including sensitivities which complemented the disclosure requirements of other IFRS standards.

We observed many instances of effective linkage and the use of cross-referencing to achieve well-integrated estimate disclosures. It is evident that there are opportunities for companies to learn from peers to improve the quality of their reporting.

We have, however, identified the following as areas where there is generally room for further improvement:

- Companies should explicitly state whether estimates have a significant risk of a material adjustment to the carrying amounts of assets and liabilities within the next financial year.
- Sensitivity disclosures should be provided more frequently and in the way that is most meaningful to readers.
- Sources of estimation uncertainty may vary from year to year. Companies should reassess whether disclosures made in a previous year need to be revised.
- Where additional estimate disclosures are provided, such as those carrying lower risk, having smaller impact or crystallising over a longer timeframe, they should be clearly distinguished from those with a significant short-term effect.

Observations relating to the impact of climate change

Many companies mentioned climate change within their estimate disclosures. Several explained that the impact was factored into significant estimates. We noted that better disclosure clearly articulated the timing of any impact, providing specific clarification that climate change either had a risk of a material adjustment to carrying values of assets and liabilities in the next year or did not, but could have medium or longer-term impacts.

Some companies presented additional illustrative climate sensitivities relating to the potential longer-term impacts. It is important to make a clear distinction between these sensitivities and any shorter-term sensitivities disclosed in accordance with IAS 1, paragraph 129.

2. Scope of the thematic report

Scope

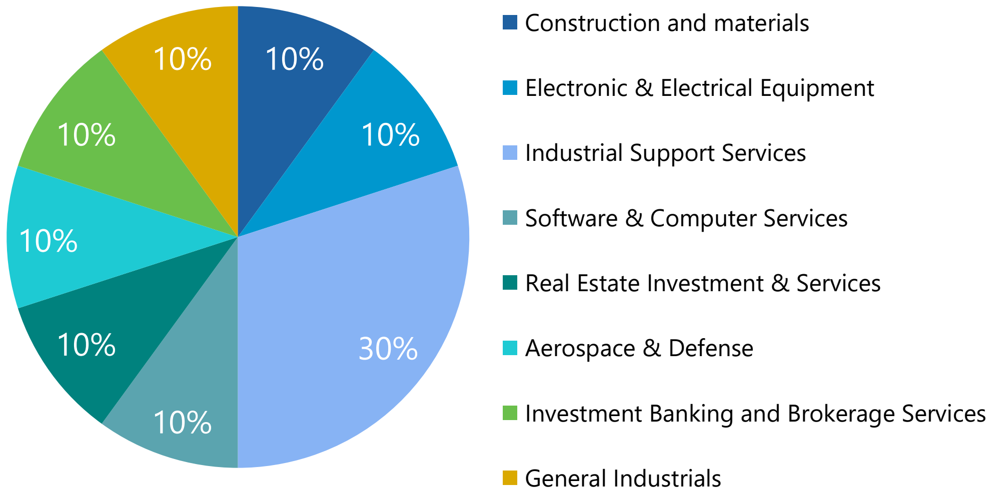
For the purpose of this thematic, we performed limited-scope desktop reviews on three relevant topics: the use of sensitivity and range-of-outcome disclosures, mineral reserve estimates, and judgements and estimates relating to climate change. In addition, this report and the expectations (within page 22) include, where relevant, the messages from our 2017 review and the findings from routine reviews.

Our selection consisted of 20 Main Market and AIM-listed companies, none of which were pre-informed of our review. Half of the selection comprised companies from the natural resource sector. Our review of these companies focused on mineral reserve estimates and considered how well these were integrated with the discussions of the relevant financial statement components. We did not review the measurement methodology for the underlying reserves.

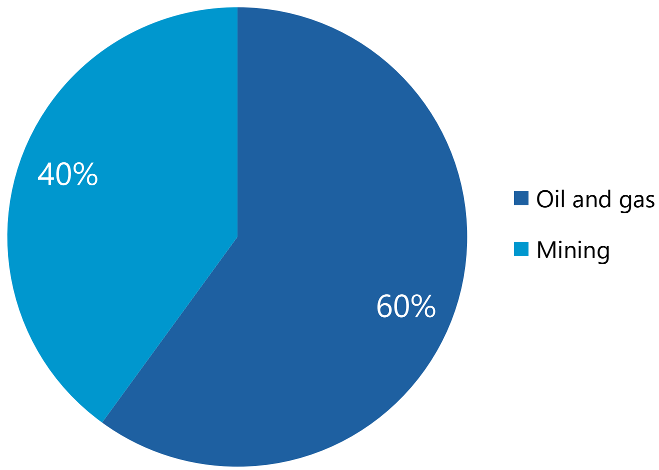
The remaining ten companies (our 'general selection') were selected from a variety of sectors and for these companies we considered the extent to which information about sensitivities to changes in assumptions or ranges of outcomes had been provided and how practice had developed since our 2017 review. For all 20 companies, we considered the extent to which the impact of climate change was incorporated into estimate disclosures in the financial statements.

Our report includes extracts from several of the reports and accounts reviewed as examples of better disclosure. Inclusion of a company's disclosure should not be seen as an evaluation of that company's reporting as a whole.

General selection



Natural resource selection



3. Significant estimates

Distinguishing between judgements and estimates

Paragraph 122 of IAS 1 requires disclosure of judgements made by management in applying an entity's accounting policies, other than those relating to estimation uncertainty. As the relevant disclosures for judgements relating to estimation uncertainty are different, it is important to differentiate between these.

Paragraph 125 of IAS 1 requires more wide-ranging disclosures of judgements that depend on management assumptions about the future, and other major sources of estimation uncertainty. Throughout the thematic report we refer to disclosures within the scope of paragraph 125 as 'significant estimates'.

Where companies are unable to present judgements and estimates separately, due to the nature of the underlying matters, we expect the individual areas of judgement or estimation uncertainty to be identified.

Management considers that their use of estimates, assumptions and judgements in the application of the Group's accounting policies are inter-related and therefore discuss them together below with the major sources of estimation uncertainty and significant judgements separately identified.

CRH plc
2021 Annual Report and Form 20-F, p145

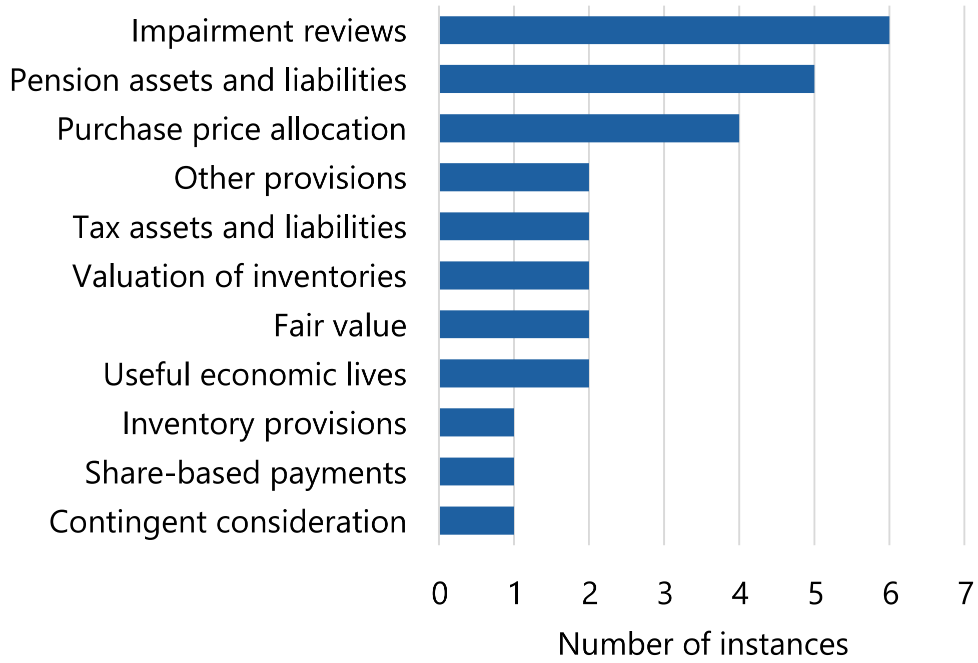
Significant estimates and significant judgements are discussed together but separately identified.

Most of the companies in our general selection presented judgements separately from estimates.

Most frequently disclosed estimates

The following estimates were those disclosed most frequently in our general selection of 10 companies. Estimation uncertainty around impairments and pension liabilities are also frequently noted in our routine reviews.

Most commonly disclosed estimates



3. Significant estimates (continued)

Significant estimates

Significant estimates within the scope of IAS 1, paragraph 125, are those with a **significant risk** of resulting in a **material adjustment** to the carrying amounts of assets and liabilities **within the next financial year**.

We expect explicit disclosure as to whether an estimate is a significant estimate. 60% of our general and 50% of our natural resource selection stated whether estimates were significant.

It was not clear from some disclosures whether estimates described as 'critical' or 'key sources of estimation uncertainty' had a significant risk of material adjustment to the carrying value of assets and liabilities in the next financial year.

More useful disclosure either:

- identified significant estimates in a separate section and stated in the introductory narrative that the estimates had a risk of material adjustment to assets and liabilities within the next year;

or

- presented significant and other estimates in the same section but, where applicable, included a specific statement that there was a significant risk of material adjustment to a specific balance within the next year.

Other estimates

We do not discourage companies from disclosing other estimates where this provides material, relevant information. For example, disclosures of other uncertainties, such as those carrying lower risk, having smaller impact or crystallising over a longer timeframe may be informative.

Companies are also required by paragraph 112(c) of IAS 1 to provide information that is not presented elsewhere in the financial statements but is relevant to an understanding of any of them.

However, **we expect other estimates to be distinguished from significant estimates and the reason for disclosure explained**. Clear separation enables users to clearly understand the timeframe and/or the impact of any changes in the underlying uncertainties and assumptions.

For example, within our two selections we saw examples of estimates which are affected by the impact of climate change. There may not be a significant risk of a material impact within the next financial year, but the impact is expected to crystallise over the longer-term.

Further discussion of the impact of climate change on estimation uncertainty is provided in section 6.

3. Significant estimates (continued)

Significant accounting estimates

The preparation of the Group's consolidated financial statements includes the use of estimates and assumptions... The significant accounting estimates with a significant risk of a material change to the carrying value of assets and liabilities within the next year in terms of IAS 1, 'Presentation of Financial Statements', are:

– Fair value of forestry assets – refer to note 14

– Actuarial valuations of retirement benefit obligations – refer to note 24

Other areas of judgement and accounting estimates

The consolidated financial statements include other areas of judgement and accounting estimates. While these areas do not meet the definition under IAS 1 of significant accounting estimates or critical accounting judgements, the recognition and measurement of certain material assets and liabilities are based on assumptions and/or are subject to longer term uncertainties. The other areas of judgement and accounting estimates are:

– Taxation – refer to notes 7 and 33

– Residual values and useful economic lives of property, plant and equipment – refer to notes 10 and 33

– Fair value of assets acquired and liabilities assumed in business combinations – refer to note 25

Mondi Group
Integrated report and financial statements 2021, p182

Significant estimates are listed separately. There is a clear statement that these estimates have a risk of material adjustment to the carrying value of assets and liabilities within the next year.

The other areas of judgement and accounting estimates section explains that the judgements/estimates relate to material assets and liabilities that are based on assumptions and/or are subject to longer term uncertainties.

3. Significant estimates (continued)

Examples of additional estimate disclosures

Several companies provided estimate disclosures that appeared to be in addition to those specifically required by IAS 1, paragraph 125.

The most common example was the valuation of assets acquired in a business combination. IFRS 3, paragraph 45, allows a period of no longer than one year in which to complete the initial accounting for a business combination.

Most companies did not specify whether estimates relating to business combinations were considered significant estimates due to a significant risk of a material adjustment during the measurement period or were disclosed for another reason. If they are significant, we would expect this to be clarified.

One company included acquired intangible assets within the list of estimates described as having a significant risk of material adjustment to assets and liabilities in the next year. However, no sensitivities were provided, despite this appearing to be necessary to understand the assumptions made by management.

Useful disclosures for acquired intangible assets included clear explanations of the assumptions used in the valuation. Additionally, one company provided a sensitivity showing how the valuation would have changed had alternative cashflow forecasts been incorporated in the model.

One of the companies in our general selection provided helpful disclosure relating to an equity-settled share-based payment scheme. Unlike cash-settled schemes, equity-settled schemes do not require the recognition of a liability, and IAS 1, paragraph 125, refers only to estimates affecting assets and liabilities.

Probability of vesting of equity instruments granted in terms of share-based payment schemes
The cumulative expense recognised for the Group's share-based payment schemes reflects, in the opinion of the Directors, the number of equity instruments granted that will ultimately vest. At each reporting date, management adjusts the unvested equity instruments with the forfeited instruments. Management is of the opinion that this number, adjusted for future attrition rates, represents the most accurate estimate of the number of instruments that will ultimately vest. The vesting period was determined based on management's best estimate, after considering external advice on the expected closing date of the Apex transaction. The closing date is expected to be in March 2022. If the expected vesting period was 3 months longer, the share-based payment expensed would have been £1.9 million lower for the year.

Sanne Group plc
Annual Report and Accounts 2021, p80

A sensitivity is provided showing the effect of an extended vesting period on the share-based payment expense recognised in the income statement.

3. Significant estimates (continued)

The nature and carrying amount of assets and liabilities

IAS 1, paragraph 125, requires disclosure of the nature and the carrying amount at the end of the reporting period of the assets and liabilities at significant risk of a material adjustment in the next financial year.

The amount at risk of material adjustment may be the overall total of a financial statement line item. Where this is not the case, **we expect disclosure of the specific amount at risk of material adjustment**.

We were pleased that, where relevant in our general selection, the companies disclosed the specific amount at risk of material adjustment; for example, specific provision amounts for uncertain tax positions.

The nature of the assumption or other estimation uncertainty

IAS 1, paragraph 129, lists examples of disclosures that allow the user to understand the judgements that have been made about estimation uncertainty. IAS 1, paragraph 129(a), gives the nature of the assumption or other estimation uncertainty as an example disclosure.

Significant estimates require management's most difficult, subjective or complex judgements[4]. **We expect companies to provide sufficient granularity in their descriptions of assumptions and/or uncertainties to enable users to understand these judgements**.

Detailed qualitative disclosure should also evidence the reasons why the estimate has a risk of material adjustment to the carrying value of assets and liabilities in the next financial year.

While we saw examples of good practice, not all companies in our selection provided sufficiently detailed disclosure to explain the nature of the assumptions and/or uncertainties relating to significant estimates.

For two companies in our selection, it appeared from a desk top review that there were potential significant judgement and/or estimate disclosures that had not been made.

- The first company's sensitivity analysis for the defined benefit pension appeared to show reasonably possible movements greater than audit materiality within the next year. However, the pension liability had not been identified as a significant estimate.
- The audit report for the second company discussed judgements and estimates for revenue recognition on long-term contracts. The company's revenue disclosures also appeared to suggest that there were potentially significant judgements and/or estimates related to long-term contracts.

4. IAS 1, 'Presentation of Financial Statements', paragraph 127

3. **Significant estimates** (continued)

One company in our sample gave tailored, granular information about the estimation of an inventory provision. The disclosure discusses Covid-19 and global commodity shortages and the impact these events had on the identification of inventory at risk. The reasons for management's assumptions, which are based on historical usage and personnel reviews, are explained. In addition, the inventory provision is quantified.

Inventory reserve - Raw Materials and Sub-Assemblies

Consistent with last year, the Group adopts a usage-based approach in calculating its inventory provision. COVID-19 and global commodity shortages have significantly impacted our operations, logistics and supply chains over the past year and therefore the approach to identify inventory at risk has been flexed to consider the impact from these factors. Management's focus has been on inventory that is over 365 days old.

Raw materials and sub-assemblies are reserved if the quantity on hand, that is greater than 365 days old, exceeds three year's historical usage and, following review by engineering and supply chain personnel, there is no reasonable prospect of the components being used or their shelf life not being exceeded. Three years is felt to be appropriate at this time as: recent usage has been depressed following the economic impacts from COVID-19; the majority of components have a long shelf life; product demand mix between project and MRO business has been skewed; and new products or upgrades have been delayed.

Raw material and sub-assembly inventory consists of a large number of Stock Keeping Units ("SKUs") of varying value. Assessment of every at-risk SKU would be impractical, and the reserve has therefore been determined by assessing the nature, usability and condition for a range of at-risk SKUs that represent a significant population of the inventory at risk. The result from this assessment was then used to determine a reserve percentage that was applied to the remaining population, with the combination of these calculations determining the total reserve required.

The provision element that relates to raw material and sub-assembly items greater than 365 days old is £2.2m and represents 43% of that specific aged category of Inventory.

Dialight plc

Annual Report and Accounts 2021, p95

Quantification of the specific amount at risk of material adjustment (a specific inventory provision)

Detailed description of the nature of the estimation uncertainty

4. Sensitivities / ranges of outcomes

Sensitivities

Paragraphs 129(b) and (c) of IAS 1 list sensitivities and the range of reasonably possible outcomes as examples of disclosure to help users understand the judgements that management makes about the future and about other sources of estimation uncertainty.

We explained in our 2017 review that **we expect more companies to disclose the sensitivity of carrying amounts to assumptions and estimates, and/or the range of reasonably possible outcomes within the next financial year**. This information is valuable to investors as it enables them to evaluate the possible effects of estimates on future accounts.

Within our general selection all but one company provided sensitivities for some of their significant estimates, predominantly where sensitivities were required by other IFRS standards.

We were pleased that five sensitivity analyses were provided, across four companies, which were not required by another standard. These included topics such as useful economic lives, biological assets and absorbed overhead costs in inventories.

Sensitivities should not be limited to those required by other IFRS standards although we remind readers that the disclosures of IAS 1, paragraphs 125 and 129 are not required for assets and liabilities measured at fair value if this is based on quoted prices in an active market for an identical asset or liability[5].

Forestry assets
The Group has performed sensitivity analyses of reasonably possible changes in the significant assumptions… taking into account historical experience. The sensitivity table is based on an illustrative % change, however the estimates may vary by greater amounts. Therefore the Group considers the forestry assets valuation to be a key estimate. The reported value of owned forestry assets would change as follows should there be a change in these underlying assumptions on the basis that all other factors remain unchanged:

€ million	2021	2020
Effect of €5/tonne increase in net selling price	71	68
Effect of 1% increase in conversion factor (hectares to tonnes)	3	4
Effect of 1% increase in risk premium	(5)	(6)

Mondi Group
Integrated Report and financial statements 2021, p198

An IAS 1, paragraph 129, sensitivity is provided for forestry assets, which are disclosed as a significant estimate. Quantitative sensitivity analysis is not required by other IFRS standards.

5. IAS 1, 'Presentation of Financial Statements', paragraph 128

4. Sensitivities / ranges of outcomes (continued)

Sensitivities (continued)

Where it was unclear whether companies deemed key sources of estimation to be significant under IAS 1, paragraph 125, it was also unclear whether sensitivity or range-of-outcome disclosures should have been provided.

One company's audit report explained that for one financial statement item there was a high degree of estimation uncertainty and a potential range of reasonable outcomes greater than audit materiality. However, the company had not provided a sensitivity analysis.

We expect sensitivity disclosures to be consistent with disclosures elsewhere in the annual report.

In some of the companies reviewed, estimates had been disclosed as significant under IAS 1, paragraph 125. However, the associated sensitivities appeared to show that there was not a significant risk of material adjustment to the carrying amount of assets and liabilities in the next year.

Two companies disclosed tax as a significant estimate but did not provide sensitivities or ranges of outcomes. A third company disclosed that it would be impractical to give these disclosures. Tax remains an estimate for which we continue to seek improvements in the disclosure of sensitivities and/or ranges of outcomes. We were pleased to see a better example within our natural resource selection.

(d) Tax losses
The Group's deferred tax assets at 31 December 2021 are recognised to the extent that taxable profits are expected to arise in the future against which tax losses and allowances in the UK can be utilised. A $127.6 million tax credit has been recognised as an exceptional item, reflecting the reversal of the previous deferred tax asset derecognition. In accordance with IAS 12 Income Taxes, the Group assesses the recoverability of its deferred tax assets at each period end. Sensitivities have been run on the oil price assumption, with a 10% change being considered a reasonable possible change for the purposes of sensitivity analysis (see note 2). A 10% reduction in oil price would result in a deferred tax asset derecognition of $318.6 million and a 10% increase in oil price would result in an increase in deferred tax asset recognition of $107.9 million.

EnQuest PLC
Annual Report and Accounts, p137

Sensitivity provided for the effect of oil price assumptions on deferred tax asset recognition.

4. Sensitivities / ranges of outcomes (continued)

Ranges of reasonably possible outcomes

None of the companies in our general selection provided a range of reasonably possible outcomes for significant estimates. In companies where sensitivities were not provided but IAS 1, paragraph 129 was applicable, a range of reasonably possible outcomes could have been provided to meet the disclosure requirements.

Ranges of outcomes may be more relevant where an estimate is not sensitive in a linear manner to changes in input assumptions. Instead, there may be several different possible outcomes depending on future circumstances, such as when estimating a provision for litigation.

Tax is an area where we would more likely see a range of reasonably possible outcomes. One company described tax as a 'critical' estimate. If this estimate had a significant risk of material adjustment in the next year, then a range of possible outcomes would have helped readers to understand the risk involved.

Paragraph 131 of IAS 1 sets out the required disclosures for situations in which it is impracticable to disclose the extent of the possible effects of an assumption or another source of estimation uncertainty. We observed a good example of these disclosures for capitalised development costs in one of the companies in our general selection. The nature and carrying amount of the relevant assets were disclosed and there was also a clear statement that it was reasonably possible that outcomes within the next financial year could require a material adjustment to the carrying amount.

The term 'reasonably possible' is used by IAS 1 in the context of ranges of outcomes. Where sensitivities are provided, however, **we encourage clear articulation as to whether movements reflect reasonably possible changes in assumptions or are provided for another reason**. Clear explanation as to why particular sensitivities have been chosen is helpful to users.

Quantification of assumptions

Within our general selection, we observed quantification of assumptions primarily where this was required by another IFRS standard, for example IAS 36 'Impairment of Assets', IAS 19 'Employee Benefits' and IFRS 13 'Fair Value Measurement'.

Companies need to consider whether quantification is necessary for any other significant estimates. We explained in our 2017 review that we expect the assumptions underlying significant estimates to be quantified when investors need this information to fully understand their effect.

5. Mineral reserve disclosures

Use of linkage and cross-referencing

Mineral reserves are the deposits of minerals or volumes of oil and gas in the ground that are economically mineable or recoverable. Mineral reserves themselves are not recognised in a company's financial statements, but their estimated quantities impact a number of financial statement items.

The areas disclosed as those to which mineral reserve estimates were relevant included: depreciation and amortisation, the carrying value of intangible assets and deferred stripping costs.

Our review considered how well the estimation uncertainty associated with mineral reserve estimates was integrated into the discussions of financial statement components. We assessed the use of cross-referencing and effective linkage to avoid unnecessary duplication.

> Overall, we were pleased that most companies clearly linked reserve estimates to the financial statement areas affected. Four companies presented the estimation of reserves as a separate estimate which included a list of the financial statement areas affected. One company also included cross-references to the relevant accounting policies.

An alternative approach was to discuss the impact of reserve estimates within the accounting policy for each financial statement item. While we observed examples of this approach being employed successfully, care must be taken to avoid duplication and clutter in the accounts.

> One company did not specify the financial statement areas affected by reserve estimates and the individual accounting policies provided insufficient explanation of the impact of reserve estimates. In addition, the lack of clear linkage resulted in the repetition of reserve estimate assumptions; for example, those used for impairment testing and in the assessment of the fair value of acquisitions.

Explanation of mineral reserve estimates

The level of detail provided about the assumptions and uncertainties associated with mineral reserve estimates differed but, overall, they were explained well. Common disclosures included references to external consultants, details of the valuation methodology used and information about how frequently estimates were revised.

> The most helpful disclosure gave detailed qualitative disclosure of assumptions such as mining methods, future demand and production costs.

> Nine companies in our selection provided reserve statements or a more detailed discussion of reserve information elsewhere in their annual report. Useful disclosure provided cross-references to this information from the financial statements.

The following example demonstrates some of the better practices around linkages and detailed assumptions:

5. **Mineral reserve disclosures** (continued)

Ore reserves and mineral resources
Estimates of ore reserves and, in some cases, mineral resources can impact: depreciation and amortisation rates; the carrying values of intangible assets and property, plant and equipment; deferred stripping costs; provisions for close-down and restoration costs; and the recovery of deferred tax assets.

The Group estimates its ore reserves and mineral resources based on information compiled by Competent Persons as defined in accordance with the Joint Ore Reserves Committee (JORC) code (see note 1(j)). The estimation of ore reserves and mineral resources requires judgment to interpret available geological data and subsequently to select an appropriate mining method and then to establish an extraction schedule. Estimation requires assumptions about future commodity prices and demand, exchange rates, production costs, transport costs, close-down and restoration costs, recovery rates and discount rates and, in some instances, the renewal of mining licences. There are many uncertainties in the estimation process and assumptions that are valid at the time of estimation may change significantly when new information becomes available. New geological or economic data, or unforeseen operational issues, may change estimates of ore reserves and mineral resources.

The Group uses judgment as to when to include mineral resources in accounting estimates, for example, the use of mineral resources in the Group's depreciation policy is described in note 1(i) below and in the determination of the date of closure as described in note 1(l). The unaudited statement of ore reserves is included on page 354 and of mineral resources on page 366.

Rio Tinto plc, Annual Report 2021, p222

Clearly states which financial statement areas are affected by reserve estimates.

Reference to external consultant and methodology

Qualitative disclosure of assumptions

Cross-references to the statement of ore reserves and to applicable accounting policies.

5. Mineral reserve disclosures (continued)

Tailoring and granularity

We were pleased with the level of integration of mineral reserves in the notes to relevant areas of the financial statements. Generally, the disclosures were tailored appropriately and provided a good level of granularity. We did, however, identify some areas for improvement:

We observed that the impact of reserve estimates was less frequently mentioned within disclosures relating to provisions and the recoverability of deferred tax assets, even though they appeared to be affected. Sometimes the impact of reserve estimates was implied, for example, in a reference to the end of production within decommissioning provision disclosures.

One company explained that, in certain circumstances, other mineral resources were taken into consideration when amortising exploitable mineral and petroleum rights using the unit of production basis. However, we were unable to identify further details of management's judgement on identifying the portion of resources taken into account, and the effect on the accounts.

Quantification of assumptions

As set out on page 15, **we expect the assumptions underlying significant estimates to be quantified when investors need this information to fully understand their effect**. This is particularly relevant in industries where certain matters are likely to be significant sources of estimation uncertainty for all industry participants and where investors will want to make intercompany comparisons.

Our natural resource selection allowed us to consider the extent to which companies are now quantifying oil, gas and other commodity price assumptions.

We were pleased that all but two companies in our natural resource company selection quantified the oil, gas and commodity prices used in their estimates. This enabled comparison of assumptions between market participants.

The two that did not quantify commodity assumptions were both mining companies. One company referred to its internal commodity price setting process and associated judgements but did not go as far as to quantify the commodity price assumptions.

5. Mineral reserve disclosures (continued)

Estimation of future oil price and netback price
The estimation of future oil price has a significant impact throughout the financial statements, primarily in relation to the estimation of the recoverable value of property, plant and equipment and intangible assets. It is also relevant to the assessment of ECL, going concern and the viability statement. The Company's forecast of average Brent oil price for future years is based on a range of publicly available market estimates and is summarised in the table below, with the 2026 price then inflated at 2% per annum.

$/bbl	2021	2022	2023	2024	2025
Actual/Forecast	**71**	**75**	**75**	**70**	**70**
HY2021 forecast	65	65	65	65	65
Prior year forecast	55	55	60	60	60

The netback price is used to value the Company's revenue, trade receivables and its forecast cash flows used for impairment testing and viability. It is the aggregation of Brent oil price average less transportation costs, handling costs and quality adjustments. The Company does not have direct visibility on the components of the netback price realised for its oil because sales are managed by the KRG, but invoices are currently raised for payments on account using a netback price agreed with the KRG.

Genel Energy, Annual Report 2021, p107

Sensitivity to project execution and ramp-up (reasonably possible within the next financial year)

Volcan
Volcan's non-current capital employed is carried at approximately $1,300 million net of an accumulated impairment of $1,903 million. Impairments principally related to value attributable to the future potential of various projects / resources. The valuation is sensitive to price and eventual commercialisation of the projects / resources, and deteriorations or improvements in these key assumptions may result in additional impairments or reversals.

The short to long-term zinc and silver price assumptions were $2,750-$2,400/t and $24-$20/oz respectively. Should the zinc and silver assumptions reduce by 10% (across the curve) or production reduce by 10%, an additional impairment of $470 million or $530 million, respectively, could be recognised. Should the zinc and silver assumptions rise by 10% (across the curve) an impairment reversal of $570 million could be recognised.

Glencore plc
Annual Report 2021, p153

Quantification of zinc and silver price assumptions

Quantification of oil price assumptions facilitates comparability between companies.

6. Climate change

Estimates and the impact of climate change

Estimation uncertainty may be impacted by climate change and any climate targets or commitments made by a company. We reviewed the extent to which the impact of climate change was incorporated into estimates. We observed a range of granularity in the level of climate reporting with a few companies making little or no mention of climate change in the financial statements. As expected, climate change was discussed more frequently by companies within the natural resource selection.

All the expectations in this thematic report apply to significant estimates relating to climate change. We expect to see:

- consideration of the connectivity between climate-related narrative reporting, especially any disclosure of significant climate risks or net-zero commitments, and the financial statements;
- clarification of the timing of any impact relating to climate change assumptions and/or uncertainties;
- quantification of the specific amount at risk of material adjustment;
- sufficient granularity in the descriptions of assumptions and/or uncertainties; and
- sensitivities and/or ranges of reasonably possible outcomes.

Where climate related sources of estimation uncertainty are expected to have a material impact over a longer timeframe, for example where government regulation is expected to be introduced in the future, **we expect companies to consider whether disclosure of this information may be required by paragraph 112(c) of IAS 1**.

Nine companies across our two selections disclosed that the impact of climate change affected significant estimates. Two thirds of these were natural resource companies.

Better disclosures clarified the timeframe of any impact on estimates, providing specific clarification that climate either had a significant risk of a material adjustment to carrying values of assets and liabilities in the next year or did not and was therefore indicative of medium or longer-term impacts.

Some companies in our selection presented additional illustrative longer-term climate sensitivities. It is important to make a clear distinction between these sensitivities and any sensitivities incorporating climate change disclosed in accordance with IAS 1, paragraph 129.

Several companies explained that the impact of climate was factored into estimates that did not have a risk of material adjustment to assets and liabilities in the next financial year. In line with our general findings, this classification was sometimes unclear as not all companies distinguished between significant and other estimates.

We noted a few boilerplate comments that the effect of climate was included in certain estimates. Disclosures could be improved by adding specific explanation of how the impact of climate change has been taken into account in the assumptions for those sources of estimation uncertainty.

6. Climate change (continued)

It was helpful where companies clarified that the effect of climate change did not have a material effect on estimates in the financial statements. Such disclosure may be particularly helpful where investors may reasonably expect climate change to have a significant impact on assumptions or estimation uncertainty.

Presentation of climate change within the financial statements

Of the companies that discussed climate change in the financial statements, six included a separate climate section which outlined the financial statement areas affected by climate change and provided cross-references to the relevant notes. Two companies presented a separate climate note.

Where climate had a more significant impact on estimates, careful placement of climate disclosures and the use of effective cross-referencing clearly highlighted these issues to users.

Where climate estimates are presented in a separate note or section, **we expect companies to consider the use of cross referencing and/or labelling in order to clearly identify any significant estimates**.

We will shortly be publishing our thematic report on TCFD and climate in the financial statements which sets out our expectations for good reporting of climate in the financial statements, as well as further examples of better practice reporting.

26. Climate change and energy transition
In March 2021, Tullow announced its commitment to being Net Zero on our Scope 1 and Scope 2 emissions on a net equity basis by 2030 supporting the goal of limiting global temperature rise to well below 2^{o} C as per Article 2 of the Paris Agreement.

This note describes how Tullow has considered climate related impacts in some key areas of the financial statements and how this translates into the valuation of assets and measurement of liabilities as Tullow make progress in the energy transition.

Note (ag) key sources of estimation uncertainties describes those uncertainties that have the potential to have a material effect on the Group Balance Sheet in the next 12 months.

This note describes the key areas of climate impacts that potentially have short and longer-term effects on amounts recognised in the Group Balance Sheet as at 31 December 2021. Where relevant this note contains references to other notes to the Group Financial Statements and aims to provide an overarching summary.

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Clear disclosure that estimates with a risk of material adjustment in the next year are disclosed elsewhere. A helpful cross-reference is provided.

Articulation that the impact of climate change can have short and longer-term effects. The disclosure is clearly separated from IAS 1.125 estimates.

7. Key expectations

Although both our thematic review and recent routine monitoring have identified some improvement in the quality of judgement and estimate disclosures, we encourage companies to consider the findings within this report and our expectations when drafting their upcoming annual reports.

For significant estimates we expect companies to:

- Clearly specify which estimates have a significant risk of material adjustment to the carrying amount of assets and liabilities in the next financial year.
- Quantify the specific amount at risk of material adjustment.
- Provide sufficient granularity in the descriptions of assumptions and/or uncertainties to enable users to understand management's most difficult, subjective or complex judgements.
- Clearly distinguish the disclosure of other estimates, and associated sensitivities, from significant estimates and explain their relevance.
- Provide meaningful sensitivities and/or ranges of reasonably possible outcomes for significant estimates; these should not be limited to those required by other IFRS standards.
- Quantify the assumptions underlying significant estimates when investors need this information to fully understand their effect; for example, commodity prices.
- Explain any changes to past assumptions if the uncertainty remains unresolved.

For significant judgements we expect companies to:

- Separately identify the judgements that do not relate to a source of estimation uncertainty and those that do.
- Give detailed descriptions of the specific, material judgements made by the directors in applying their accounting policies.

In relation to climate change we expect companies to:

- Assess whether disclosure of climate-related significant judgements or assumptions and sources of estimation uncertainty are required by paragraphs 122 or 125 of IAS 1 and consider whether information about assumptions with a longer-term effect is required.

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