
ISSB meeting

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Project	Biodiversity, Ecosystems and Ecosystem Services (BEES)
Topic	Current state of disclosure of BEES-related information
Contacts	Francesca Recanati (francesca.recanati@ifrs.org)

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Purpose

1. This paper aims to provide the International Sustainability Standards Board (ISSB) with an overview of findings related to the research question ‘What is the current state of entity disclosure about Biodiversity, Ecosystems and Ecosystem Services (BEES)-related risks and opportunities?’
2. The staff will not ask the ISSB to make any decisions in the session. However, the staff welcomes input from the ISSB on how these findings can inform the next phase of research, including the proposed next steps.
3. This paper is meant to be read in conjunction with Agenda Paper 3B and 4C *Current state of disclosure—background and methodology*, which presents more detailed findings from the staff’s analysis, and Agenda Paper 3D *Current state of disclosure of BEES-related information—sector findings*. The staff will not ask the ISSB to make any decisions in the session.

Structure of the paper

4. This paper is structured as follows:
 - (a) Background (paragraphs 5–6);

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- (b) Summary of findings (paragraphs 7–46);
 - (i) Governance (paragraphs 9–10);
 - (ii) Risks and opportunities (paragraphs 11–19);
 - (iii) Current and anticipated effects (paragraphs 20–23);
 - (iv) Risk management (paragraphs 24–27);
 - (v) Metrics and targets (paragraphs 28–40);
 - (vi) Location of disclosures (paragraph 41);
 - (vii) Standards and frameworks (paragraphs 42–43);
 - (c) Next steps (paragraphs 44–46);
 - (d) Staff analysis (paragraphs 47–94); and
 - (e) Appendix A—Examples of BEES-related disclosure

Background

5. This paper aims to set a baseline of shared knowledge on the current practice of entity disclosure of BEES-related information. It also presents a preliminary assessment of the degree to which current disclosures align with the requirements of IFRS S1 and which BEES-related topics appear to be universally applicable to all sectors or sector-based. The staff thinks these preliminary assessments can usefully inform the ISSB’s thinking about future work on BEES-related disclosure, including any potential standard setting.
6. It is not the staff’s intention that the ISSB consider these findings in isolation, but rather in combination with the findings of the other research areas. The staff plans to present further analysis of the connections among the different research areas at future meetings.

Summary of findings

7. The staff's analysis shows that BEES-related information of various types is commonly disclosed by entities of all sizes, in all regions and in all sectors. Furthermore, the analysis shows that some of this information is disclosed in entities' financial filings,¹ in addition to other reporting locations. However, the content and presentation of such disclosure varies significantly, including between sectors. The staff thinks that these findings are consistent with statements from investors suggesting that there is a need for *better*—not necessarily *more*—disclosure about BEES-related risks and opportunities.
8. This section will summarise the staff's findings with respect to how current disclosure practice aligns with key aspects of IFRS S1 (paragraphs 9–40), where entities disclosed BEES-related information (paragraph 41) and which standards and frameworks entities might use to disclose such information (paragraphs 42–43). These findings are then explored in greater detail in the 'Staff analysis' section (paragraphs 47–94).

S1-related disclosure

Governance

9. While most entities disclosed information about governance that is potentially related to risks and opportunities associated with BEES, only a few explicitly mentioned BEES-related topics, with many instead disclosing information about overall sustainability- or ESG-related governance without detailing governance mechanisms specific to BEES. When entities did mention BEES-related topics in the context of their governance disclosures, the disclosures rarely included all of the details required by IFRS S1. The information varied, focusing on specific board- and management-level committees, relevant policies, key projects, or risk management activities. There

¹ See definition in Agenda Paper 3B and 4C Approach to research on current state of disclosure

were few references to traditional risk oversight committees, such as the audit committee.

10. The few governance-related disclosures mostly focused on risks and opportunities associated with the BEES-related topics of biodiversity, water, or waste. Only a few entities disclosed using targets or goals associated with BEES-related topics in their remuneration policies, typically when the topic was clearly relevant to their strategy or business model. More details of the underlying analysis are presented in the ‘Staff analysis’ section (paragraphs 47–51).

Risks and opportunities

Risks

11. Most entities disclosed information about at least one BEES-related risk, with water, resource use, and pollution being the most commonly disclosed topics associated with those risks. Waste-related risks were also frequently mentioned, while land and biodiversity-related risks were less common, except in some regions (for example, in South and Latin America), where they biodiversity-related risks were more prevalent. Some sector-based variations also emerged with respect to disclosure rates overall and for particular topics—for example, biodiversity-related risks were among the most prevalent in the Financials and Renewable Resources & Alternative Energy sectors.
12. Disclosures were mostly narrative and tailored to the entity's specific circumstances, with few quantitative metrics. Most disclosures discussed an identified risk's connection to the entity's external environment, and many described how the risks could affect the entity's prospects.
13. Entities disclosed information about physical and transition risks in roughly equal measure. About half of the entities also mentioned climate change in the description of BEES-related risks, highlighting the interconnections between the risks associated with these two topics.

14. Many entities disclosed information about BEES-related risks with explicit discussion of how the risks could reasonably be expected to affect the entity's prospects, particularly for risks associated with water, resource use, pollution and waste. Most entities disclosed information about how risks BEES-related risks connect to the entity's external environment, particularly for risks related to biodiversity and land.
15. Most disclosures focused on the entity's own operations, with some addressing the aspects of the value chain outside the entity, particularly for resource use—in particular, those risks related to the supply chain of inputs to production. Geographic locations of risk exposure were sometimes indicated, especially for water, land, and biodiversity-related risks. Few disclosures provided specific timeframes for risks.
16. Despite the relatively high rate of disclosures tailored to entity's circumstances, the lack of quantitative information, specific timeframes and other information required by IFRS S1 indicates the nascent status of BEES-related risk disclosure. More details of the underlying analysis are presented in the 'Staff analysis' section (paragraphs 52–60).

Opportunities

17. Most entities disclosed information about at least one BEES-related opportunity, with relatively minor variation in certain regions and sectors. Opportunities were most commonly related to resource use or waste, followed by water, biodiversity and land.
18. Most entities mentioned climate change in their BEES-related opportunity disclosures, highlighting the interconnections between climate and BEES-related opportunities. Almost all disclosures described how an identified opportunity connect to the entity's external environment, while only some addressed potential effects on the entity's prospects, typically related to resource use, waste, or water. Most opportunity disclosures focused on the entity's own operations, with some addressing the broader value chain outside the entity, particularly for land, biodiversity, and resource use resource use—in particular, those risks related to the supply chain of inputs to production

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19. Disclosures were often narrative and tailored to the entity's circumstances, with few providing quantitative metrics or specific timeframes. Most consisted of forward-looking statements without detailed descriptions of the opportunities, perhaps reflecting the propriety nature of opportunity-related information. More details of the underlying analysis are presented in the 'Staff analysis' section (paragraphs 61–66).

Current and anticipated effects

20. About half of the entities disclosed information related to the current and/or anticipated effects of BEES-related risks and opportunities. Disclosure rates were similar across regions, including EMDEs, but varied slightly among sectors. Such disclosure was more prevalent in the Food & Beverage, Resource Transformation, Extractives & Minerals Processing, and Consumer Goods sectors, and less so in the Financials and Technology & Communications sectors.
21. Information was most commonly disclosed about the effects of risks or opportunities associated with resource use, water, and waste, with fewer disclosures related to pollution, biodiversity and land. Disclosures about the effects of risks more commonly addressed pollution, water, land, and biodiversity, while those about the effects of opportunities more commonly addressed waste and resource use.
22. Disclosures often related to income or expenses, sometimes to assets or liabilities, and least frequently to cost of capital.
23. Despite relatively high disclosure rates and tailored narratives, most disclosures were forward-looking and lacked specific timeframes or quantitative information, only partially aligning with IFRS S1 requirements. More details of the underlying analysis are presented in the 'Staff analysis' section (paragraphs 67–72).

Risk management

24. Most entities disclosed information about their approach to BEES-related risk management, including in all market cap ranges, in all regions (including EMDEs)

and in all sectors. References to particular BEES-related topics were common, except for land, with some variation among regions and sectors.

25. Sector variations included more frequent references to water-related risk management in the Food & Beverage, Extractives & Minerals Processing, Resource Transformation and Renewable Resources & Alternative Energy sectors, while land-related risk management was more prevalent in the Food & Beverage and Renewable Resources & Alternative Energy sectors.
26. Most entities disclosed information about their approach to identifying, assessing or monitoring risks related to their own operations and many did so for risks in their value chain outside the entity. Some entities mentioned BEES-related considerations in the context of enterprise risk management. Common approaches to risk identification, assessment and monitoring included environmental management systems and certifications and BEES-specific risk identification and assessment tools. Some entities mentioned scenario analyses and codes of conduct for suppliers.
27. The relatively high disclosure rate suggests such disclosure may be feasible for preparers. However, the variation of the disclosures may present challenges for users, indicating a need for enhanced standardisation. More details of the underlying analysis are presented in the ‘Staff analysis’ section (paragraphs 73–79).

Metrics and targets

Metrics

28. Most entities disclosed at least one BEES-related (quantitative) metric, with more than half disclosing metrics related to waste or water, and close to half disclosing metrics related to resource use. Some entities disclosed metrics related to pollution, biodiversity, and land.
29. These findings apply across all market cap ranges, regions (including EMDEs) and sectors, with a few exceptions. For instance, pollution metrics were more common in the Extractives and Minerals Processing sector.

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30. The majority of BEES-related metrics covered the entity's own operations, with some addressing the broader value chain outside the entity. Metrics related to resource use in the supply chain were more common in the Food & Beverage and Consumer Goods sectors. Metrics-related disclosures that include information about geographic locations were rare but more common for water, land, and biodiversity-related risks and opportunities.
 31. The relatively high disclosure rate of metrics suggests it is generally feasible for entities to prepare such information, particularly for their own operations. However, variations in disclosure rates and the use of specific metrics in different sector contexts indicate a need for further research and stakeholder engagement. More details of the underlying analysis are presented in the 'Staff analysis' section (paragraphs 80–82).

Targets

32. Most entities disclosed at least one BEES-related target, though at a slightly lower rate than metrics. This finding applies to entities in all regions, including EMDEs, in all market cap ranges and in all sectors. Such disclosure was particularly common in Europe, and in the Food & Beverage, Resource Transformation and Consumer Goods sectors.
33. Commonly disclosed targets include those associated with resource use, waste and water. In the Extractives & Minerals Processing and Renewable Resources & Alternative Energy sectors, biodiversity-related targets were more common than in other sectors.
34. Most targets included quantitative metrics, though some were qualitative, especially for risks and opportunities associated with biodiversity. Disclosure rates for quantitative and qualitative targets also varied to some degree by sector.
35. Most targets related to the entity's own operations, with some addressing the broader value chain outside the entity, particularly for land and resource use. Geographic references were rare but more common for water, land and biodiversity targets.

36. The findings on BEES-related targets are similar to those for metrics, suggesting similar considerations for ongoing research (see paragraph 31). More details of the underlying analysis are presented in the ‘Staff analysis’ section (paragraphs 83–87).

Potential cross-cutting and sector-specific metrics and targets

37. Based on disclosures by analysed entities, the BEES-related metrics most likely to be applicable in all sectors (ie, cross-cutting) are those associated with waste- and water-related risks and opportunities. These metrics had the highest disclosure rates, the highest potential global applicability and were evident in most sectors, with low variability in disclosure rates among sectors.
38. Waste-related metrics covered aspects such as waste generation and waste destination or treatment, while water-related metrics included measures related to water quantity and water quality. Both types of metrics were commonly disclosed and applicable in almost all sectors.
39. On the other hand, metrics that are most likely to be applicable in particular sectors included those related to:
- (a) *biodiversity*—most evident in sectors involving direct interactions with biodiversity, species and ecosystems, such as Extractives & Minerals Processing, Renewable Resources & Alternative Energy, Food & Beverage and Infrastructure;
 - (b) *land*—most evident in sectors involving land management-related activities, such as Extractives & Minerals Processing, Renewable Resources & Alternative Energy and Food & Beverage;
 - (c) *pollution*—most evident in high-emitting sectors subject to existing regulations, such as Extractives & Minerals Processing, Resource Transformation and Transportation; and
 - (d) *resource use*—applicable in most sectors, but particular metrics may vary based on sector-specific inputs to productions or activities, such as ingredients

and related certification in the Food & Beverages sector or packaging in the Consumer Goods sector.

40. However, further research will be required to assess whether these metrics are decision-useful to investors and cost-effective for entities to prepare. More details of the underlying analysis are presented in the ‘Staff analysis’ section (paragraph 88 and Table 1).

Location of disclosure

41. Entities disclosed BEES-related information in various documents. Half of these disclosures were found in sustainability reports, slightly less than half were found in financial filings and only some came from other types of reports. However, disclosures about BEES-related risks, current and anticipated financial effects, and those related to pollution were equally frequent in sustainability reports and in financial filings, while more than half of information related to biodiversity and water was disclosed in sustainability reports. More details of the underlying analysis are presented in the ‘Staff analysis’ section (paragraphs 89–91).

Standards and frameworks

42. Most entities referenced one or more disclosure standards or frameworks in their BEES-related disclosures. The most frequently mentioned were the GRI Standards, followed by the SASB Standards.
43. The mention of a set of standards or a framework does not necessarily mean that an entity applied that standard or framework to prepare its disclosures. More details of the underlying analysis are presented in the ‘Staff analysis’ section (paragraphs 92–94).

Next steps

44. In this phase of research, the staff analysed the current state of entity disclosure of BEES-related information. As part of this analysis, the staff made preliminary assessments of the degree to which current disclosures align with the requirements of IFRS S1 and of which BEES-related topics appear to be sector-based or universally applicable to all sectors. In the next phase, staff will take the findings from this phase and synthesise them with findings from other research areas to produce further insights regarding the necessity and feasibility of potential standard-setting.
45. To identify key areas of focus for future work and key aspects of current practice the ISSB could build on, the staff could, for example, combine the findings presented in this paper with those:
 - (a) from the ‘evidence of investor interest’ research areas to identify the gaps between current disclosure practices and investor needs, which could inform further research and engagement to investigate the decision-usefulness and cost-effectiveness of disclosed information, for example, in relation to sector-based and/or jurisdictional risks and opportunities;
 - (b) from the ‘other standards and frameworks’ research area to inform additional research and engagement on jurisdictional requirements to better understand the drivers of current disclosure practices; and
 - (c) from the Enhancing the SASB Standards project to further assess the related sector-based findings and identify potential synergies.
46. Finally, the reports analysed in this paper (from the 2023 reporting cycle) were published before the issuance of IFRS S1 and the release of other BEES-related standards and frameworks, such as the European Sustainability Reporting Standards, the GRI Standard on biodiversity (*GRI 101: Biodiversity 2024*), and the disclosure recommendations of the Taskforce on Nature-related Financial Disclosures (TNFD). These standards and frameworks are likely to have a significant influence on BEES-related disclosure practices. Therefore, additional research could involve monitoring

of upcoming reports to inform the ISSB's consideration of the costs and benefits of potential standard setting in the context of evolving market practice.

Questions for the ISSB

1. Do ISSB members have any questions or clarifications about the current state of disclosure of BEES-related information?
2. Which of the findings about the current state of disclosure of BEES-related information presented in this paper do ISSB members think warrant further research or engagement to inform the next phase of research?
3. What additional information about the current state of disclosure of BEES-related information do ISSB members think warrant further research or engagement to inform the next phase of research?

Staff analysis

Governance

47. Although most entities in the analysed sample provided disclosure about governance that is potentially related to BEES, only a few entities explicitly referred to a BEES-related topic, while a few others referred more generally to 'nature' or 'the environment' in the context of their governance disclosures. Many entities, instead, disclosed information about overall sustainability- or ESG-related governance without explicitly mentioning BEES-related topics or providing details on governance mechanisms specific to BEES. Further research would be necessary to determine the degree to which this finding suggests that BEES-related risks and opportunities are integrated into entities' broader oversight of sustainability or the environment (the 'E' in 'ESG'). These findings apply to all market cap ranges, regions and sectors.
48. When an entity's disclosures made explicit mention of a BEES-related topic or of nature more broadly, the disclosures very rarely provided all the pieces of information about governance bodies, processes, controls and procedures required by IFRS S1

(which is more common in climate-related disclosure).² Additionally, the disclosed information differed from entity to entity and focused on, for example, either specific committees, policies, projects, or oversight of BEES-specific risk management activities. Such disclosure provided a mix of both board- and management-level committees, with very few entities referencing those committees traditionally tasked with risk oversight (for example, the audit or risk committee).

49. The very few governance-related disclosures mentioning BEES-related topics mostly focused on risks and opportunities associated with either biodiversity, water or waste. The governance-related information disclosed differed from entity to entity and included, for example:
- (a) description of oversight at board and executive management level, for example, when the entity has integrated BEES-related considerations into its strategy (for example, if waste-related targets have been set) and/or risk management (for example, if the entity has undertaken assessment biodiversity-related risks and opportunities);
 - (b) statements of board approval, oversight, or endorsement of BEES-related policies (for example, biodiversity policy); or
 - (c) board and management committees and/or roles, including some information about oversight and related governance processes as required in IFRS S1, in particular when the risks and opportunities related to the topic are reasonably likely to affect the entity's prospects (for example, water-related physical risks for the entity's business model or transition risks related to existing jurisdictional regulations).
50. Finally, from a preliminary analysis, only a few entities disclosed information about using targets or goals related to BEES-specific topics to inform their remuneration policies. In these cases, the BEES-related topics cited were often relevant to the

² According to the report "Progress on Corporate Climate-related Disclosures—2024 Report", 55% of analysed entities disclose about Board-related and 34% about Management-related governance (<https://www.ifrs.org/content/dam/ifrs/supporting-implementation/issb-standards/progress-climate-related-disclosures-2024.pdf>).

strategy or business model of the reporting entity. For example, water-related targets were cited by entities in the Food & Beverage sector, targets related to (hazardous) waste treatment were cited by waste treatment utilities, and targets for certified deforestation-free ingredients were cited by manufacturers of pharmaceuticals.

51. Overall, only a few entities disclosed information about BEES-related governance and almost all of these disclosures did not provide the information required by IFRS S1.

Strategy

Risks

52. Most of the entities in the analysed sample disclosed information about at least one BEES-related risk. The most commonly disclosed risks were those associated with the topics of water, resource use, and pollution, with about half of the entities disclosing information about each of these topics. Slightly less than half of the entities disclosed information about risks related to waste, while only some entities did so for land and biodiversity. These findings apply to all market cap ranges and regions (including EMDEs), except for South and Latin America and Africa, where biodiversity-related risks were among the most frequently disclosed topics.
53. Some differences emerged among sectors. While most entities disclosed information about at least one BEES-related risk in most sectors, disclosure rates were somewhat lower in the Financials and Technology & Communications sectors. Regarding topics, water-related risks were among the three most frequently disclosed in all sectors. The same applies to risks associated with pollution and resource use, except in the Renewable Resources & Alternative Energy sector, where biodiversity-related risks were more prevalent than those related to resource use, in the Financials sector, where biodiversity-related risks were more prevalent than those associated with pollution, and in the Technology & Communications sector, where waste was more prevalent than resource use.

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54. Additionally, some of the BEES-related risk disclosures, from about half of the entities, mentioned climate change in the description of risks, illustrating the interconnections between climate and BEES-related topics (for example, climate change implications for water availability, or land and soil degradation).
 55. Most of the BEES-related risk disclosures consisted of narrative information tailored to the specific facts and circumstances of the reporting entity. However, few of the disclosures included quantitative metrics.
 56. For entities, BEES-related risks can be categorised into physical and transition risks. About half of the analysed disclosures described physical risks, in particular, risks related to water, biodiversity and land. The other half described transition risks, in particular, risks associated with to resource use, waste and pollution.
 57. Regarding the indication of where in the entity's business model and value chain sustainability-related risks are concentrated, most risk disclosures were related to entities' own operations, especially when risks were related to water, pollution and waste. Some risks addressed aspects of the value chain outside the entity, particularly for resource use—in particular, those risks related to the supply chain of inputs to production. Most of the operations-related disclosures and many of those focused on the value chain included narrative information tailored to the reporting entity's facts and circumstances. In both cases, the inclusion of quantitative information was very rare. Additionally, some disclosures indicated the geographic location(s) of risk exposure, particularly for risks related to water, land and biodiversity. Examples of location-based information included references to water-stressed areas or those with high water risk, protected or key biodiversity areas, or specific countries or regions in which operations or suppliers are located or where a particular BEES-related risk is prominent (for example, due to existing or emerging regulations).
 58. Some of the BEES-related risk disclosures provided information about the timeframes associated with the risks. A very small minority also explicitly mentioned short-, medium- and/or long-term time horizons.

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59. Many entities disclosed information about BEES-related risks with explicit discussion of how the risks could reasonably be expected to affect the entity's prospects. In particular, many disclosures about risks related to water, resource use (for example, supply chain interruption or increase of costs of raw materials or operations due to reduced availability of water), pollution and waste (for example, productivity loss and costs of business disruption due to BEES-related regulations) included such information. Only a few entities provided quantitative metrics when describing those risks. Most of the BEES-related disclosures included information about how risks connect to the entity's external environment, with most entities providing such information particularly for risks related to biodiversity and land.
60. Despite the relatively high rate of disclosure of information about BEES-related risks and the prevalence of entity-tailored narrative, the lack of quantitative disclosure, specific timeframes and other information required by IFRS S1 are indicative of the nascent status of BEES-related risk disclosure.

Opportunities

61. Most of the analysed entities disclosed information about at least one BEES-related opportunity. This finding applies to all market cap ranges, to all regions, including EMDEs, and to all sectors, except for Europe and Africa, and the Food & Beverage, Resource Transformation, and Consumer Goods sectors, where almost all entities disclosed BEES-related opportunities.
62. The opportunities disclosed were most commonly related to resource use or waste. Many were also related to water, biodiversity and land. Opportunities related to pollution were less common. This finding applies to all regions, including EMDEs, to all market cap ranges and to all sectors, with minor differences in the disclosure rates. For example, entities in the Food & Beverage sector more frequently disclosed information about water or land-related opportunities, while entities in the Financials sector less frequently disclosed information about waste, water or land-related opportunities.

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63. Additionally, most of the entities mentioned climate change in the description of some of their BEES-related opportunities, illustrating the interconnections between climate and BEES-related topics (for example, contribution of ecosystem restoration to the mitigation of effects of climate change through carbon absorption, air purification and water conservation).
64. Almost all the disclosed BEES-related opportunities included information about how opportunities connect to the entity's external environment, while only some opportunities-related disclosures included information about potential effects to the entity's prospects. When disclosures included information about effects on prospects, the opportunities were typically related to resource use, waste or water.
65. Most opportunity-related disclosures were related to entities' own operations, while some were about the broader value chain. Value chain coverage was slightly higher in disclosures related to land, biodiversity and resource use—in particular, in disclosures related to the supply chain for inputs to production.
66. Almost all the disclosed BEES-related opportunities included narrative tailored to the facts and circumstances of the reporting entity. However, only some provided quantitative metrics, and only some provided information about timeframes associated with the opportunities. Instead, most disclosures consisted of forward-looking statements including commitments and/or describing future projects or actions and often omitting a description of the specific opportunity. The disclosure of quantitative information and timeframes was even lower when disclosures provided information about how opportunities could reasonably be expected to affect the entity's prospects. Very few disclosures made reference to short-, medium- and/or long-term time horizons. Given the proprietary nature of opportunity-related information, these findings are perhaps unsurprising.

Current and anticipated effects

67. About half of the analysed entities disclosed information related to current and/or anticipated effects of BEES-related risks and opportunities. There were similar

disclosure rates among regions (including EMDEs), while among sectors the variability was slightly higher. In particular, most entities in the Food & Beverage, Resource Transformation, Extractives & Minerals Processing, Consumer Good and Transportation sectors disclosed this information, while only some did so in the Financials and the Technology & Communications sectors.

68. Information related to current or anticipated effects was most commonly disclosed in relation to risks and opportunities associated with resource use, water, and waste. Disclosure related to other topics was less common, with only a few entities addressing effects associated with pollution, biodiversity and land. These findings apply to all regions, while few exceptions emerged among sectors. For example, in the Extractives & Minerals Processing sector, land-related effects were more commonly disclosed, and in the Infrastructure sector, biodiversity-related effects were more commonly disclosed than in other sectors.
69. The current or anticipated effects identified in the disclosures were most often related to income or expenses (for example, disruption and increase in cost of production linked to reduced availability of raw materials due to soil degradation and water depletion), sometimes to assets or liabilities (for example, asset impairment due to emerging environmental regulations about land use change or conversion of habitat or due to water-related extreme events), and least frequently to cost of capital (for example, increased access to finance linked to the development of circular economy-adapted products).
70. Overall, disclosures relating to current and anticipated effects were more or less equally common for risks as for opportunities. However, when such disclosure was related to risk, the more commonly addressed BEES-related topics included:
- (a) *pollution*—for example, for entities in the Extractives & Minerals Processing or Resource Transformation sectors which are subject to pollution-related regulations; and
 - (b) *water, land, and biodiversity*—for example, for entities in the Extractives & Minerals Processing, Food & Beverage and Infrastructure sectors, which are

dependent on natural resources, such as water or land that are at risk of depletion or degradation, or subject to related regulations.

71. When such disclosure was related to opportunity, the most commonly addressed BEES-related topic was waste and resource use—for example, linked to implementation of activities based on circular economy principles, such as by entities operating in the waste management industry.
72. Despite the relatively high disclosure rates and the prevalence of entity-tailored narrative, most disclosures related to the current and/or anticipated effects of BEES-related risks and opportunities were forward-looking and did not contain key details about the timeframe over which risks (or opportunities) were expected to materialise or quantitative information regarding the effects. Thus, the disclosures were only partially aligned with the requirements of IFRS S1.

Risk Management

73. Most of the analysed entities disclosed information about their approach to BEES-related risk management. These findings apply to all market cap ranges, to all regions (including EMDEs) and to all sectors considered.
74. In the context of their risk management disclosures, many entities made reference to at least one of the BEES-related topics, except for land, to which only some entities made reference. References to resource use, waste, pollution and biodiversity were somewhat less common in North America, and references to pollution and biodiversity were somewhat less common in South and Latin America.
75. The analysis also found some variation among sectors. For example:
 - (a) disclosure was generally less common among entities in the Financials sector (for all topics);

- (b) most entities in the Food & Beverage, Extractives & Minerals Processing, Resource Transformation and Renewable Resources & Alternative Energy sectors made references to water-related risk management; and
 - (c) references to land-related risk management were more prevalent among entities in the Food & Beverage and Renewable Resources & Alternative Energy sectors and less prevalent among entities in the Health Care sector.
76. Most of the entities disclosed information about risk management related to their own operations and many entities did so for their value chain outside the entity. The latter included, for example, information about assessments of water-related risks in sourcing or adopted codes of conduct that require suppliers or vendors to, among other things, comply with all applicable laws regarding the use of raw materials and natural resources.
77. Overall, most entities provided information on how they either identify, assess or monitor BEES-related risks, with many entities disclosing information on each type of activity.
78. Many entities disclosed information about particular approaches used in the risk management process. These included:
- (a) *environmental management systems and certifications*—for example, health, safety and environment (HSE) management systems and related certifications, such as ISO 14001, which apply to all environmental risks and opportunities including those related to BEES; and
 - (b) *risk identification and assessment tools*—for example, WRI's Aqueduct tool or the WWF Water Risk Filter tool and the Integrated Biodiversity Assessment Tool (IBAT) or WWF Biodiversity Risk Filter.

Other approaches, mentioned by a few entities included, for example, scenario analyses and application of codes of conduct (to suppliers or vendors) including BEES-specific requirements. From the disclosures, it was not clear whether the entities' BEES-related risk management processes are integrated into their overall risk

management process. Some entities explicitly mentioned enterprise risk management in their disclosures, and this may imply integration or connection to the entity's overall risk management process.

79. The relatively high disclosure rate of information on BEES-related risk management suggests it is feasible for entities to prepare such disclosure in relation to both an entity's own operations as well as its value chain. However, the observed variation in the disclosed information may limit understandability and comparability for users and suggests an opportunity for enhanced standardisation. The staff will monitor disclosure in this area as practices evolve in response to the adoption, implementation and application of IFRS S1.

Metrics and Targets

Metrics

80. Most entities in the analysed sample disclosed at least one BEES-related (quantitative) metric. Specifically, more than half of the analysed entities disclosed at least one metric related to waste or water. Fewer entities, but still close to half, disclosed at least one metric related to the use of resources. Finally, some entities disclosed at least one pollution-, biodiversity-, and/or land-related metric.³ These findings apply to each market cap range, region (including EMDEs), and to each sector, with the following exceptions:
- (a) resource use-related metrics are the most disclosed topic by entities in South and Latin America;
 - (b) pollution-related metrics are more commonly disclosed than those related to waste in the Extractives and Minerals Processing sector; and

³ It is important to note that metrics related to land and biodiversity are often highly interrelated (for example, measures of deforestation and ecosystem loss are pertinent to both topics).

- (c) biodiversity-related metrics are more commonly disclosed than those related to resource use, in the Renewable Resources & Alternative Energy sector.
81. The majority of the BEES-related metrics disclosed by most entities covered the entity's own operations. Only some metrics, disclosed by some entities, addressed the entity's broader value chain outside the entity. This finding applies to almost all the BEES-related topics, except for a subgroup of metrics related to resource use that provide information on the supply chain of materials that serve as inputs to production. These metrics were disclosed by more than half of entities in the Food and Beverage and Consumer Goods sectors. Additionally, only some metrics, disclosed by some entities in the overall sample, referenced geographic locations. However, the disclosure of metrics related to specific geographic locations was more common for risks and opportunities associated with water-, land- and biodiversity. Examples of referenced locations include areas of high water stress or water risk, protected areas, areas of significant biodiversity value or specific countries where a particular topic, such as deforestation, is highly relevant.
82. The relatively high disclosure rates of BEES-related (quantitative) metrics suggests it is generally feasible for entities to prepare such information, particularly in relation to the entity's own operations. However, differences in disclosure rates, including with respect to the variable use of particular metrics in particular sector-based contexts, also suggest a need for additional research and stakeholder engagement.

Targets

83. Most entities in the analysed sample disclosed information about BEES-related targets, although the disclosure rate is slightly lower than that for metrics. These findings apply to all regions, including EMDEs, with the highest disclosure rates among entities in Europe and Africa. They also apply to all market cap ranges and to all sectors, with the highest disclosure rates among entities in the Food & Beverage, Resource Transformation and Consumer Goods sectors.

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84. The BEES-related topics for which targets are most frequently disclosed are the same as for metrics, with targets related to resource use being disclosed by many entities, and waste- and water-related targets being disclosed by some. Some, but fewer entities also disclosed targets related to biodiversity, land and pollution. These findings also apply to all regions, including EMDEs, to all market cap ranges and to all sectors, except that biodiversity-related targets were more frequently disclosed than those related to resource use in the Extractives & Minerals Processing and Renewable Resources & Alternative Energy sectors.
85. Most of the BEES-related targets disclosed by many entities included quantitative metrics. However, some targets were qualitative, meaning they did not include quantitative metrics. In particular:
- (a) among topics, most biodiversity-related targets were qualitative;
 - (b) among sectors, less than half of the entities in the Financials, Renewable Resources & Alternative Energy and Technology & Communications sectors disclosed quantitative targets; while more than half of the entities in the Consumer Goods, Food & Beverage and Renewable Resources also disclosed qualitative targets.
86. Most of the BEES-related targets disclosed by most of the entities related to the reporting entity's own operations. Only some of the targets addressed the entity's broader value chain outside the entity. This finding applies to all market cap ranges, regions and sectors, with the exceptions of many entities in Europe and in the Food & Beverage and Consumer Goods sectors disclosed targets related to the value chain. Among the BEES-related topics, this finding applies only to targets related to resource use and biodiversity, while many targets related to land and a few related to water, waste and pollution addressed the entity's to the value chain. Additionally, only some of the disclosed targets referenced geographic locations. However, as with metrics, explicit references to location were more common for targets related to water, land and biodiversity.

87. Findings from the analysis of BEES-related targets are similar to those related to BEES-related metrics. Therefore, similar considerations will inform the staff’s ongoing research (see paragraph 8282).

Topic-level summary on metrics and targets

88. **Error! Reference source not found.** provides a summary of findings related to metrics and targets associated with various BEES-related topics. The table presents the disclosure rates associated with each topic, particular aspects of each topic that reporting entities captured using metrics, key characteristics of the disclosure, and an assessment of the applicability of such metrics among different sectors and jurisdictions. The staff plans to do additional research on particular metrics and targets, including comparing these findings to that of the research area focused on evidence of investor interest, to assess whether identified metrics and targets may be useful in future stages of the project.

Table 1—Summary of findings regarding metrics and targets by topic

Topic	Summary
Biodiversity	<ul style="list-style-type: none"> • Among the lowest disclosure rates • The main aspects covered were biodiversity management (‘area of habitat restored’) and outcomes of biodiversity assessments (‘area of operations in protected areas’) • When disclosed, many metrics referred to locations (such as key biodiversity areas) • Potential global applicability (low variability in regional disclosure rates, including EMDEs, but rates were low) • Applicability most evident in sectors involving direct interactions with biodiversity and ecosystems (Extractives & Minerals Processing, Renewable Resources & Alternative Energy, Food & Beverage and Infrastructure) • Only a few targets included quantitative metrics, which is the lowest frequency of disclosure of quantitative targets among all topics

Land	<ul style="list-style-type: none"> • Among the lowest disclosure rates • The main aspects covered were land use ('area of regenerative agriculture') and land-use change ('disturbed area by operations') • When disclosed, some metrics referred to location (such as specific countries or key biodiversity areas) • Potential global applicability (low variability in regional disclosure rates, including EMDEs, but rates were low) • Applicability most evident in sectors involving land management-related activities (Extractives & Minerals Processing, Renewable Resources & Alternative Energy and Food & Beverage) • When disclosed, many targets were quantitative and clearly linked to potential performance of operations or value chain, especially for those sectors involving land management-related activities.
Pollution	<ul style="list-style-type: none"> • Intermediate disclosure rate • The main aspects covered were emissions into specific 'environmental compartments' ('tons of nitrogen oxides emitted'), pollution-related incidents ('number of spills') and specific substances of concern ('tons of lead emitted') • A few metrics referred to locations (such as countries where incidents occurred) • Potential global applicability (low variability in regional disclosure rates, including EMDEs) • Applicability most evident in high-emitting sectors, particularly those that are subject to existing regulations (Extractives & Minerals Processing, Resource Transformation and Transportation) • Many targets were quantitative with clear links to operating performance, especially in those sectors subject to pollution-related regulations or reputational risks related to specific polluting substances.

Resource use	<ul style="list-style-type: none"> • Intermediate disclosure rate • The main aspects covered were use of energy ('MWh of renewable energy') and use of materials as inputs to production ('metric tons of RSPO palm oil') or for packaging. • A few metrics referred to locations (such as countries of operations or suppliers) • Potential global applicability (among the highest regional disclosure rates and lowest variability in regional disclosure rates, including EMDEs) • Applicability evident in most sectors (for example, related costs of inputs) but particular metrics, especially when used in targets, likely to vary based on sector-specific inputs or activities (for example, metrics about ingredients and related certification for the Food & Beverages sector, or metrics about packaging for the Consumer Goods sector)
Waste	<ul style="list-style-type: none"> • Among the highest disclosure rates • The main aspects covered were waste generation ('tonnes of hazardous waste') and/or waste destination or treatment ('share of waste sent to reuse') • A few metrics referred to locations (such as countries) • Potential global applicability (among the highest regional disclosure rates, including EMDEs) • Among the highest sectoral disclosure rates and lowest variability among sectors. Applicability evident in most sectors.
Water	<ul style="list-style-type: none"> • Among the highest disclosure rates • The main aspects covered were water quantity ('freshwater consumption—million m³') and water quality ('Nitrates emitted to water—metric tonnes'). • Some metrics referred to locations (like water-stressed or high water risk areas) • Potential global applicability (among the highest regional disclosure rates, including EMDEs) • Among the highest sectoral disclosure rates and among the lowest variability among sectors, with common metrics on water quantity applied among most sectors and those related to water quality being more sector specific. Applicability evident in almost all sectors.

Location of disclosure

89. Entities disclosed BEES-related information in different types of documents. Half of these disclosures were included in sustainability reports, slightly less than half in

financial filings and only some came from other types of reports (see Agenda Paper 3B and 4C *Approach to research on current state of disclosure* for the grouping of the documents).

90. However, among BEES-related disclosures associated with the core content areas of IFRS S1, entities were equally likely to provide information associated with risks and current and anticipated financial effects in their sustainability reports as in their financial filings.
91. Among disclosure about BEES-related topics, entities were equally likely to provide information related to pollution in sustainability reports and in financial filings, while more than half of information related to biodiversity and water was disclosed in sustainability reports.

Standards and Frameworks

92. Most entities referenced one or more disclosure standards or frameworks in their BEES-related disclosures. In particular:
 - (a) slightly more than half of the entities mentioned GRI Standards;
 - (b) slightly less than half mentioned SASB Standards; and
 - (c) some mentioned the TNFD recommendations, while a few mentioned the European Sustainability Reporting Standards (ESRS).
93. These findings were consistent among all market cap ranges, all regions and all sectors, except that:
 - (a) compared to other regions, references to SASB Standards were more frequent in North America, where most entities included such references, whereas references to ESRS were slightly more common in Europe, where some entities included this reference; and
 - (b) compared to other sectors, reference to GRI Standards was more common in the Food & Beverage and in the Extractives & Minerals Processing sectors,

reference to SASB Standards was more common the Food & Beverage, Health Care and Infrastructure sectors, while reference to both set of standards was less common in the Financials sector.

94. The mention of a set of standards or a framework does not necessarily mean that an entity applied that standard or framework to prepare its disclosures.

Appendix A—Examples of BEES-related disclosure

A1. This section provides examples of BEES-related disclosures, focusing on the BEES-related topics that showed the highest disclosure rates for each core content area of the IFRS S1.

Table A1. Examples of BEES-related governance disclosures

Topical grouping	Disclosure examples
Biodiversity	<ul style="list-style-type: none"> ‘[...] we have made conservation and promoting biodiversity part of the group's strategy [...] set a target of having a positive net impact on biodiversity by 2030. This biodiversity target is an ESG target for the company and therefore oversight at board-level and executive management level.’
Water	<ul style="list-style-type: none"> ‘Under the supervision of the Board of Directors, risk management in relation to water conservation issues is carried out by the Internal Control Committee and opportunity management is carried out by the ESG Managing Committee. These committees are both headed by the President & CEO.’

Table A2. Examples of BEES-related risk and opportunities disclosures

Topical grouping	Disclosure examples
Biodiversity	<ul style="list-style-type: none"> • Risk: ‘Increased calls for preserving and enhancing biodiversity by taking acres out of production—at a time when the world's supply of raw materials is in great demand—may challenge our sourcing of raw materials.’
Land	<ul style="list-style-type: none"> • Risk: ‘[...] the EU Deforestation Regulation, or EUDR, requires that certain commodities (including cocoa and coffee) and their products be from deforestation-free [...] may decelerate the physical trade of cocoa and coffee [...]’
Pollution	<ul style="list-style-type: none"> • Risk: ‘Emission regulations [...] challenge car manufactures to adapt their products to meet these standards (lower emission figures for harmful substances). Short-term regulatory changes against our expectations [...] could reduce the product portfolio in some world regions offered to customers.’

Resource use	<ul style="list-style-type: none"> • Risk: 'Reduced supply and higher cost of printing paper due to declining forestry resources • Opportunity: 'The company began pilot testing an eco-design methodology which would enable selection of bio-based or recycled plastics instead of fossil-based materials as well as reduce the amount of material used.'
Waste	<ul style="list-style-type: none"> • Risk: 'Transitional risks associated with extended producer responsibility policies and regulations that make producers responsible for the collection, recycling and safe disposal of products after use.' • Opportunity: 'We use manufacturing byproducts such as wood waste and pulp mill effluent to generate bioenergy and invest capital to improve manufacturing processes' energy efficiency'
Water	<ul style="list-style-type: none"> • Risk: 'Water scarcity and drought impact on operations [...] may heighten potential financial risk (for us) by increasing water costs, and / or reducing revenue due to production disruptions.'

Table A3. Examples of current and anticipated financial effects of BEES-related risks and opportunities

Topical grouping	Disclosure examples
Resource use	<ul style="list-style-type: none"> • 'Increased concerns regarding plastic waste in the environment, consumers selectively reducing their consumption of plastic products due to recycling concerns, or new or more restrictive regulations and rules related to plastic waste could reduce demand for certain of our products, which could negatively impact its financial condition, results of operations and cash flows [...]
Waste	<ul style="list-style-type: none"> • 'we are investing in automation technology to capture additional materials for recycling, upgrading our recycling facilities to produce higher quality recyclables, building recycling facilities in new markets and expanding access to recycling services tin more communities [...] investment in recycling infrastructure is estimated to be approximately \$1 billion in growth capital between 2022 and [...]
Water	<ul style="list-style-type: none"> • '[...] will have to invest CAPEX for back-up water infrastructure (water tanks and pumps) with increased operating expenses in high-risk regions in Southern Africa to ensure water supply and business continuity." The estimated cost of this response is [...]

Table A4. Examples of BEES-related risk management disclosures

Approach	Disclosure examples
Environmental management systems	<ul style="list-style-type: none"> ‘[...] an ISO 14001-certified Environmental Management System (EMS) that helps us systematically manage progress toward our environmental commitments and ensures that we comply with all applicable laws and regulations.’
Tools	<ul style="list-style-type: none"> ‘[...] incorporates water risk assessment tools such as the World Resources Institute (WRI) Aqueduct and the World Wildlife Fund (WWF) Water Risk Filter into its Enterprise Risk Management to assess water-related risks and improve its water stewardship strategy.’

Table A5. Examples of BEES-related metrics and targets disclosures

Topical grouping	Disclosure examples
Biodiversity	<ul style="list-style-type: none"> • Metric: ‘3.1 million hectares of wildlife habitat preserved or rehabilitated in 2023’ • Target: ‘100% of active quarries contribute to the global goal of nature positive, with 15% space for nature’
Land	<ul style="list-style-type: none"> • Metrics: ‘regenerative agriculture program to cover 2 million acres’ • Targets: ‘2030 Ambition: no net land take’
Pollution	<ul style="list-style-type: none"> • Metrics: ‘Total Volume of Hydrocarbon Spills >1 bbl (bbl): 312’ • Targets: ‘95% reduction in SO₂ by 2030 compared to 2017 baseline’
Resource use	<ul style="list-style-type: none"> • Metrics: ‘Energy use intensity: 11.17 kWh/ft²’ • Targets: ‘source only 100% RSPO-certified palm oil by 2025’
Waste	<ul style="list-style-type: none"> • Metrics: ‘“Hazardous Waste: 8,145 metric tons in 2022” Targets: ‘Reduce manufacturing waste by 10%, indexed to sales, by 2025’
Water and Wastewater	<ul style="list-style-type: none"> • Metrics: ‘Water consumption (in million cubic meters): 3.9’ • Targets: ‘Reduce 10 percent of absolute water withdrawals from a 2019 baseline year, [...] focusing on water-stressed regions - all by 2030’