

Responses to IAASB’s Request for Comments in the Explanatory Memorandum for ED-5000, General Requirements for Sustainability Assurance Engagements

PART A: Respondent Details and Demographic information

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	If “Other”, please clarify
The stakeholder group to which you belong (i.e., from which perspective are you providing feedback on ED-5000). Select the most appropriate option.	Academic or Academic body
	If “Other”, please specify
Should you choose to do so, you may include information about your organization (or yourself, as applicable).	

PART B: A report on the current auditing climate-risk practices for consideration

In response to the consultation launched by the International Auditing and Assurance Standards Board (IAASB) on the Proposed International Standard on Sustainability Assurance (ISSA) 5000 General Requirements for Sustainability Assurance Engagements (ED-5000) and accompanying Explanatory Memorandum (EM), we hereby submit an overview of how independent auditor reports (IARs) currently tackle climate risks and audit the financial impact of climate risks in UK companies over the period 2018-2022.¹

Executive summary

- To assess the level of engagement and assurance of auditors over climate-related risks Using textual analysis of 2,068 independent auditor reports of all FTSE 350 constituencies over the

¹ The analyses in this report are based on our current “Auditing Climate Risk” research project.

period from 2018 to 2022, we identify and analyse the scope and the depth of climate-related related discussion in these reports.

- The results show a spike in climate risk consideration and discussions in auditors' report in 2021 following the mandate of Financial Conduct Authority on climate disclosures for premium-listed companies with approximately a quarter of the reports consider climate risks in Key Audit Matters (KAM) in 2022.
- There is an increasing trend of auditors providing limited assurance regarding consistency between other climate-related disclosure other section of the annual report and the financial statement. However, there is no assurance over accuracy of those disclosure in IARs, we notice that auditors provide assurance on the accuracy of climate risk disclosure in other parts of the annual reports, for example via a separate assurance report for climate - related information.
- The discussion of potential impacts of climate risk becomes more elaborative since 2021; however, it remains at qualitative level without quantifying the financial impacts.
- Our results also show that among reports with climate risk consideration, transition risks are considered more often than physical risks.
- Unsurprisingly, IARs of larger firms or firms in sectors, where climate risks are more material, are more likely to have climate risks as key audit matters. However, the proportion of reports with climate risk discussion in KAM for those companies remains low, being less than 40% in 2022.
- We observe certain challenges associated with assessing financial implications of climate risks that both companies and auditors are facing. For example, there are cases where the companies are not able to determine the economic impact of their climate strategies or where the long-term horizon of climate risks makes their current relevance unclear/uncertain. In these situations, the assurance engagements are likely to be limited.

1. Background and motivation

Although the proposed standard addresses assurance engagement for all sustainability information, climate changes is possibly amongst the most relevant sustainability issues currently on the agenda of corporations, and one for which disclosure practices are most developed, making it an interesting setting to understand the extent to which sustainability information is tackled by current auditing practices. We consider UK companies in our empirical analysis because the UK has implemented mandatory climate risk disclosure for premium listed companies from January 2021, thereby creating a need for the auditor to consider/evaluate/assess the impact of climate risks for the quality and accuracy of the financial statements prepared by the companies.

Climate risk disclosure is challenging of due to uncertainties, the complexity and time horizon of the impact (Bebbington et al., 2019). Climate change can affect firm through physical risk and transition risk (TCFD, 2017), but their financial impact is difficult to estimate. Transition risks are risks that result from the uncertainty created the collective effort to move toward a more sustainable, net-zero

economy (i.e. regulatory and policy changes, such as carbon emission caps or carbon tax, but also risks arising from new technological developments, changes in market and consumer demands and/or changes in perception about corporate reputation). Physical risks resulting from climate change relate to acute events (e.g. draught) but also to longer-term shifts (chronic) in climate patterns (e.g. desertification).

Auditors are expected to obtain reasonable assurance that the financial statements are free from material misstatement.² Regulators and standard setters are still debating on whether auditors should consider the financial impact of climate-related risks (IAASB 2020). The Australian Joint Bulletin (AASB & AUASB) has stated that both financial statement preparers and auditors should consider the impact of climate risks on the company's financials. In practice, auditors appear to be reluctant to do so, as Brown (2020) document that only three of the approximately 2,400 audit reports in their sample have included a meaningful discussion of the impact of climate change on the financial statements.

We start by introducing the key take aways from the academic literature on the topic and then presenting descriptive evidence on how climate risks are addressed in IARs of UK listed companies. In doing so we hope to inform the standard setter about how current practices are aligned with proposed guidance in the standards.

2. Key take-aways from the academic literature

- Auditors whose clients who are more exposed to actual external climate change-related risks pay higher audit fees (Hartlieb and Eierle 2022).
- When facing increased media exposure on climate-related risk and tainted climate reputation, auditors increase both audit fees (Burke et al. 2019, Garcia et al. 2020, Yao et al. 2019) and audit effort evidenced by reporting lag (Assante Appiah 2020, Assante Appiah 2022).
- Audit quality is increased by the additional audit effort to address climate related risks exposed by the firm, as evidenced by lower likelihood of financial restatements (Assante- Appiah, 2020).
- Auditors are more likely to resign following more negative media coverage on climate related risks (Burke et al. 2019).
- There is little evidence on the input factors for auditor effort, possibly due to the lack of information of audit hours and audit team composition (Defond and Zang 2014).

3. Descriptive evidence on how climate risks are addressed in IARs

We analyse the IARs of all FTSE350 companies over the period 2018-2022 (the total number of IARs is 2,068, covering 446 unique companies). Details of the methodology used to analyse the IARs is reported in the appendix at the end of this comment letter.

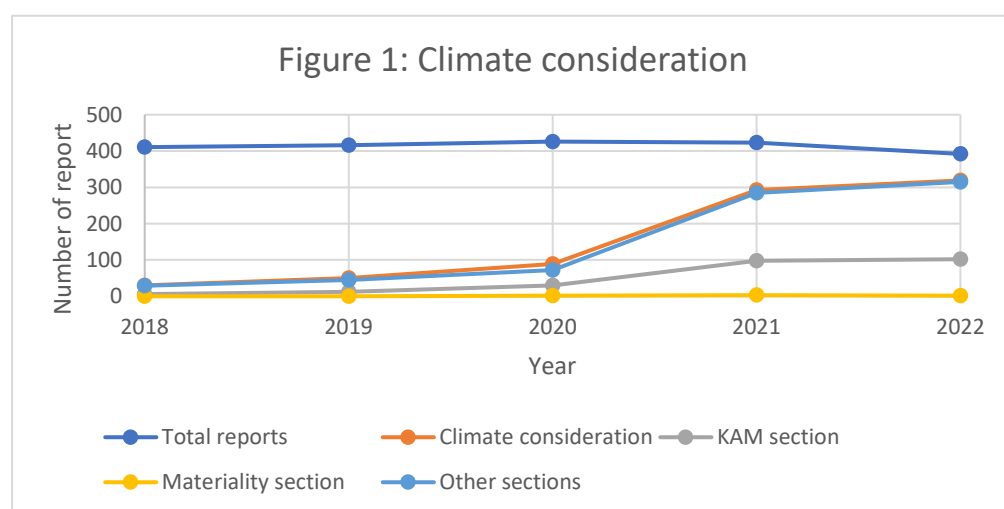
² ISA 200, *Overall Objectives of the Independent Auditor and the Conduct of an Audit in Accordance with International Standards on Auditing*, paragraph 11

3.1 Climate risk considerations and location

Figure 1 show the trend of auditors' consideration of climate risk from 2018 to 2022. About 37.8% of the samples at least mention climate risk in their report over the whole sample. The time trend is increasing, with the highest proportion at 81.4% in 2022. There are more discussions of climate risks in Key Audit Matters over time. However, by 2022, only about a quarter of reports consider climate as material being discussed in KAM.

Figure 1: Climate risk consideration

Note: The figure shows the total number of independent auditors' reports in the sample years, and the number of reports containing climate-risk related consideration. Additionally, the figure also shows the number of reports containing climate risk consideration in different sections of the independent auditors' report.



3.2 Other climate-related disclosure assurance

Auditors are required to provide reasonable assurance that the financial statements, as a whole, are free from material misstatement. Table 1 shows that, over the sample period, there is an increasing trend of auditors providing limited assurance on other climate-related disclosure in other parts of the annual report. On average, 59.8% of IARs mentioned that auditors have checked the consistency of climate related information disclosed by the firm and the financial statements, while 11.8% clearly mention that the auditors do not provide any assurance over other climate-related information disclosed in other parts of the annual reports.³

Table 1: Assurance over other climate risk related disclosures

³ These statistics do not reflect if/whether auditors provide assurance of over the accuracy climate risk disclosure outside the independent auditor report, for example via a separate assurance report for climate - related information as part of the non-audit services. This raises a problem, that might need attention, is that whether the assurance of other climate risk related disclosure outside the financial statement should be included in the independent auditor reports.

Note: This table shows the percentage of auditors who state in the independent auditors' report that (1) they provide assurance of the consistency of other climate risk related information or (2) they do not provide accuracy assurance of the climate risk related information.

Year	Climate risk consideration	Consistency assurance		No accuracy assurance	
		N	%	N	%
2018	30	2	6.7%	0	0.0%
2019	50	2	4.0%	0	0.0%
2020	89	11	12.4%	0	0.0%
2021	293	209	71.3%	26	8.9%
2022	319	243	76.2%	66	20.7%
Total	781	467	59.8%	92	11.8%

3.3 Quality of climate risks discussion in IARs

The extent of discussion of the financial implications of climate risk in IARs from 2018 to 2022 is limited (see Table 2). Around 36.6% of the IARs only mention climate related risks but no discussion of the impact of climate change on the company. About 63.4% of the IARs include some qualitative discussion on the specific accounts that may be affected by climate-related risk. Only 1.2% include some quantitative discussion without monetary estimation and 1.3% include some quantitative discussion with monetary estimation.

Table 2: Number of IARs with climate risk considerations and quality of discussion on the specific accounts affected by climate related risk

Year	Report with climate risk consideration	Solely mentioning climate related risk		Qualitative discussion		Quantitative discussion		Quantitative and monetary discussion	
		N	%	N	%	N	%	N	%
2018	30	26	87%	4	13.3%	0	0.0%	0	0.0%
2019	50	26	52%	24	48.0%	1	2.0%	1	2.0%
2020	89	48	54%	41	46.1%	1	1.1%	1	1.1%
2021	293	112	38%	181	61.8%	4	1.4%	4	1.4%
2022	319	74	23%	245	76.8%	3	0.9%	4	1.3%
Total	781	286	36.6%	495	63.4%	9	1.2%	10	1.3%

Auditors seems to be more elaborated when mentioning climate related risk in key audit matters (see table 3). On average only 8.1% of the reports contains solely limited discussion, and the percentage of qualitative discussion is high (92.7%). However, the percentages of quantitative discussion without and with monetary discussion remain relatively low over the period being 2.8% and 4.1% respectively.

Table 3: Number of IARs with climate risk considerations and quality of discussion on the specific accounts affected by climate related risk when climate risk considerations as key audit matters (KAM)

Year	Report with climate risk consideration in KAM	Solely mentioning climate related risk		Qualitative discussion		Quantitative discussion		Quantitative and monetary discussion	
		N	%	N	%	N	%	N	%
2018	6	2	33%	4	67%	0	0.0%	0	0.0%
2019	12	1	8%	11	92%	1	8.3%	1	8.3%
2020	30	5	17%	25	83%	1	3.3%	1	3.3%
2021	98	11	11%	87	89%	3	3.1%	4	4.1%
2022	102	1	1%	101	99%	2	2.0%	4	3.9%
Total	246	20	8.1%	228	92.7%	7	2.8%	10	4.1%

3.4 Nature of climate risks (transition and physical risks)

We further break down the type of climate risks that are discussed in IARs (table 4). The most discussed risks associated with climate change are transition risks – which appear in 67.3% of the IARs over the sample period. Interestingly, these risks were discussed also in the early years of our sample period. On the contrary, the financial implications of physical risks (e.g. extreme weather events) are discussed less frequently on their own (1.8%) or in combination with transition risks (25.4%). It is worthy to mention that 30.9% of the IARs do not include any information specifying either of the two kinds of risks (Unspecified Climate risk).

Table 4: Proportion of reports with transition risk and physical risk discussion in IAR

Year	Report with climate risk consideration	Transition Risk (%)	Physical Risk (%)	Both Transition and Physical Risks (%)	Transition Risk Only (%)	Physical Risk Only (%)	Unspecified Climate Risk (%)
2018	30	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
2019	50	94.0%	0.0%	0.0%	94.0%	0.0%	6.0%
2020	89	76.4%	3.4%	1.1%	75.3%	2.2%	21.3%
2021	293	61.1%	29.0%	27.6%	33.4%	1.4%	37.5%
2022	319	63.2%	39.0%	36.5%	26.7%	2.5%	34.3%
Total	781	67.3%	27.2%	25.4%	41.9%	1.8%	30.9%

Considerations of climate risks in the key audit matters sections of the IARs follow a similar pattern (Table 5), although auditors seem to be more specific on the kind of climate related risk when including them in the key audit matters discussion (on average, the percentage of KAM sections with unspecified climate risk discussion is only 25%).

Table 5. Proportion of reports with transition risk and physical risk discussion in IAR

Year	Report with climate risk consideration in KAM	Transition Risk (%)	Physical Risk (%)	Both Transition and Physical Risks (%)	Transition Risk Only (%)	Physical Risk Only (%)	Unspecified Climate Risk (%)
2018	6	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%
2019	12	75.0%	0.0%	0.0%	75.0%	0.0%	25.0%
2020	30	66.7%	6.7%	0.0%	66.7%	6.7%	26.7%
2021	98	71.4%	31.6%	31.6%	39.8%	0.0%	28.6%
2022	102	75.5%	44.1%	42.2%	33.3%	2.0%	22.5%
Total	248	74.0%	31.7%	29.8%	43.5%	1.6%	25.0%

3.5 Climate risk as KAM - analysis by sector

Figure 2A and Figure 2B compare the percentage of IARs with climate risk consideration in their KAM section from 2018 to 2022 across sectors for which climate risk can be considered as a high-materiality vs. low-materiality sustainability issues following the SASB mapping.⁴

As expected, climate risk is considered a KAM in high materiality sectors more frequently than in the low materiality sectors. Specifically, the sectors for which climate risk is more frequently considered a KAM are *Renewable Resources & Alternative Energy*, *Extractive & Minerals Processing*, and *Transportation*. In low-materiality sectors, the percentage of reporting climate related information is lower than 25%. However, even for high-materiality sectors, on average less than 40% of IARs report climate consideration in KAM (Figure 2A) which is relatively low given the potential climate exposures of firms in these sectors.

Figure 2A: Climate risk as KAM for high materiality sectors

⁴ <https://sasb.org/standards/materiality-finder/>. Note that here, we also treat financials as High Materiality because financial sector is classified as a sector in need of supplement guidance of climate risk disclosure according to TCFD (Task Force on Climate-related Financial Disclosures).

Figure 2A: Climate risk as KAM in high-materiality sectors

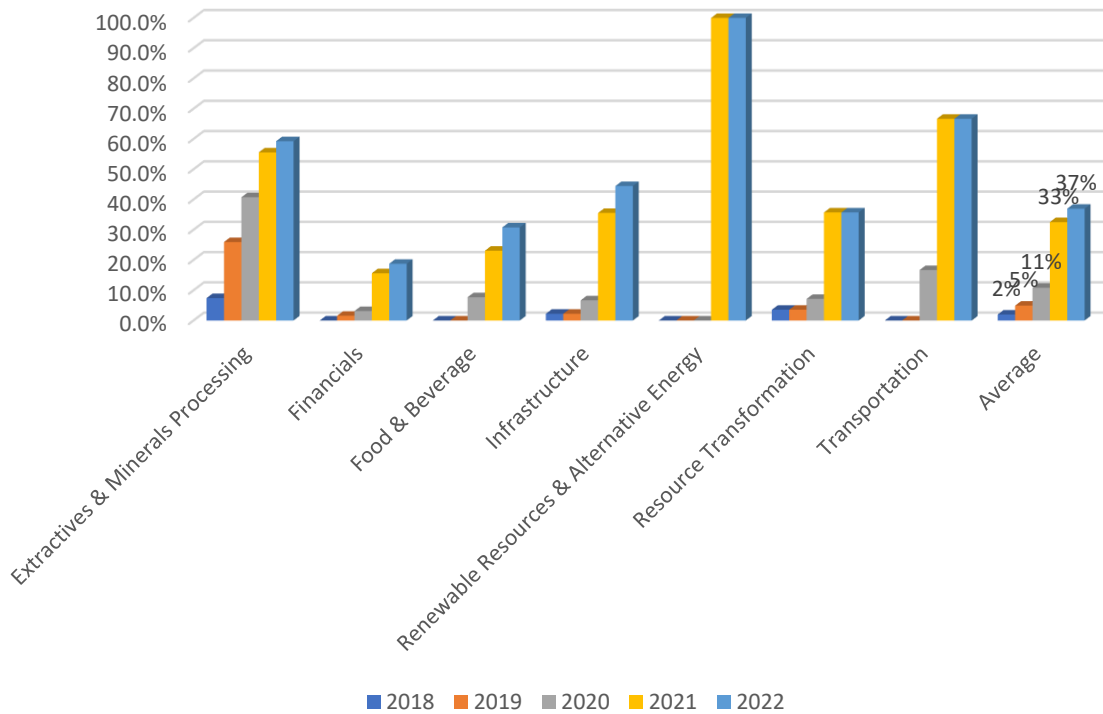
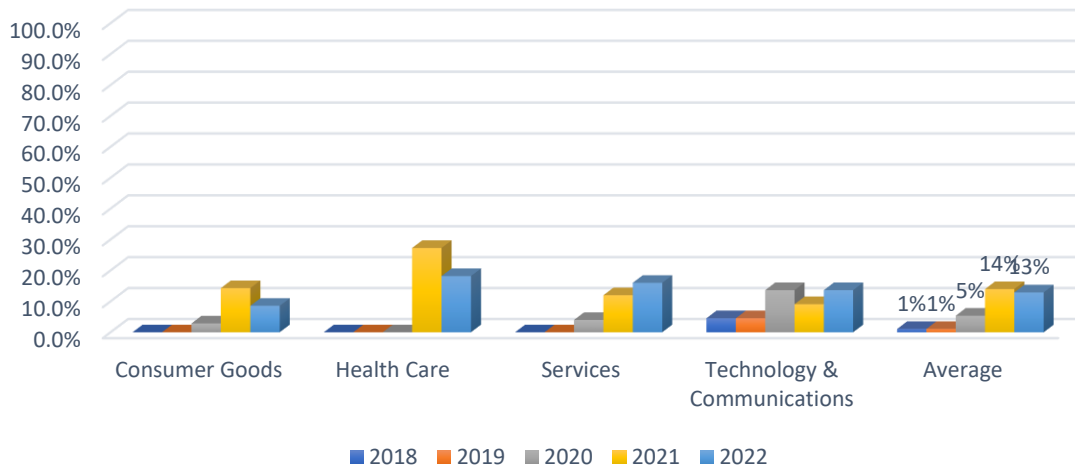


Figure 2B: Climate risk as KAM for low materiality sectors

Figure 2B: Climate risk as KAM in low-materiality sectors

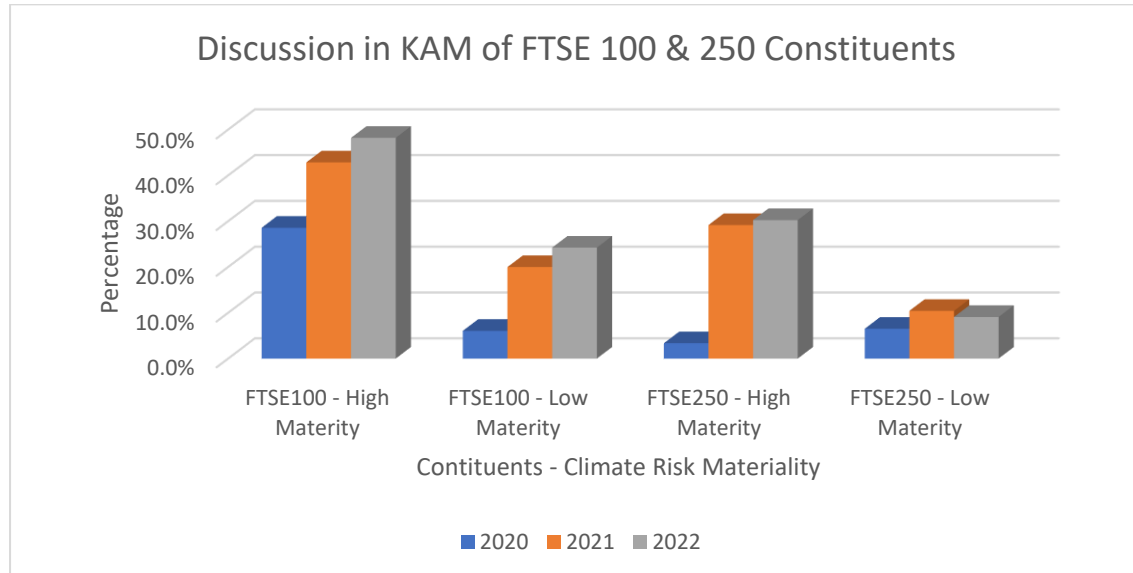


3.6 Climate risk as KAM - analysis by sector and size

Figure 3 shows a comparison of the percentage of reports with climate risk consideration in their KAM section of FTSE100 and FTSE250 firms respectively between the sectors with high vs. low materiality.

The results show that FTSE100 firms are more likely to discuss climate risk as a KAM than FTSE250 firms. However, this difference is attenuated for FTSE250 firms in sectors where climate risk is highly material.

Figure 3: Climate risk as key audit matters for FTSE100 and FTSE 250 constituents



3.7 Example of (good) disclosure practices in IARs and challenges

Examples of (good) disclosure practices in IARs

We observe a wide range of climate risk discussion in terms of the depth of the analyses. We present two examples of thorough discussions with detailed scenarios analysis and/or clear estimates of the financial impact as follows:

- **Climate risk consideration with estimates of the financial impacts**

“Natural gas, when burned, emits carbon dioxide and is considered a greenhouse gas. Therefore, the strategic challenge relates to the potential future use of the Group’s assets used to facilitate gas transmission services in the UK and gas distribution services in the US in the period approaching 2050 and beyond. The remaining useful economic life of the Group’s gas assets is up to 50 years in the UK and 80 in the US, extending well beyond the 2050 “net zero” commitment date. As described in note 13 to the financial statements, the impact of changing the useful economic lives of all of the Group’s gas assets, such that they would be fully depreciated by 2050, would be an increase in the annual depreciation expense of £188 million, and such that they would be fully depreciated by 2060, would be an increase in the annual depreciation expense of £79 million” [National Grid Independent Auditor Report, Key Audit Matters, 2020]

- **Climate risk consideration with detailed scenarios analysis**

“We observed that for oil, all the prices in third party ‘Paris 2°C Goal’ scenarios in our sample were lower than BP’s oil price assumption from 2023 onwards, and for gas, BP’s price assumptions for

impairment purposes were close to the highest 'Paris 2°C Goal' scenario. While these 'Paris 2°C Goal' scenarios indicate that BP's price assumptions for impairment purposes are not consistent with the world being on a path to achieving the Paris 2°C Goal we observed that none of those third party forecasters described their 'Paris 2°C Goal' scenarios as their 'best case', 'central case' or "most likely" estimate. We reviewed the disclosures included in Note 1 to the accounts in respect of price assumptions, including the sensitivity analysis presented therein. [BP Independent Auditor Report, Key Audit Matters, 2019]

Examples of challenges

We observe certain challenges that both companies and auditors are facing when assessing financial implications of climate risks. There are cases where the companies are not able to determine the economic impact of their climate strategies. In other cases, the long-term horizon of climate risks makes their current relevance unclear/uncertain. In these situations, the assurance engagements are likely to be limited.

- Companies are unable to determine the full economic impact of their climate commitments:

"Whilst Bank of Georgia has committed to supporting Georgia's climate-related goals, the Group is currently unable to determine the full future economic impact on their business model, operational plans and customers of achieving this and therefore, as set out above, the potential impacts are not fully incorporated in these financial statements" [Bank of Georgia, Independent Auditor Report, Overview, 2021]

- Uncertainties and the long horizon of climate risks:

"As explained in Basis of Preparation note, the key areas of the financial statements that may be impacted by climate change have been described and the Group concluded there is no material financial statement impact from climate change. Governmental and societal responses to climate change risks are still developing, and are interdependent upon each other, and consequently financial statements cannot capture all possible future outcomes as these are not yet known. The degree of certainty of these changes may also mean that they cannot be taken into account when determining asset and liability valuations and the timing of future cash flows under the requirements of UK-adopted International Accounting Standards" [Burberry Independent Auditor Report, Overview, 2022]

"Given the principal activities of the Group, it is highly likely that climate risk will have a significant impact on the Group's business. As part of our audit, we evaluated management's climate change risk assessment including the identified physical and transitional risks and the assessment of the impact of those risks on the Group financial statements. We note management's conclusion that material physical risks are likely to arise in the longer term and therefore have no current financial statement impacts. Transitional risks are considered to have a more significant impact on the business. However, these are only expected to arise in the medium to long term as set out in the Task Force on Climate-Related Financial Disclosures ("TCFD") on page 29. We performed procedures to evaluate the appropriateness of management's risk assessment including the use of our climate change experts. We

considered the Group's externally published environmental targets and understood the progress made towards these targets to date in addition to plans in place to bridge to meeting these targets in the future. We challenged management on the potential additional future costs associated with meeting these targets." [Essentra, Independent Auditor Report, Overview, 2021]

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APPENDIX

Sample and Data sources

The sample covers all firms which were constituents of the FTSE 350 index during the period from 2018 to 2022 (446 unique companies listed in the UK). We obtain the annual reports from Thomson Reuter Refinitiv, Company House, and company websites. We exclude companies that have delisted, or whose annual reports are scanned or unavailable, leading to a final sample of 2,068 reports. We extract independent auditor reports from the annual reports which contains the auditor's opinion and discussion on the quality and accuracy of the financial statements prepared by the firms.

Climate risk consideration data and classification

Extracting climate-related paragraphs

To extract textual disclosure in corporate filings, previous literature either use dictionary method (Loughran and McDonald 2011), classification method (Li 2010), or write Natural Language Processing (NLP) rules to target specific activities (Klevak, Livnat, Pei and Suslava 2023). We adopt NLP procedure to extract paragraphs that might contain such discussion to understand the full context, using a three-step procedure:

1. We adopt the list of climate-related bigrams from Sautner et. al (2023)⁵ to identify paragraphs containing those bigrams.
2. To account for missing relevant paragraphs that are not identified by the keywords, we use natural language processing method *DistilBERT*⁶. The program identifies paragraphs which might be climate-related based on those paragraphs containing the exact climate bigrams identified in step 1.
3. We manually check all the paragraphs obtained from the first two steps to confirm if they are climate-related disclosures.

Location of climate-related disclosures

In the auditor reports, material risks are included and discussed in the Key Audit Matters section (KAM) while factors that might lead to material misstatement are included in the Materiality section. Therefore, we identify the sections where the paragraphs locate including the Key Audit Matter section, Materiality section, and other sections.

Nature of Climate Risks (Transition vs. physical risks)

To understand the nature of the climate risk that are considered in the auditing process, we further classify climate-related paragraph into three categories:

⁵ Sample bigrams such as climate investment, climate change, carbon emission, environmental regulation etc.

⁶ DistilBERT is a general-purpose pre-trained version of BERT with higher efficiency in understanding natural languages (Sanh, Debut, Chaumond and Wolf 2019).

1. transition risk (e.g., regulatory changes, carbon emission caps, clean energy transition, Paris agreement, or tax), OR
2. physical climate risk (e.g. Flooding, natural disasters), or
3. unspecified climate risk which can't be categorized by the above two.

Quantification of the financial impact of climate risks

We further classify IARs' paragraphs into different categories⁷:

- Limited discussion: paragraphs that discuss potential financial impacts of climate risk without details of accounts or estimates that might be affected.
- Qualitative discussion: paragraphs that elaborate on the financial impacts of climate risk with details of accounts or estimates that might be affected (e.g. economic value of assets, asset lives, future cash flows, commodity prices, discount rate, investment, provision, capital expenditure).
- Quantitative without monetary discussion: paragraphs that quantify the financial impacts on accounts and/or estimates without any monetary estimates.
- Quantitative with monetary discussion: paragraphs that quantify the financial impacts on accounts and/or estimates without monetary estimates.

The following table reports examples of classification of climate related paragraphs:

Classification	Paragraphs	
Limited Consideration	Unspecified climate risk	In planning our audit, we have considered the potential impact of climate change on the group's business and its financial statements [Inmarsat 2022, Deloitte]
	Transition risk	In planning and executing our audit, we considered the potential impact of climate change on the Group's business and the financial statements. The Group has set out its intention – as part of the Ambition Zero Carbon programme – to achieve net-zero greenhouse gas emissions by maximising energy efficiency, shifting to renewable energy sources and investing in nature-based removals to compensate for any residual GHG footprint. [AstraZeneca 2021, PwC]
	Physical risk	Stakeholders are increasingly interested in how climate change will impact Pearson. The Group has determined that the most significant future impacts from climate change on their operations will be from physical risks in the medium and long term. [Pearson 2022, EY]

⁷ To carry out manual data classification, three research assistants are hired to read and classify the paragraphs. During the process, two of the authors check a sample of the paragraphs three time to ensure the consistency and accuracy of the classification.

Climate Qualitative Discussion	Risk	Unspecified climate risk	We have assessed how the Group considers the impact of climate change risk on the credit rating of certain counterparties and the valuation of loan collateral. We have also incorporated a consideration of the climate change impact on the valuation of certain hard to price financial instruments in elevated risk sectors. [Barclays 2020, KPMG]
		Transition risk	Auditing the estimation of oil and gas reserves is complex, as there is significant estimation uncertainty in assessing the quantities of reserves and resources in place. Estimation uncertainty is further elevated given the transition to a low-carbon economy which could impact life-of-field assumptions and increase the risk of underutilised or stranded oil and gas assets. [Harbour Energy 2022, EY]
		Physical risk	With the assistance of our climate change and other subject matter specialists, we evaluated how the Group's response to climate change had been considered in the determination of closure and rehabilitation provision estimates, such as physical risks created by changes to long-term weather outlooks, estimates related to post closure monitoring and maintenance and the timing of closure activities impacted by mine operating lives. [BHP 2022, EY]
Climate Quantitative Discussion without Monetary Estimation	Risk	Unspecified climate risk	Using our knowledge of the business we considered whether the risks identified by management are materially complete and have been appropriately estimated and disclosed. We have assessed how the group has considered the impact of climate change risk on the impairment assessment over non-current assets and in the Groups' viability assessment. Based on the detailed audit work performed across the Group, we obtained coverage of 97% of gross revenue and 98% of net energy and services sales. [W. A. G. Payment Solutions 2021, PwC]
		Transition risk	We observed that management's downside sensitivity, in which oil and gas prices are 20% lower than the 'best estimate' in all future periods, is near the mid-point of both a range of third-party Paris 'well below 2°C goal' and Paris '1.5°C ambition' scenarios for oil price forecasts. [BP 2021, Deloitte]
		Physical risk	N/A
Climate Quantitative Discussion with Monetary Estimation	Risk	Unspecified climate risk	In the 'Principal risks' section of the annual report, management acknowledges the potential impact of climate related risks on its business strategy and committed €9 million investments in the next three-year R&D program to pilot new sustainable production technologies. [RHI Magnesita 2022, PwC]

Transition risk	The Group has determined that the most significant future impacts from climate change on its operations will be to deliver on their commitment to be a net zero business by 2030, with the UK government's minimum energy and efficiency standards requiring an EPC rating of 'B' by 2030. Management has currently estimated the cost of meeting this commitment to be £135m. [Lans Securities Group 2022, EY]
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Physical risk	N/A
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