European Business & Biodiversity Platform

BIODIVERSITY DISCLOSURE INITIATIVES

EU Business & Biodiversity Platform

THEMATIC REPORT
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Cover photo (spring flowers, Belgium) by Jolien Verhelst

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EXECUTIVE SUMMARY

In line with the increasing recognition of the importance of biodiversity for business, the demand for disclosure of corporate biodiversity performance is growing too. Several biodiversity disclosure frameworks and standards, regulatory and voluntary, have been published or are under development.

This evolution is welcomed as reporting about an organisation's biodiversity performance triggers action towards continuously better outcomes.

However, despite substantial alignment efforts between some of these disclosure initiatives, for most companies it is not always evident how these different biodiversity disclosure initiatives relate to each other, to what extent they are overlapping and where substantial differences can be observed. Developers of disclosure frameworks and standards try to accommodate this concern by providing so-called interoperability mappings or correspondence tables, which provide a high-level comparative analysis covering the whole range of disclosure requirements.

This Thematic Report specifically focuses on biodiversity within the respective disclosure initiatives and highlights the major differences and similarities. The report covers 6 biodiversity disclosure initiatives, three of them are regulatory and three have a voluntary character:

Regulatory

- European Sustainability Reporting Standard (ESRS) E4 on biodiversity and ecosystems, part of the Corporate Sustainability Reporting Directive (CSRD)
- Sustainable Finance Disclosure Regulation (SFDR)
- French Energy and Climate Law, in particular Art 29

Voluntary

- Disclosure recommendations and additional guidance of the Taskforce on Nature-related Financial Disclosures (TNFD)
- Biodiversity Standard of the Global Reporting Initiative (GRI)
- Biodiversity disclosure requirements by CDP (the former Carbon Disclosure Project).

These are the currently available initiatives providing specific disclosure requirements on corporate biodiversity performance. They are all concrete ways of implementing Art 15 on disclosure of the Kunming Montreal Global Biodiversity Framework as approved in December 2022. Most initiatives apply to any sector, while SFDR and Art 29 only apply to the finance sector. Art 29 is the only initiative that is restricted to one particular country (France).

As the current biodiversity questionnaire of CDP is temporary and not included in their scoring system, due to the fact that CDP will come up with a totally revised 'nature questionnaire' in the next couple of years, we have excluded the CDP biodiversity questionnaire from the detailed comparative analysis.

The report starts with a high-level description of the biodiversity disclosure initiatives, based on key characteristics such as objective, target group, structure and sector approach. This is followed by a comparative analysis of the ESRS E4 and GRI 101 standards and the TNFD framework for the wider business community. A final section focuses on the financial community, which is subject to all discussed disclosure frameworks.

The comparative analysis of the ESRS E4 and GRI 101 biodiversity standards and the biodiversity-relevant elements of the TNFD recommendations and guidance aims to provide a good insight in the major differences and similarities, which is the type of information companies are looking for in case they are compliant to one disclosure initiative and want to report under additional biodiversity disclosure initiatives. Given the mandatory character and the extensive coverage in terms of companies, it is assumed that the majority of EU based organisations will start with being compliant to the CSRD. Therefore, the ESRS E4 standard has been selected as the reference[1] to which both other disclosure initiatives are compared[2]. The comparative analysis clarifies the feasibility ('level of effort') for a company reporting in compliance with ESRS E4 to also comply with the TNFD (in relation to the corresponding biodiversity-related requirements of TNFD) or GRI 101. The analysis

[1] This should not be interpreted as a quality reference, it's just our starting point.

[2] This applies to reporting organisations that have identified biodiversity as a material topic

also makes clear how this works in the other direction. As such, this report provides guidance to any company interested in external disclosure on biodiversity performance.

The comparative analysis covers a range of selected disclosure characteristics. It starts with a concise high-level 'non-biodiversity specific' comparison of the disclosure framework/standards, and is followed by a more detailed analysis, zooming in on biodiversity. Having a good understanding of the high-level similarities and differences on generic characteristics (e.g. materiality) between the frameworks is essential for comparing the details of the topical issues, such as biodiversity.

A key conclusion is that overall, ESRS E4, TNFD and GRI are well aligned on most of the selected characteristics. This is due to the intensive interaction between these initiatives during the development of the standards. However, differences remain. Section 3.3 of the report clearly outlines the identified similarities and differences and includes a summary table with an indication of the level of effort for companies reporting in compliance with ESRS E4 to also comply with the TNFD or GRI 101 and vice versa. This zooming in on biodiversity will hopefully contribute to the ongoing efforts by EFRAG, TNFD and GRI – by means of interoperability or correspondence mappings – to further clarify the details of where standards (ESRS, GRI) and risk management and disclosure frameworks (TNFD) are converging or diverging from each other.

A final section of the report discusses how this landscape of disclosure initiatives affects the financial community. Financial institutions are subject to two regulatory disclosure initiatives, i.e. CSRD and SFDR, and with Art 29 of the French Climate and Energy Law, even three if they are operating in France. On top of that, despite their voluntary character, the TNFD Recommendations are highly relevant for the whole financial sector and also present some dedicated additional sector guidance for financial institutions. GRI is developing a sector standard on financial services.

Given their mandatory character, EU-based financial institutions are doing efforts to comply with CSRD and SFDR but given the high level of alignment which has been achieved between CSRD and TNFD, it's clear that TNFD's additional guidance for financial institutions will facilitate these preparatory efforts.

On a final note, despite the great efforts taking place to increase alignment between disclosure initiatives, it must be acknowledged that comparing these initiatives remains a highly demanding effort for reporting organisations, consuming resources that could be spent much more efficiently towards concrete actions to halt biodiversity loss and restore nature. Therefore, every single step towards further alignment deserves full support.

1 INTRODUCTION

In line with the increasing recognition of the importance of biodiversity for business, the demand for disclosure of corporate biodiversity performance is growing too. Several biodiversity disclosure frameworks and standards, regulatory and voluntary, have been published or are under development. Key frameworks are the biodiversity topical standard ESRS E4 under the CSRD as well as the TNFD. The revised GRI Biodiversity Standard has just been released while also CDP is developing initial thinking on the development of one overarching nature questionnaire which includes biodiversity. Additional biodiversity disclosure frameworks for the finance sector such as SFDR and the French Law on Energy and Climate are highly relevant too.

This evolution is welcomed as reporting about an organisation's biodiversity performance triggers action towards continuously better outcomes.

However, despite substantial alignment efforts between some of these disclosure initiatives, for most companies it is often not evident how these different biodiversity disclosure initiatives relate to each other, to what extent they are overlapping and where substantial differences can be observed. Developers of disclosure frameworks and standards try to accommodate this concern by providing so-called interoperability documents and tables, (i.e. between ESRS disclosure requirements and TNFD recommendations and guidance, respectively between ESRS disclosure requirements and GRI disclosure requirements) which provide a very useful high-level comparative analysis covering the whole range of disclosure requirements. This Thematic Report specifically focuses on biodiversity within the respective disclosure initiatives and highlights the major differences and similarities.

This report covers 6 biodiversity disclosure initiatives, three of them are regulatory and three have a voluntary character (see Figure). It must be noted however that some regulations refer to voluntary disclosure initiatives, making them de facto mandatory in some countries. This is the case for GRI Standards[3] (although not yet for the GRI 101 Biodiversity Standard).

Regulatory

- European Sustainability Reporting Standard (ESRS) E4 on biodiversity and ecosystems, part of the Corporate Sustainability Reporting Directive (CSRD)
- Sustainable Finance Disclosure Regulation (SFDR)
- French Energy and Climate Law, in particular Art 29

Voluntary

- Disclosure recommendations and additional guidance of the Taskforce on Nature-related Financial Disclosures (TNFD)
- Biodiversity Standard of the Global Reporting Initiative (GRI)
- Biodiversity disclosure requirements by CDP (the former Carbon Disclosure Project).

They are all concrete ways of implementation of Art 15 of the Kunming Montreal Global Biodiversity Framework[4] as approved in December 2022. These are the currently available initiatives providing specific disclosure requirements on corporate biodiversity performance. Most initiatives apply to any sector, while SFDR and Art 29 only apply to the finance sector. Art 29 is the only initiative that is restricted to one particular country (France).

[3] Latest figures indicate that there are 259 policies in 85 countries referencing GRI (Carrots & Sticks)

[4] CBD Global Biodiversity Framework Final text on Target 15: Take legal, administrative, or policy measures to encourage and enable business, and in particular to ensure that large and transnational companies and financial institutions: (a) Regularly monitor, assess, and transparently disclose their risks, dependencies, and impacts on biodiversity including with requirements for all large as well as transnational companies and financial institutions along their operations, supply and value chains, and portfolios; (b) Provide information needed to consumers to promote sustainable consumption patterns; (c) Report on compliance with access and benefit-sharing regulations and measures, as applicable; in order to progressively reduce negative impacts on biodiversity, increase positive impacts, reduce biodiversity-related risks to business and financial institutions, and promote actions to ensure sustainable patterns of production

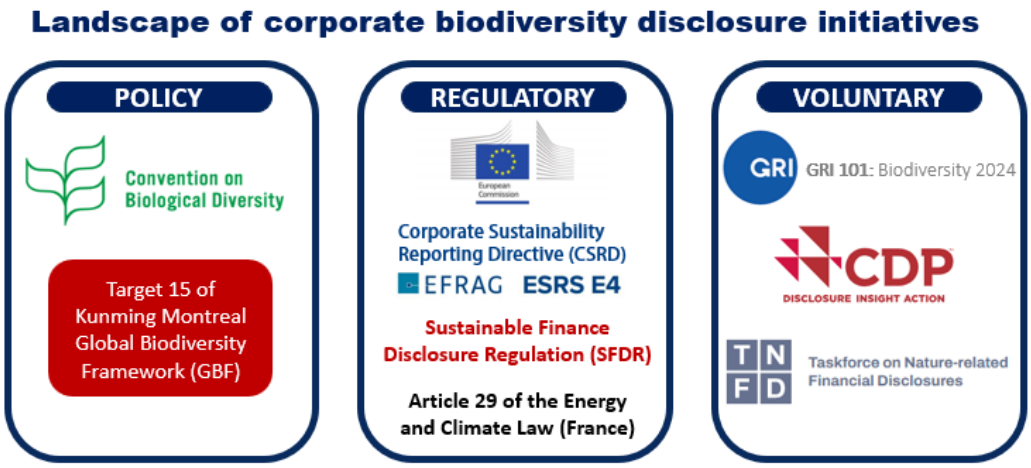


Figure 1-1: Overview of the corporate biodiversity reporting initiatives with related regulations and standards.

As the current biodiversity questionnaire of CDP is temporary and not included in their scoring system, due to the fact that CDP will come up with a totally revised 'nature questionnaire' in the next couple of years, we have excluded the CDP biodiversity questionnaire from the detailed comparative analysis.

Given the mandatory character and the extensive coverage in terms of companies, it is assumed that the majority of EU based organisations will start with being compliant to the CSRD. Therefore, the ESRS E4 standard has been selected as the reference[5] to which other disclosure frameworks/standards are compared.

The report clarifies the feasibility ('level of effort') for a company reporting in compliance with ESRS E4 to also comply with the TNFD (in relation to the corresponding biodiversity-related requirements of TNFD) or GRI 101. The analysis also makes clear how this works in the other direction.

As such, this report will provide guidance to any company interested in external disclosure on biodiversity performance.

The report is structured as follows:

- Section 2: High-level description of biodiversity disclosure initiatives
  This section provides an overview of the key characteristics for each disclosure initiative

Disclosure initiatives	Key characteristics
▪ European Sustainability Reporting Standard (ESRS) E4 on biodiversity and ecosystems, part of the Corporate Sustainability Reporting Directive (CSRD) ▪ Sustainable Finance Disclosure Regulation (SFDR) ▪ French Energy and Climate Law, in particular Art 29 ▪ Disclosure recommendations and guidance of the Taskforce on Nature-related Financial Disclosures (TNFD) ▪ Biodiversity Standard of the Global Reporting Initiative (GRI) ▪ Biodiversity disclosure requirements by CDP (the former Carbon Disclosure Project)	• Author • Objective • Reporting period • Regulatory or voluntary • Assurance • Applicable for who • Structure • Sector approach • Link between biodiversity section and other parts of the disclosure framework/standard • Future revision

- Section 3: Comparative analysis for the wider business community
  This section provides a high-level comparative analysis of key characteristics of those disclosure frameworks/standards that apply to the wider business community, i.e. ESRS, TNFD and GRI, as well as a more in-depth comparative analysis related to biodiversity. The disclosure requirements of SFDR and Art 29 are not covered in this section.

[5] This should not be interpreted as a quality reference, it's just our starting point.

- Section 4: Comparative analysis for the financial community
  Starting from the outcomes of Section 3 – which are relevant for the finance community too – the specific requirements of SFDR and Art 29 will be discussed and compared.

This is followed by 3 annexes:

- Annex 1 provides a comparative metrics table, focused on biodiversity-related disclosure metrics as required or proposed by ESRS E4, TNFD and GRI 101
- Annex 2 provides insights in the specific datapoints of ESRS E4
- Annex 3 provides detailed comparative tables (between ESRS E4, TNFD and GRI 101) on a range of discussed characteristics.

2 HIGH-LEVEL DESCRIPTION OF BIODIVERSITY DISCLOSURE INITIATIVES

This section provides a description of the key characteristics of each biodiversity disclosure initiative. Table 1 provides information on the publication date of each initiative as well as relevant weblinks. Sections 2.1 to 2.6 provide more detailed descriptions of the key characteristics of each initiative.

Table 1: Initiatives on corporate biodiversity disclosure discussed in this report.

Initiative	Full name	Voluntary or regulatory	Publication	More info
CSRD – ESRS E4	CSRD: Corporate Sustainability Reporting Directive ESRS: European Sustainability Reporting Standard E4: on biodiversity and ecosystems	Regulatory	CSRD: 14 Dec 2022 (EUR-Lex - 32022L2464 - EN - EUR-Lex (europa.eu) ESRS E4: 31 July 2023 (Corporate Sustainability Reporting Directive (europa.eu)) (Commission Delegated Regulation supplementing Directive 2013/34/EU as regards sustainability reporting standards)	Corporate sustainability reporting (europa.eu)
TNFD	Taskforce on Nature-related Financial Disclosures	Voluntary	September 2023 (Taskforce on Nature-related Financial Disclosures (TNFD) Recommendations – TNFD)	Taskforce on Nature-related Financial Disclosures (tnfd.global)
GRI 101: Biodiversity 2024	Global Reporting Initiative	Voluntary	January 2024	GRI - Topic Standard Project for Biodiversity (globalreporting.org)
CDP (CDP – forest and CDP – Climate)	Carbon disclosure project	Voluntary	Yearly updates questionnaires	2023 - C15 Biodiversity
SFDR	Sustainable Finance Disclosure Regulation	Regulatory	Published 9 December 2019 (EUR-Lex - 32019R2088 - EN - EUR-Lex (europa.eu)), in application since 10 March 2021 Accompanied by Technical Standards EUR-Lex - 32022R1288R(01) - EN - EUR-Lex (europa.eu)	Sustainability-related disclosure in the financial services sector (europa.eu)
'French Art 29'	Art 29 of French Law on Energy and Climate	Regulatory	Article 29 - LOI n° 2019-1147 du 8 novembre 2019 relative à l'énergie et au climat (1) - Légifrance (legifrance.gouv.fr)	Article 29 of the Energy and Climate Act no. 2019-1147 of 8 November 2019

2.1 CSRD – ESRS E4: European Sustainability Reporting Standard

Corporate Sustainability Reporting Directive (CSRD) and

European Sustainability Reporting Standard on Biodiversity and Ecosystems (ESRS E4)

European Commission

EFRAG

Objective	The objective of this Standard is to specify Disclosure Requirements which will enable users of the **sustainability statement** to understand: (a) how the undertaking affects biodiversity and ecosystems, in terms of material positive and negative, actual and potential impacts, including the extent to which it contributes to the drivers of biodiversity and ecosystem loss and degradation; (b) any actions taken, and the result of such actions, to prevent or mitigate material negative actual or potential impacts and to protect and restore biodiversity and ecosystems, and to address risks and opportunities; and (c) the plans and capacity of the undertaking to adapt its strategy and business model in line with: i. respecting planetary boundaries related to biosphere integrity and land system change; ii. the vision of the Kunming-Montreal Global Biodiversity Framework and its relevant goals and targets; iii. relevant aspects of the EU Biodiversity Strategy for 2030; iv. Directive 2009/147/EC of the European Parliament and of the Council and Council Directive 92/43/EEC (EU Birds and Habitats Directives); and v. Directive 2008/56/EC of the European Parliament and of the Council (Marine Strategy Framework Directive; (d) the nature, type and extent of the undertaking's material risks, dependencies and opportunities related to biodiversity and ecosystems, and how the undertaking manages them; and (e) the financial effects on the undertaking over the short-, medium- and long-term of material risks and opportunities arising from the undertaking's impacts and dependencies on biodiversity and ecosystems.
Author	European Commission. The draft ESRS were prepared by EFRAG. EFRAG is a private association assigned to provide technical advice to the European Commission in the form of draft EU Sustainability Reporting Standards and/or draft amendments to these Standards.
Voluntary or regulatory	Regulatory. However, although the CSRD and its ESRS are mandatory, not all disclosure requirements are obligatory, i.e. for some of them the reporting company is free to disclose information.
Assurance	EU-wide requirement for limited assurance[6] on sustainability information with the end goal to move to reasonable assurance[7] in the longer term
Reporting period for disclosure on biodiversity	General reporting on ESRS: The undertaking shall report all the applicable disclosures required by ESRS (including the cross-cutting standards ESRS 1 General requirements and ESRS 2 General disclosure)s), within a dedicated section of the management report. When defining its entity-specific disclosures, the undertaking may adopt transitional measures for their preparation in the first three annual sustainability statements. The first companies will have to apply the standards in financial year 2024, for reports published in 2025. Which means that ideally the materiality analysis takes place in 2023 or early 2024, to know which data to collect and process in 2024. Listed SMEs are obliged to report as from 2026, with a further possibility of voluntary opt-out until 2028. The reporting period is consistent with that of the company's financial statements. Reporting on ESRS E4:

[6] Limited assurance is the baseline level of assurance, wherein the independent auditor obtains "sufficient and appropriate evidence," limiting assurance to specific aspects of the sustainability report. To that end, the assurer may interview management, review analytical procedures, and evaluate internal controls for data collection.

[7] Reasonable assurance is a high level of assurance with site visits as key differentiator. The assurer will provide more evidence to demonstrate that the sustainability report is free of material misstatement.

	For the topical standards such as E4 on biodiversity and ecosystems, it is specified that an undertaking shall disclose its **material** impacts, risks and opportunities in relation to environmental, social, and governance sustainability matters. ESRS do not require undertakings to disclose any information when the undertaking has assessed the topic in question as non-material. So, in principle it is possible to categorize biodiversity as non-material. Phase-in for ESRS E4: Undertakings or groups not exceeding on their balance sheet dates the average number of 750 employees during the financial year (on a consolidated basis where applicable) may omit the information specified in the disclosure requirements of ESRS E4 for the first 2 years of preparation of their sustainability statement. Phase-in of disclosure requirement E4-6[8]: The undertaking may omit the information prescribed by ESRS E4-6 for the first year of preparation of its sustainability statement. The undertaking may comply with ESRS E4- 6 by reporting only qualitative disclosures, for the first 3 years of preparation of its sustainability statement.
Applicable for who?	The CSRD is applicable "to all exchange-listed companies, public interest companies and companies that meet the following criteria[9]: Starting from 2025, all companies that already fall under the **Non-Financial Reporting Directive (NFRD)** regulations must report on their sustainability performance for 2024. These companies meet at least these two conditions: >500 employees (average workforce on balance sheet date) >public interest entity Starting from January 2026, large European companies must also report on their sustainability performance for 2025. This includes companies that meet at least two of the following criteria: >250 employees >50 million euros in revenue, and/or >25 million euros in total assets Starting from January 2027, listed European SMEs join the list and must report on their sustainability performance for 2026. These are companies that meet at least two of the following criteria: >50 – 250 employees >10 million – 50 million euros in revenue, and/or >5 million – 25 million euros in total assets Starting from January 2029, non-European companies with at least one subsidiary or branch in Europe and a turnover of more than 150 million euros must report for the first time on the financial year 2028. Additionally, a simplified reporting standard will be developed for listed SMEs and a voluntary reporting standard for non-listed SMEs. The first version of these standards is expected to be released in 2024.
Structure	The ESRS comprise the General requirements (ESRS 1), General disclosures (ESRS 2), as well as topical standards focusing on environmental (ESRS E1–E5), social (ESRS S1–S4), and governance (ESRS G1) related disclosures. EFRAG published the final ESRS as an annex to the CSRD (Annex 1 to the Commissions Delegated Regulation supplementing Directive 2013/34/EU as regards sustainability reporting standards). ESRS 1 and 2 are two overarching or "cross-cutting" standards that apply to the sustainability matters covered by the topical standards. The 10 thematic or "topical" standards cover the various sustainability themes - Environment, Social and Governance (ESG). This thematic report has the

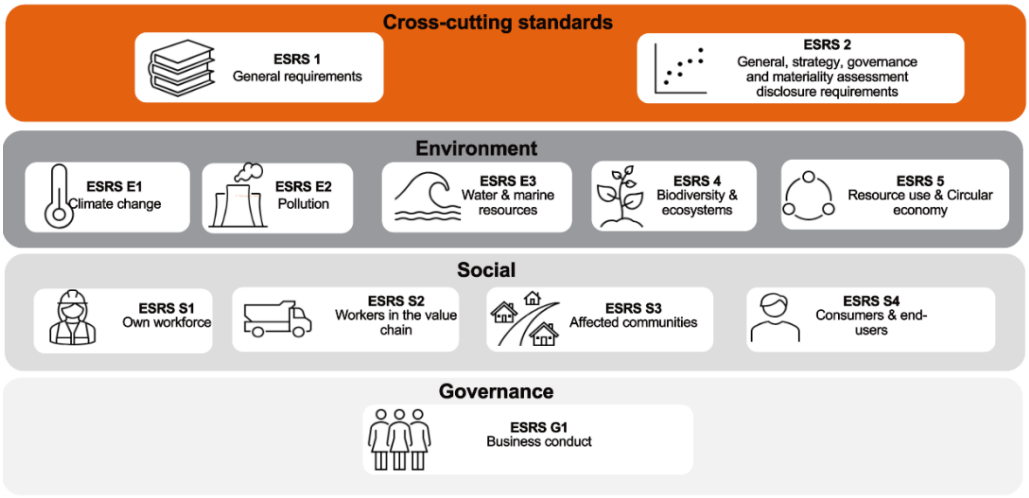
[8] Anticipated financial effects from material biodiversity and ecosystem-related risks and opportunities

[9] Based on recent amendment of legislation (see Commission Delegated Directive (EU) 2023/2775 of 17 October 2023 amending Directive 2013/34/EU of the European Parliament and of the Council as regards the adjustments of the size criteria for micro, small, medium-sized and large undertakings or groups (europa.eu))

main focus on ESRS E4 on biodiversity and ecosystems. However, to obtain a comprehensive understanding of material impacts and dependencies on biodiversity and ecosystems, the Disclosure Requirements of other environmental ESRS should be read and interpreted in conjunction with the specific disclosure requirements of ESRS E4. The relevant disclosure requirements covered in other environmental ESRS are:

- ESRS E1 Climate change, which addresses in particular GHG emissions and energy
- resources (energy consumption);
- ESRS E2 Pollution, which addresses pollution to air, water and soil;
- ESRS E3 Water and marine resources which addresses in particular water resources (water consumption) and marine resources;
- ESRS E5 Resource use and circular economy addresses in particular the transition away from extraction of non-renewable resources and the implementation of practices that prevent waste generation, including pollution generated by waste.

The undertaking's impacts on biodiversity and ecosystems affect people and communities. When reporting on material negative impacts on affected communities from biodiversity and ecosystem change under ESRS E4, the undertaking shall consider the requirements of ESRS S3 Affected communities.



The ESRS includes disclosure requirements and appendices. The appendix, which includes 'application requirements', is an integral part of the ESRS and has the same authority as other parts of the standard.

Link between biodiversity section and other parts of the disclosure standard

See 'Structure' above.
Table 2 provides a clear overview of the ESRS 2 General Disclosures and how the ESRS E4 biodiversity disclosures are embedded within this structure.

Alignment with other disclosure initiatives

There are substantial alignment efforts between EFRAG and both TNFD and GRI. Already during the elaboration of the ESRS, alignment with GRI Standards and the draft TNFD Recommendations was taking place. With the publication of the final versions, so-called interoperability or mapping documents are being developed between the ESRS and the GRI Standards, as well as between the ESRS and the TNFD Recommendations, metrics and guidance. These are mapping tools and correspondence tables that help entities understand the commonalities between two sustainability reporting standards. This interoperability mapping is ongoing but most recent versions at the time of publication can be found here:

- draft GRI-ESRS interoperability index
- draft ESRS-TNFD Interoperability (efrag.org)

For more information on the high level commonalities and differences between ESRS and GRI, respectively TNFD, see Section 3.1.

Sector approach

EFRAG is currently in the process of developing draft sector-specific standards. They will provide additional disclosure requirements for companies within a particular sector that are not covered, or not sufficiently covered, by the sector-agnostic standards.

	The first draft set of sector-specific standards (including Mining, quarrying and coal, Oil and gas and Road transport) is expected to be released for public consultation during the second half of 2024. In the coming years, EFRAG is expected to develop further sector-specific standards.
Future revisions	Revisions are planned every three years. If there are major changes in the field of biodiversity disclosure or major updates in other frameworks, revisions can be planned sooner. For the sector standards, the timelines are sector-specific.

Table 2: ESRS 2 General Disclosures and ESRS E4 Disclosure Requirements (the latter are marked in bold)

Governance	Strategy	Impact, Risk and Opportunity management	Metrics and Targets
Disclosure Requirement GOV-1 – The role of the administrative, management and supervisory bodies	Disclosure Requirement SBM-1 – Strategy, business model and value chain	*Disclosures on the materiality assessment process* Disclosure Requirement IRO-1 - Description of the processes to identify and assess material impacts, risks and opportunities **Disclosure Requirement related to ESRS 2 IRO-1 Description of processes to identify and assess material biodiversity and ecosystem-related impacts, risks and opportunities**	Minimum disclosure requirement – Metrics MDR-M – Metrics in relation to material sustainability matters –
Disclosure Requirement GOV-2 – Information provided to and sustainability matters addressed by the undertaking's administrative, management and supervisory bodies	Disclosure Requirement SBM-2 – Interests and views of stakeholders	*Disclosures on the materiality assessment process* Disclosure Requirement IRO-2 – Disclosure requirements in ESRS covered by the undertaking's sustainability statement	Minimum disclosure requirement – Targets MDR-T – Tracking effectiveness of policies and actions through targets
Disclosure Requirement GOV-3 - Integration of sustainability-related performance in incentive schemes	Disclosure Requirement SBM-3 - Material impacts, risks and opportunities and their interaction with strategy and business model **Disclosure Requirement related to ESRS 2 SBM-3 – Material impacts, risks and opportunities and their interaction with strategy and business model**	*Minimum disclosure requirement on policies and actions* Minimum disclosure requirement - Policies MDR-P – Policies adopted to manage material sustainability matters	**Disclosure Requirement E4-4 – Targets related to biodiversity and ecosystems**
Disclosure Requirement GOV-4 - Statement on due diligence	**Disclosure Requirement E4-1 – Transition plan and consideration of biodiversity and ecosystems in strategy and business model**	*Minimum disclosure requirement on policies and actions* Minimum disclosure requirement - Actions MDR-A – Actions and resources in relation to material sustainability matters	**Disclosure Requirement E4-5 – Impact metrics related to biodiversity and ecosystems change**
Disclosure Requirement GOV-5 - Risk management and internal controls over sustainability reporting		**Disclosure Requirement E4-2 – Policies related to biodiversity and ecosystems**	**Disclosure Requirement E4-6 – Anticipated financial effects from biodiversity and ecosystem-related risks and opportunities**
		Disclosure Requirement E4-3 – Actions and resources related to biodiversity and ecosystems	

2.2 TNFD

Taskforce on Nature-related Financial Disclosures	
Objective	The TNFD recommendations and additional guidance provide companies and financial institutions of all sizes with a risk management and disclosure framework to identify, assess, manage and, where appropriate, disclose nature-related issues.
Author	TNFD - a market-led, science-based and government-supported global initiative to help companies and financial institutions incorporate nature into their decision making. The Taskforce consists of 40 individual Taskforce Members representing financial institutions, corporates and market service providers with over US$20 trillion in assets.
Reporting period for disclosure on biodiversity	Alongside financial statements as part of the same reporting package. TNFD disclosures do not have to be published at the same time as the financial statements, and can be published wherever an organisation publishes its annual sustainability reporting, including climate-related disclosures.
Voluntary or regulatory	Voluntary
Assurance	Annual corporate reporting cycle that is subject to third-party assurance: independent limited assurance in the medium term.
Applicable for who?	For corporates and financial institutions of all sizes, and public authorities. There are cross-sector recommendations and additional sector guidance. The sector guidance provides further details to help organisations to interpret and apply the TNFD recommended disclosures and LEAP approach.[10] An organisation should report on the 'core' global (i.e. cross-sector) disclosure metrics unless: - it has not been identified as relevant and material to the organisation, e.g. not relevant to business activities or the location the organisation is operating in, or not found to be a material issue for the organisation; or - It has been identified as relevant and material, but the organisation is unable to measure it due to limitations with methodologies, access to data or because the information is commercially sensitive. In this case, organisations should explain how they plan to address this in future reporting periods. It is not expected that all organisations will be able to report on all core disclosure metrics immediately.
Structure	The TNFD disclosure framework consists of conceptual foundations for nature-related disclosures, a set of general requirements, a set of recommended disclosures structured around the four recommendation pillars of governance, strategy, risk and impact management and metrics & targets. These include in total 14 recommended disclosures (see Figure 2-1). The TNFD recommendations are structured to allow companies and financial institutions to get started, building on their climate reporting capabilities over the past decade (the structure of the TNFD builds further on the structure of the TCFD (Taskforce for Climate-related Financial Disclosures), and all 11 of the TCFD recommendations are replicated in the TNFD for nature-related issues), and to provide a path to increase their disclosure ambition over time. To support adoption and the provision of consistent, comparable and decision-useful information for report users, the Taskforce has developed: ▪ A set of recommended indicators and metrics for assessment and to support disclosure; ▪ A suite of additional guidance covering ○ 'How to get started with TNFD?'

[10] TNFD's 'how to' guidance on the identification and assessment of nature-related issues: Locate, Evaluate, Assess and Prepare (LEAP): https://tnfd.global/publication/additional-guidance-on-assessment-of-nature-related-issues-the-leap-approach/

- The identification and assessment of nature-related issues (the LEAP approach – see Figure 2-2), building on, and integrating the use of existing market-leading frameworks, tools and datasets;
- Specific guidance by sector and type of ecosystem (biomes);
- Guidance on scenario analysis;
- Guidance on engagement with Indigenous Peoples, Local Communities and affected stakeholders.

Draft sector guidance for 8 real economy sectors was published for consultation in December 2023 and will gradually become available for a full list of priority sectors. This provides further details to help organisations interpret and apply the TNFD recommended disclosures, in particular in the form of additional guidance in the application of the LEAP approach. The additional guidance on biomes reflects the location-specific character of nature-related dependencies and impacts for different types of ecosystems. The guidance aims to support corporates that produce, operate or source in these biomes. Both the sector guidance and biome guidance are being developed on an ongoing basis.

It's important to mention that additional guidance for financial institutions has already been published (version November 2023). In December 2023 a discussion paper on biodiversity footprinting approaches for financial institutions was published (open for consultation until end of March 2024), along with a discussion paper on advanced approaches to scenario analysis, building on the existing guidance.

Link between biodiversity section and other parts of the disclosure framework	In contrast to ESRS and GRI, there is no specific biodiversity section within the TNFD disclosure framework, which instead refers to the concept of 'nature' as the natural world, made up of four realms (land, ocean, freshwater and atmosphere). Biodiversity is defined as an essential and integral characteristic of nature, that enables ecosystems to be productive, resilient and able to adapt. Some of the TNFD disclosure metrics are related to biodiversity (see Annex 2 in this Thematic Report on 'Detailed comparison of ESRS E4, TNFD and GRI biodiversity metrics')
Sector approach	In addition to cross-sector recommendations and guidance, the TNFD has provided both **sector-specific guidance** and **sector-specific disclosure metrics**. The sector-specific guidance provides recommendations and tools for applying the TNFD LEAP approach. The use of the sector guidance and the LEAP approach are not required for TNFD-aligned reporting but the guidance will likely significantly shape how companies in the given sector apply the TNFD recommendations. The **additional guidance for financial institutions** is unique in that it covers how financial institutions should apply the TNFD disclosure recommendations. The sector-specific disclosure metrics include core sector disclosure metrics, which are required for TNFD aligned disclosures for all companies in a given sector on a comply or explain basis and additional sector disclosure metrics, which are recommended for disclosure, where relevant. The list of additional sector-specific disclosure metrics is not intended to be exhaustive, companies can report metrics for any other nature-related issue that they determine to be relevant and material. As of December 2023, **draft sector-specific guidance** has been published for the following sectors: Financial institutions, Oil and gas, Metals and mining, Forestry and paper, Food and agriculture, Electric utilities and power generators, Chemicals, Biotechnology and pharmaceuticals, Aquaculture. **Draft sector disclosure metrics** are available for consultation for the following sectors: Consumer goods (Apparel & textiles), Extractives & mineral processing(Construction materials), Oil and Gas), Food & beverage (Food - excluding aquaculture; Food & beverage retail; Restaurants; Food - Aquaculture), Infrastructure (Infrastructure; Real estate), Utilities (Electric utilities & power generators), Renewable resources & alternative energy (Forestry & paper: Forestry management).
Alignment with other disclosure	There are substantial alignment efforts between EFRAG and TNFD. Already during the elaboration of the ESRS, alignment with the draft TNFD Recommendations was taking place. With the publication of the final versions, so-called interoperability and mapping documents are being developed between the ESRS and the TNFD Recommendations, metrics and guidance. These are mapping tools that help entities understand the commonalities between two sustainability reporting standards. This interoperability mapping is ongoing but the most recent version (published as draft in January 2023) can be found here:

initiatives	https://www.efrag.org/Assets/Download?assetUrl=%2Fsites%2Fwebpublishing%2FMeeting%20Documents%2F2311031440290056%2F08-02%20draft%20ESRS-TNFD%20Interoperability%20mapping%20Part%201%20SRB%20meeting%2024%20January%202024.pdf ▪ Cover note TNFD Interoperability (efrag.org) ▪ draft ESRS-TNFD Interoperability (efrag.org) ▪ 08-03 draft ESRS-TNFD Interoperability mapping Part 2 SRB meeting 24 January 2024 - TNFD pillars.xlsx (efrag.org) ▪ 08-03 draft ESRS-TNFD Interoperability mapping Part 2 SRB meeting 24 January 2024 - TNFD core metrics.xlsx (efrag.org) ▪ efrag.org/Assets/Download?assetUrl=%2Fsites%2Fwebpublishing%2FMeeting Documents%2F2311031440290056%2F08-04 - TNFD Interoperability document - SR TEG recommendations.pdf For more information on the high level commonalities and differences between ESRS and TNFD, see Section 3.1.
Future revisions	The TNFD intends to increase the specificity of methodologies in its guidance over time, as practices and standards further develop.

Figure 2-1: TNFD Recommendations

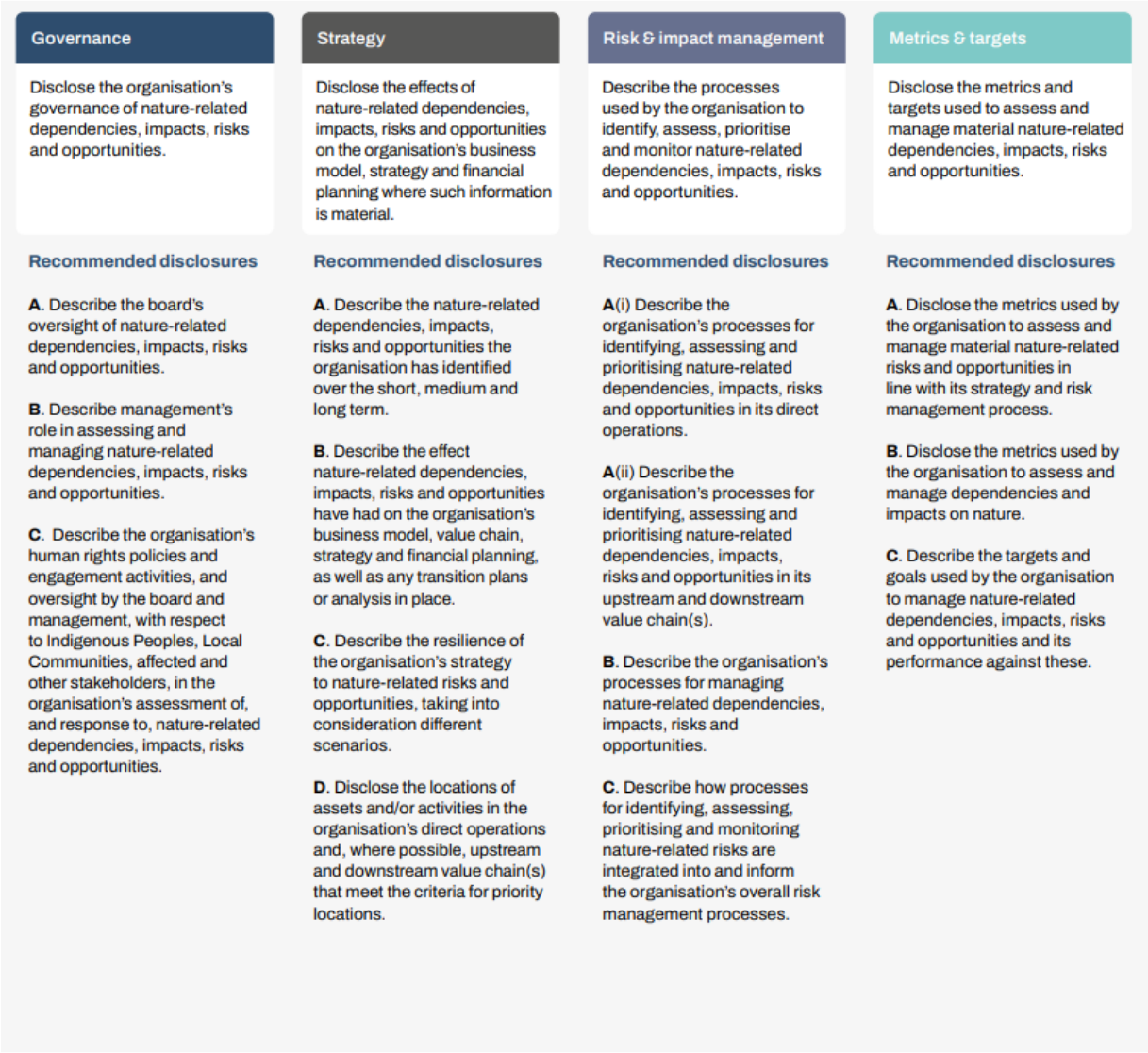
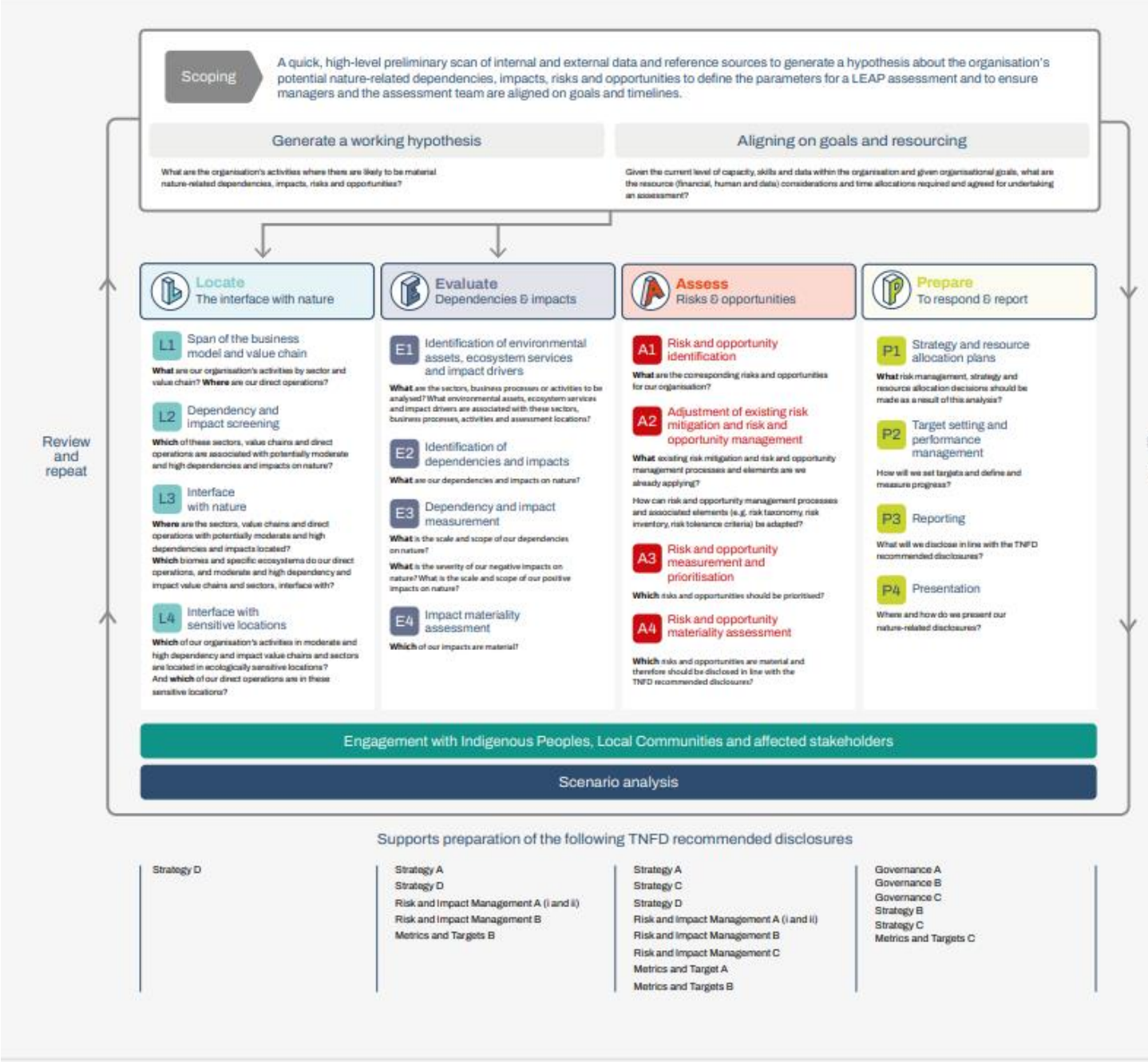
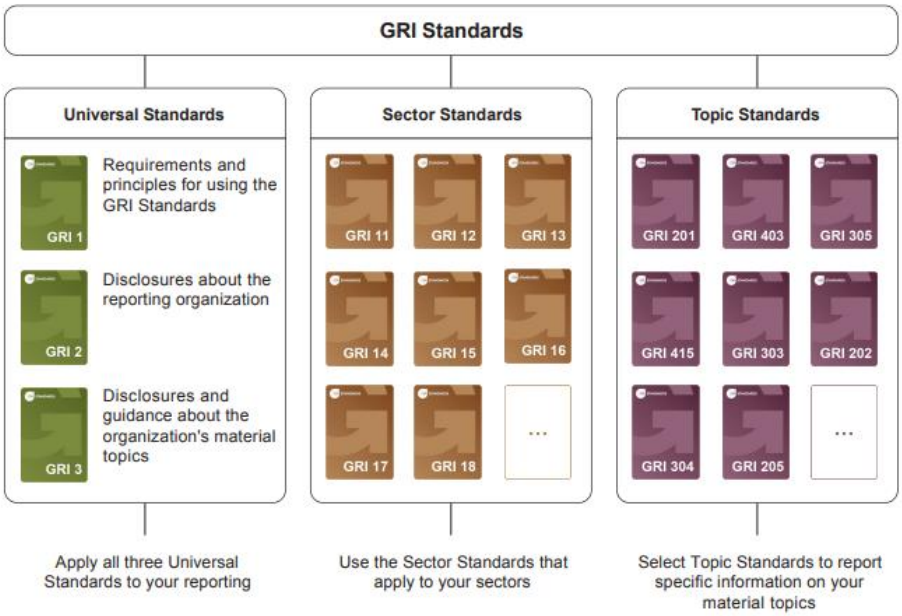


Figure 2-2: TNFD LEAP Framework



2.3 GRI 101: Biodiversity 2024

Global Reporting Initiative (GRI) Topic Standard Project for Biodiversity	
Objective	The GRI Standards help organizations understand their impacts on the economy, environment, and people. GRI 101: Biodiversity 2024 enables an organization to publicly disclose its most significant impacts on biodiversity and how it manages them. This disclosure enhances transparency on an organization's impacts and increases organizational accountability. GRI 101: Biodiversity 2024 contains disclosures that allow an organization to report information about its impacts on biodiversity consistently and credibly. In doing so, the global comparability and quality of reported information on these impacts supports users in making informed assessments and decisions about an organization's impacts and contribution to sustainable development.
Author:	GRI 101: Biodiversity 2024 was developed through a transparent and inclusive multi-stakeholder process in the public interest. The development was overseen by the Global Sustainability Standards Board (GSSB), GRI's independent standard-setting body, following the GSSB Due Process Protocol. The content of GRI 101: Biodiversity 2024 was developed by a multi-stakeholder Technical Committee made up of leading experts and practitioners on biodiversity representing civil society, mediating institutions, investors, business, and labor.
Voluntary or regulatory	Voluntary
Assurance	See section 5.2 in GRI 1 'Enhancing the credibility of sustainability reporting'. External assurance is not required but recommended ('The organization should seek external assurance for its sustainability reporting'). Disclosure 2-5 in GRI 2: General Disclosures 2021 requires the organization to describe its policy and practice for seeking external assurance for its sustainability reporting. If the sustainability reporting has been externally assured, the organization is also required to describe what was assured and on what basis.
Reporting period for disclosure on biodiversity	GRI 101 Biodiversity 2024 is effective for reports or other materials published on or after 1 January 2026. Earlier adoption is encouraged.
Applicable for who?	This Standard can be used by any organization – regardless of size, type, sector, geographic location, or reporting experience – to report information about its biodiversity-related impacts. Sector standards are developed for specific sectors. An organization reporting in accordance with the GRI Standards is required to report the following disclosures if it has determined biodiversity to be a material topic: - Disclosure 3-3 Management of material topics in GRI 3: Material Topics 2021. - Any disclosures from GRI 101 that are relevant to the organization's biodiversity-related impacts (Disclosure 101-1 through Disclosure 101-8). An organization is required to report only those disclosures relevant to its impacts in relation to biodiversity. An organization is not required to report disclosures that are not relevant.
Structure	The standard GRI 101 is part of the GRI Sustainability Reporting Standards (GRI Standards). The GRI Standards are structured as a system of interrelated standards that are organized into three series: GRI Universal Standards, GRI Sector Standards, and GRI Topic Standards (see figure).



The standard GRI 101 is structured as follows:

- **Section 1** ('Management disclosures') contains three disclosures, which provide information about how the organization manages its biodiversity-related impacts.
  - Disclosure 101 - 1: Policies to halt and reverse biodiversity loss
  - Disclosure 101 - 2: Management of biodiversity impacts
  - Disclosure 101 - 3: Access and benefit-sharing
- **Section 2** ('Topic disclosures') contains five disclosures, which provide information about the organization's biodiversity-related impacts.
  - Disclosure 101 - 4: Identification of biodiversity impacts
  - Disclosure 101 - 5: Locations with biodiversity impacts
  - Disclosure 101 - 6: Direct drivers of biodiversity loss
  - Disclosure 101 - 7: Changes to the state of biodiversity
  - Disclosure 101 - 8: Ecosystem services
- The Glossary contains defined terms with a specific meaning when used in the GRI Standards. The terms are underlined in the text of the GRI Standards and linked to the definitions.

Furthermore, there is a Bibliography that lists authoritative intergovernmental instruments and additional references used in developing the Standard, as well as resources that the organization can consult.
The Appendix includes criteria for identifying ecologically sensitive areas, methods to measure or estimate ecosystem condition, and examples of templates for presenting information for Disclosures 101-5, 101-6, 101-7, and 101-8.

Link between biodiversity section and other parts of the disclosure standard

Disclosure 101-6 enables an organization to provide information on the direct drivers of biodiversity loss that its activities lead or could lead to and that are associated with the products and services in its supply chain.
Where relevant, it is recommended to use information reported under disclosures in other GRI Topic Standards to report the information for the direct drivers of biodiversity loss required by Disclosure 101-6.

The following table shows how the disclosures from other GRI Topic Standards relate to the direct drivers of biodiversity loss.

Direct driver of biodiversity loss	GRI Standard	GRI disclosure
Exploitation of natural resources	*GRI 303: Water and Effluents 2018*	• 303-3 Water withdrawal • 303-5 Water consumption
Pollution (air pollution)	*GRI 305: Emissions 2016*	• 305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions
Pollution (water and soil pollution)	*GRI 303: Water and Effluents 2018*	• 303-4 Water discharge
	GRI 306: Effluents and Waste 2016	• 306-3 Significant spills

Sector approach

While the GRI Universal Standards and Topic Standards can be used by an organization of any size, type, sector or geographic location, GRI has also developed Sector Standards applicable to companies in specific sectors. They describe the sustainability context for a sector, outline organizations' likely material topics based on the sector's most significant impacts, and list disclosures that are relevant for the sector to report on.

GRI has already released the following Sector Standards: Oil and gas (GRI 11), Coal (GRI 12), Agriculture, aquaculture, and fishing sectors (GRI 13), Mining (GRI 14). Development of the following Sector Standards is currently under way: Textiles and Apparel, and Financial Services. GRI has plans to develop standards for 40 sectors, with priority given to those that have the highest impact on the economy, environment and society.

Alignment with other disclosure initiatives

To support global alignment, cooperation and exchange have taken place with EFRAG for the new EU biodiversity standard (ESRS E4), as well as the TNFD, SBTN, CDP, and WBA Nature Benchmark. With EFRAG, there have been substantial alignment efforts between both standards since the start of their development. With the publication of the final versions, so-called interoperability documents are being developed between the ESRS and the GRI Standards. These are mapping tools that help entities understand the commonalities between two sustainability reporting standards This interoperability mapping is ongoing but most recent versions can be found here: draft GRI-ESRS interoperability index.

The ESRS-GRI Standards data point mapping illustrates, for each and single ESRS data point, the corresponding data point in the GRI Standards. The data point mapping currently includes GRI 304: Biodiversity 2024, but will be updated to GRI 101: Biodiversity 2024 during the first half of 2024. https://www.globalreporting.org/media/muajmnbl/draft-esrs-gri-standards-data-point-mapping.xlsx

During the revision of the GRI Biodiversity Standard, the insights from the TNFD disclosure recommendations and guidance were included. These elements of TNFD have been used:

- The LEAP approach is referred to identify the most significant impacts on biodiversity.
- Proximity of an organization's sites to ecologically sensitive areas, as defined by TNFD.
- Alignment on the five direct drivers of biodiversity loss.
- Alignment on approaches to measure changes to the state of biodiversity.

For more information on the high level commonalities and differences between ESRS and GRI, respectively TNFD, see Section 3.1.

Future revisions

GRI intends to revised Standards in a regular fashion, around every 5 years. The timeline for the next revision of GRI 101 hasn't yet been set by the GSSB.

2.4 CDP C15 biodiversity

CDP	
Objective	CDP runs the global environmental disclosure system. Each year CDP supports companies, cities, states and regions to measure and manage their risks and opportunities on climate change, water security and deforestation. As stated on their website, CDP "translates standards and frameworks into actual disclosure questions and a standardized annual format, providing investors and companies with a unique platform where frameworks and standards can be brought into real-world practice through the collection, analysis and sharing of data". Disclosure on actions to preserve or improve biodiversity will help organizations to evaluate the relevancy and efficacy of their commitments and consider the biodiversity-related risks and impacts of their business practices. CDP does not set standards or targets where a company needs to disclose against. However, CDP sets the framework on what to measure. CDP wants to encourage companies to use best practices. It is unique in setting a scoring system to compare company performance[11]. At the moment, a company can choose which part (climate, forest or water) to disclose.
Author	CDP (originally established as Carbon Disclosure Project in 2000 but shortened to 'CDP' in 2013)
Reporting period for disclosure on biodiversity	Annual questionnaire. The questionnaire opens around April with a deadline for submission around September. At the beginning of the next year, scores are released.
Voluntary or regulatory	Voluntary
Assurance	Verification must be completed by an accredited third party provider according to recognized standards, to ensure these are broadly comparable.
Applicable for who?	Companies, cities, states and regions
Structure	CDP's scoring questionnaires are divided in (1) Climate change, (2) Forests and (3) Water security. CDP includes a questionnaire on biodiversity within the topic 'climate' as this is the topic where most companies disclose on. Climate change has the following topics/modules: Governance; Risks and opportunities; Business strategy; Targets and performance; Emissions methodology; Emissions data; Emissions breakdown; Energy; Additional metrics; Verification; Carbon pricing; Engagement; Biodiversity. At the moment, the questionnaire on biodiversity can be found here: 2023 - C15 Biodiversity. (see also Figure 2-3). The questions in this module were influenced by the 4 stage structure as outlined in the IUCN: Guidelines for planning and monitoring corporate biodiversity performance. The part on biodiversity does not contribute to the overall score at the moment as this part was only included for the first time in 2022 and is still in development.
Link between biodiversity section and other parts of the	As mentioned above, CDP includes a questionnaire on biodiversity within the topic 'climate'. However, biodiversity is also covered indirectly under the topics forest and water.

[11] Exact wording CDP: "The scoring methodology is a means to assess the responder's progress towards environmental stewardship as communicated through the company's CDP response. The scoring methodology assess the level of detail and comprehensiveness in a response, as well as the company's awareness of environmental issues, its management methods, and progress towards environmental stewardship."

disclosure framework	
Sector approach	CDP's disclosure system includes some sector-specific disclosure requirements. There are specific modules for some sectors, which include requests for information either in addition or instead of the general questions. The following sectors are covered by specific modules in one or more of the CDP company questionnaires: Agricultural commodities, Food, beverage & tobacco, Paper & forestry, Electric utilities, Oil & gas, Chemicals, Coal, Metals & mining, Financial services, Cement, Construction, Transport services, Transport OEMs, Steel, Real estate
Alignment with other disclosure initiatives	CDP's disclosure system incorporates other frameworks and standards: - GRI and CDP work together to align best practice and avoid duplication of disclosure effort to ease the reporting burden for the thousands of companies that report through CDP and the GRI Sustainability Reporting Standards (GRI Standards). - In 2018, CDP aligned with the TCFD recommendations. Companies which disclose through CDP are doing so in line with the TCFD recommendations in a comparable and consistent way. - The 2023 Climate Change questionnaire pilots taxonomy questions on EU Taxonomy objectives and collects data on companies' eligibility and financial accounting alignment, with a focus on companies subject to the EU Corporate Sustainability Reporting Directive (CSRD). - From 2024, CDP will incorporate the ISSB[12] climate disclosure standard [S2] into their disclosure system, ensuring a rapid accelerated early adoption of the global baseline standard for sustainability-related financial information. - CDP announced its intention to align with the TNFD framework, which will be reflected in its disclosure system from 2024[13].
Future revisions	At this moment, CDP includes a questionnaire on biodiversity within the topic 'climate'. However, CDP recognizes that biodiversity is also included within the topic forest and water. The aim is to evolve to one questionnaire for all companies, with different routes within the questionnaire depending on the sector and depending on what is material for the company. Also, the aim would be to disclose on nature as a whole. This would also include climate. CDP is considering including reporting on organic and plastic pollution. Only when all aspects of nature would be considered, the maximum score can be received. The timeline for this revision is not yet set.

[12] ISSB: International Sustainability Standards Board IFRS - International Sustainability Standards Board

[13] https://www.cdp.net/en/articles/media/cdp-announces-intention-to-align-with-tnfd-framework-and-drive-implementation-across-global-economy

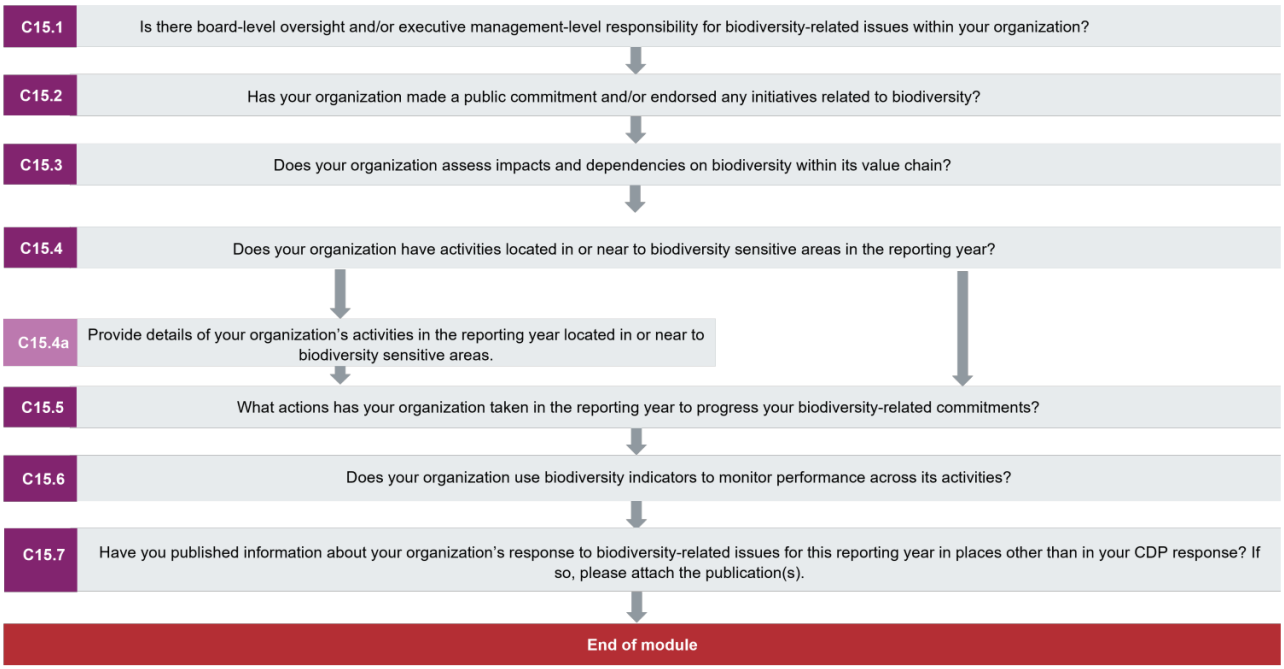


Figure 2-3: CDP's biodiversity questionnaire

2.5 SFDR

Sustainable Finance Disclosure Regulation

Objective

The SFDR lays down harmonised rules for financial market participants (FMPs) and financial advisers (FAs) on transparency with regard to the integration of sustainability risks and the consideration of adverse sustainability impacts in their processes and the provision of sustainability-related information with respect to financial products.

The regulation makes a clear distinction between outside-in sustainability risks (environmental, social or governance (ESG) events or conditions that, if they occur, could cause an actual or a potential material negative impact on the value of an investment) and adverse impacts on sustainability factors (negative externalities on ESG conditions). The regulation also clarifies the potential positive sustainability impacts of investing.

SFDR requires FI to disclose both entity level performance and product level performance[14].

Entity level transparency / transparency by financial market participants and financial advisers

Financial market participants and financial advisers must publish on their websites:

- information on how they consider the negative externalities of their business models, namely the **principal adverse impacts** (**PAI**) of investment decisions or financial advice on ESG sustainability; or
- information explaining why they consider there to be no such negative impact.

The websites of financial market participants and financial advisers must also include information on how:

- they integrate sustainability risks into their investment decision-making process and financial advice;
- their remuneration policies are consistent with integrating sustainability risks.

Financial product transparency

Sustainable financial products with various degrees of ambition have been developed to date. This is why this regulation distinguishes between the transparency requirements:

- for financial products that promote environmental or social characteristics (Art 8); and
- for financial products that aim to have a positive impact on the environment and on society (Art 9).

The two categories of financial products must explain how their ESG sustainability is to be achieved in pre-contractual financial product-related documents* and has been achieved in periodic financial product-related documents*.

In addition, all financial products must:

- specify in pre-contractual documents how sustainability risks are integrated into investment decisions; and
- identify the possible impact on an investment's profitability.

Similar rules apply to financial advisers. Financial market participants that consider principal adverse impacts on sustainability matters must also explain whether, and, if so, how their financial products consider principal adverse impacts.

Author

European Commission

Reporting period for disclosure on biodiversity

The main provisions (Level 1) of the Disclosure Regulation apply since 10 March 2021. The requirements relating to disclosures in the periodic reports of ESG-focused products (Level 2) apply from 1 January 2023. Firms had until 30 June 2023 to make their SFDR disclosures with the requirement then recurring on an annual basis.

From 10 March 2021, Article 4(1)(a) SFDR mandates disclosure, on a comply or explain basis, of the Principal Adverse Impacts (PAI) that investment decisions have on sustainability factors on the website of FMPs. The disclosure should take the form of a statement on due diligence policies with

[14] Regulation (EU) 2019/2088 of the European Parliament and of ... (europa.eu)

	respect to the adverse impacts of investment decisions on environmental and social sustainability factors. Article 4(1)(b) requires that, where an FMP does not consider adverse impacts of investment decisions on sustainability factors, it must publish and maintain on its website clear reasons for why it does not do so, and where relevant, information as to whether and when it intends to do so.
Voluntary or regulatory	Regulatory (Legislative act).
Assurance	Not specified.
Applicable for who?	For financial market participants and financial advisers. For the purpose of the SFDR, 'financial market participant' means: a) an insurance undertaking which makes available an insurance-based investment product (IBIP); b) an investment firm which provides portfolio management; c) an institution for occupational retirement provision (IORP); d) a manufacturer of a pension product; e) an alternative investment fund manager (AIFM); f) a pan-European personal pension product (PEPP) provider; g) a manager of a qualifying venture capital fund registered in accordance with Article 14 of Regulation (EU) No 345/2013; h) a manager of a qualifying social entrepreneurship fund registered in accordance with Article 15 of Regulation (EU) No 346/2013; i) a management company of an undertaking for collective investment in transferable securities (UCITS management company); or j) a credit institution which provides portfolio management; FMPs exceeding on their balance sheet dates the criterion of the average number of 500 employees during the financial year (hereinafter the '500-employee threshold') must publish and maintain on their websites a statement on their due diligence policies with respect to the principal adverse impacts of investment decisions on sustainability factors.
Structure	The Regulation (EU) 2019/2088 of 27 November 2019, known as SFDR, or the Sustainable Finance Disclosure Regulation, is complemented with the Regulatory Technical Standards (RTS), published 25 July 2022 by means of Delegated Regulation (EU) 2022/1288, and to be used by financial market participants when circulating sustainability-related information under SFDR, with a number of annexes, such as ANNEX I "Template principal adverse sustainability impacts statement". The RTS specify the content, methodologies and presentation of the information in pre-contractual documents, on websites and in periodic reports relating to: ▪ sustainability indicators and adverse sustainability impacts; ▪ the principle of 'do no significant harm'; ▪ the promotion of environmental or social characteristics and sustainable investment objectives.
Link between biodiversity section and other parts of the disclosure framework	There is no specific biodiversity section. Some of the Principal Adverse indicators and additional indicators cover disclosure metrics which are related to biodiversity (see *Table 3*) .

Table 3: Biodiversity related indicators and metrics under the SFDR

SFDR biodiversity indicators	RTS Metric
Core indicator (PAI)	
Activities negatively affecting biodiversity-sensitive areas	Share of investments in investee companies with sites/operations located in or near to biodiversity-sensitive areas where activities of those investee companies negatively affect those areas
Additional indicators	
Land degradation, desertification, soil sealing	Share of investments in investee companies the activities of which cause land degradation, desertification or soil sealing
Natural species and protected areas	1.Share of investments in investee companies whose operations affect threatened species 2.Share of investments in investee companies without a biodiversity protection policy covering operational sites owned, leased, managed in, or adjacent to, a protected area or an area of high biodiversity value outside protected areas
Deforestation	Share of investments in companies without a policy to address deforestation
Land artificialization	Share of non-vegetated EN 18 EN surface area (surfaces that have not been vegetated in ground, as well as on roofs, terraces and walls) compared to the total surface area of the plots of all assets

Sector approach	Not relevant, as only applicable to finance sector
Alignment with other disclosure initiatives	ESRS E4 and SFDR are quite well aligned in terms of terminology
Future revisions	The European Commission has carried out a comprehensive assessment of the framework, looking at issues such as legal certainty, usability and how the Regulation can play its part in tackling green-washing. By the time of publication of this Thematic Report, no consolidated information was made available by the Commission. However, one of the main concerns emerging from the individual responses is the doubt that the SFDR enables investor protection and product comparability. Important questions related to the future of the regulation are whether the existing Article 8 and Article 9 system should be finetuned or whether there should be more labelled categories, as in the UK. There is, however, no clear consensus regarding the number of categories required or if these should be mutually exclusive. With EU elections looming, it is unlikely there will be any change before 2025 at the earliest.

2.6 ART 29 France

Art 29 of French Energy and Climate Law

Objective	The French Energy and Climate Law (LEC) acknowledges the interconnection between climate change and biodiversity loss. The implementing decree[15] for Article 29 of the Energy-Climate Law (29LEC) revises, clarifies and strengthens sustainability-related financial disclosures for market players. The decree contributes to greening the financial system as it supplements existing European legislation in three complementary areas: climate, biodiversity, and the integration of ESG factors in governance and risk management of financial institutions[16]. This decree obliges financial market players to publish information on the consideration of environmental, social and governance criteria in their investment policy, and on the means implemented to contribute to the energy and ecological transition. The inclusion of biodiversity in this text provides a boost to the recognition of this issue by financial institutions and, by extension, by businesses. It requires financial institutions to disclose their assets complying with EU Taxonomy criteria and measure their impact on biodiversity, prompting changes in investment strategies to reduce this impact. In particular: ▪ Article 1, III-7° Information on the **strategy for alignment with long-term biodiversity goals**: "The entity shall provide a strategy for alignment with long-term biodiversity goals, specifying the scope of the value chain selected, which shall include targets set for 2030 and every five years thereafter for the following: a) An assessment of compliance with the goals listed in the Convention on Biological Diversity, adopted on 5 June 1992; b) An analysis of the contribution to reducing the primary pressures and impacts on biodiversity as defined by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services; c) Mention of the use of a **biodiversity footprint indicator** and, where applicable, how this indicator is used to measure compliance with international biodiversity targets. ▪ Article 1, III-8 and III-8bis: Information on approaches to taking environmental, social and governance quality criteria into account when managing **physical, transition-related and liability risks related to climate change and biodiversity**. On the biodiversity-related risks, the following information needs to be disclosed: a) a clear distinction between the main risks arising from impacts caused by the investment strategy and the main risks arising from the biodiversity dependencies of the assets and activities in which the entity has invested. For each risk identified, the entity shall indicate the scope of the value chain used; b) an indication of whether the risk is specifically related to the area of activity or geographical area of the underlying asset.
Author	République Française – Article 29 is adopted within Loi n° 2019-1147 – Energy and climate law (known as LEC), published in 2019. The decree implementing Article 29 of the Energy-Climate Law (published May 2021) was prepared jointly by the French Treasury Department and the Ministry for the Ecological Transition. The aim is to strengthen non-financial reporting of financial institutions on the integration of climate criteria and biodiversity in their investment policies.
Reporting period for disclosure on biodiversity	In May 2021, the decree implementing Article 29 was published, with a first reporting obligation in 2022 (over the 2021 financial year) on alignment with the Paris Agreement and the preservation of biodiversity. From 2023 (over the 2022 financial year), the reporting obligation includes all points of 29LEC. The reporting is expected by June each year.
Voluntary or regulatory	Regulatory (Legislative act)

[15] Decree no. 2021-663 of 27 May 2021 implementing Article L.533-22-1 of the Monetary and Financial Code

[16] https://www.tresor.economie.gouv.fr/Articles/2021/06/08/publication-of-the-implementing-decree-of-article-29-of-the-energy-climate-law-on-non-financial-reporting-by-market-players

Assurance	The ACPR (French Prudential Supervision and Resolution Authority - Autorité de contrôle prudentiel et de résolution (ACPR)) is responsible for ensuring that the provisions of the regulations are complied with.
Applicable for who?	Financial institutions, including banks, investors and insurers, whose assets under management exceed 500 million euros and who are active in France.
Structure	Article 29 complements the French Law on Energy and Climate in three areas: - Climate - Biodiversity - Environmental, social and qualitative factors of governance (ESG) The implementing decree has 9 articles.
Link between biodiversity section and other parts of the disclosure framework	The implementing decree published in 2021 defines the practical details of Article 29 in three key complementary areas: 1. **Climate** - notably with the required disclosure of alignment strategies with regards to the temperature objectives of the Paris Agreement, as well as the share of Taxonomy-aligned assets and finally the share of fossil fuels related activities; 2. **Biodiversity** - notably through the required disclosure of alignment strategies with regards to international biodiversity preservation objectives; 3. **ESG factors** to be fully integrated in the risk management, governance and transition support systems (notably shareholder engagement) of financial actors.
Sector approach	Not relevant, as only applicable to finance sector
Alignment with other disclosure initiatives	Reference is made to the SFDR.
Future revisions	An assessment of the application of the provisions of this Decree will be carried out by the government at the end of the first two financial years prior to 31 December 2023, then every three years, based on the work of the French Financial Market Authority and the Prudential Supervisory and Resolution Authority.

3 COMPARATIVE ANALYSIS FOR WIDER BUSINESS COMMUNITY (ESRS, TNFD, GRI)

This section focuses on the three main disclosure initiatives on biodiversity which are applicable to the wider business community, including financial institutions. These are ESRS (with focus on ESRS E4), TNFD and GRI (with focus on GRI 101: Biodiversity 2024). ESRS and GRI are disclosure standards, while TNFD is a risk management and disclosure framework. As mentioned before, CDP biodiversity disclosure requirements are not included in this analysis given the announced remake of nature related disclosures over the coming years. Moreover, the current biodiversity disclosure requirements are not included in the CDP scoring system.

The review of the main biodiversity disclosure initiatives aims to provide a good insight in the major differences and similarities, which is the type of information companies are looking for in case they are compliant to one disclosure initiative and want to report under additional biodiversity disclosure initiatives. Given the mandatory character and the extensive coverage in terms of companies, it is assumed that the majority of EU based organisations will start with being compliant to the CSRD[17]. Therefore, the ESRS E4 standard has been selected as the reference[18] to which both other disclosure initiatives are compared. The comparative analysis clarifies the feasibility ('level of effort') for a company reporting in compliance with ESRS E4 to also comply with the TNFD (in relation to the corresponding biodiversity-related requirements of TNFD) or GRI 101. The analysis also makes clear how this works in the other direction.

This comparative analysis starts with a concise high-level 'non-biodiversity specific' comparison of the disclosure framework/standards and is followed by a more detailed analysis, zooming in on biodiversity. Having a good understanding of the high-level similarities and differences on generic characteristics (e.g. materiality) between the initiatives is essential for comparing the details of the topical issues, such as biodiversity.

The comparative analysis in this Thematic Report covers a range of selected disclosure characteristics (see Table 4). To increase readability, characteristics covered under both the high-level and in-depth analysis are largely similar.

Table 4: Selected characteristics for discussion in Thematic Report (characteristics in italic are only discussed in relation to biodiversity)

Selected characteristics	Justification
Reporting pillars and disclosure topics	It is key to understand the overall structure of the disclosure requirements (grouped in reporting pillars). This characteristic also covers differences in specific disclosure topics.
Concepts and definitions	Comparing the concepts and definitions related to nature and biodiversity helps understand the consistency and interoperability of the contents covered by ESRS, GRI and TNFD
Approach to materiality	Materiality is at the core of every disclosure initiative. A good understanding of the materiality approach under the respective disclosure framework/standards is essential for exploring the concept of material biodiversity-related issues in the different initiatives.
Approach to value chain	Value chain refers to the need to consider not only direct operations but also upstream and downstream activities. Value chain coverage is essential to understand how an organization relates to biodiversity. Collecting the information needed to have a full picture of an organization's impacts and dependencies, is challenging.
Transition plan related to strategy and business model	Given its high relevance for biodiversity and the increased attention to nature positive roadmaps at sector and entity level, the topic of transition planning is included as one of the selected characteristics
Impacts, dependencies, risks and opportunities	Impacts, dependencies, risks and opportunities (often abbreviated as DIRO) are at the heart of nature-related disclosure. Also from a biodiversity perspective, it's most useful to explore how this is covered under the respective disclosure framework/standards.

[17] If biodiversity is considered as a material issue for the organization

[18] This should not be interpreted as a quality reference, it's just our starting point.

Location	In contrast to climate, biodiversity is always location specific. It's worth investigating how the 'location' factor is covered in the different disclosure initiatives
Policies and targets	For biodiversity, the Global Biodiversity Framework and related policies are very relevant. It's useful to explore how the topic of 'policies' is addressed in the different disclosure initiatives, with particular focus on biodiversity-related policies in the in-depth analysis. Having biodiversity targets is key. The comparative analysis explores how disclosure requirements on biodiversity targets are different.
Action plan	Taking action on biodiversity is key. The comparative analysis explores how disclosure requirements on biodiversity actions are different.
Metrics	Measuring biodiversity performance is key. The comparative analysis explores how disclosure requirements on biodiversity metrics are different.
Financial effects	A double materiality approach assumes being transparent on financial effects for the company. The analysis compares If and how the topic of financial effects is addressed in the different disclosure initiatives and if this is further made specific with regard to biodiversity.

We acknowledge that there are several ways to present these characteristics. Some of them could be grouped into one characteristic while other characteristics could be split into two or more characteristics. The selection and high-level comparative analysis of characteristics is mainly based on the combined information from the Interoperability mappings (or concordance assessments)[19] currently being undertaken by EFRAG, TNFD and GRI and the Accountability for Nature Report[20]. With regard to the interoperability exercise between ESRS and TNFD, the draft dd 24 Jan 2024 is used as information source. Regarding the interoperability exercise between ESRS and GRI, the draft version of 30 Nov 2023 is currently in the process of being updated[21] in order to be aligned with the revised biodiversity standard GRI 101 which became available end of January. The 'Accountability for Nature' report compares seven nature-related assessment and disclosure approaches, including ESRS, CDP, GRI and TNFD[22]. The report builds on comparative research that was conducted between April and November 2023. Key characteristics of the approaches and their conceptualization of nature were analyzed and the observations on common trends and differences were synthesized into key findings on 11 characteristics (Table 5). The key findings for the characteristics that are discussed in this Thematic Report were largely copied from the Accountability for Nature report, for two reasons: 1/ the key findings are correct as they were validated by representatives of the different disclosure initiatives, and 2/ the key findings are an excellent basis for the further deep dive on biodiversity which is the main focus of this Thematic Report. These key findings were further complemented or clarified with additional findings by the authors of this Thematic Report, as well as with further clarifications by TNFD, GRI and EFRAG during the final review of the report.

Table 5: Characteristics of assessment and disclosure approaches covered in the 'Accountability for Nature' report

Characteristics		
Definition of materiality	Location information requirements	Disclosure metrics
Coverage of realms	Nature-related impacts	Targets
Coverage of sectors	Nature-related dependencies	Engagement with rights-holders and relevant stakeholders
Coverage of value chains	Nature-related risks and opportunities	

[19] See context on and references to interoperability documents in descriptions of disclosure framework/standards in sections 2.1, 2.2 and 2.3

[20] Accountability-for-Nature.pdf (unepfi.org); this report, co-authored by the United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) and the United Nations Environment Programme Finance Initiative (UNEP FI), provides an overview of the key methodological and conceptual trends among the private sector assessment and disclosure approaches on nature-related issues. The report presents findings from a comparative research on seven leading standards, frameworks and systems for assessment and disclosure on nature-related issues, including ESRS, TNFD and GRI.

[21] March – April 2024 is envisaged timeline

[22] The other frameworks are SBTN, Natural Capital Protocol and ISSB

The detailed comparative assessment is based on a critical assessment by the authors of the contents of the specific biodiversity disclosure requirements under ESRS E4, TNFD and GRI 101 (see Section 3.2) and on a amore detailed assessment of the following information sources (EFRAG IG documents are non-authoritative implementation guidance):

- Disclosure standards ESRS 1 (General Requirements), ESRS 2 (General Disclosures), ESRS E4 (topical standard on Biodiversity and Ecosystems)
- Implementation Guidance on Materiality (draft EFRAG IG1)
- Implementation Guidance on Value Chain (draft EFRAG IG2)
- List of ESRS Data Points and Explanatory Note (draft EFRAG IG3)
- GRI 101: Biodiversity 2024 and related FAQ document
- Draft ESRS-GRI Standards data point mapping
- TNFD Recommendations, metrics and additional guidance
- Guidance on the identification and assessment of nature related issues: The LEAP approach

3.1 High level comparison

Over the past two years, EFRAG has worked closely together with both GRI and TNFD to ensure continuous exchange in the development of the respective disclosure requirements. This collaboration has ensured a strong level of consistency in the language, approach and definitions applied by the different disclosure framework/standards. But differences remain. In the below sections we discuss each of the selected characteristics.

3.1.1 Reporting pillars and disclosure topics

Both in ESRS 2 as in the TNFD Recommendations, general disclosures are split in 4 categories (called ‘pillars’ in TNFD) (listed below; ESRS 2 definitions are provided but these are largely similar to those in TNFD):

- Governance: the governance processes, controls and procedures used to monitor, manage and oversee impacts, risks and opportunities
- Strategy: how the undertaking’s strategy and business model interact with its material impacts, risks and opportunities, including how the undertaking addresses those impacts, risks and opportunities
- Impact, risk and opportunity management: the process(es) by which the undertaking i. identifies impacts, risks and opportunities and assesses their materiality, ii. manages material sustainability matters through policies and actions
- Metrics and targets: the undertaking’s performance, including targets it has set and progress towards meeting them.

In terms of the reporting pillars, GRI covers governance, strategy, impact management, and metrics and targets. So, there is a difference in the third pillar, i.e. risk and opportunity management not covered by GRI.

With regard to the disclosure topics, all 14 TNFD recommended disclosures are incorporated into the ESRS standards. All disclosure requirements under ESRS E4 are covered by TNFD. GRI 101 includes a well-elaborated specific disclosure (under the impact management pillar) on ‘access and benefit-sharing’ (a shall requirement), while ESRS E4 addresses this topic in a less detailed way[23] (also ‘may’ requirement) and TNFD doesn’t cover it at all.

3.1.2 Concepts and definitions

This section considers concepts and definitions related to ‘nature and biodiversity’. Table 6 provides a comparative analysis of terms and definitions applied in one or more of the disclosure initiatives. This list is far from exhaustive, but it is sufficient for illustrating alignment. For this assessment, the glossaries of the respective disclosure initiatives (ESRS, TNFD, GRI) and guidance of the disclosures (GRI 101) were the main source of information.

[23] ESRS E4 AR 15

A first general finding is that biodiversity-relevant terms are not always consistently covered in the glossary. The most extensive glossary – with respect to biodiversity-relevant terms and definitions – is the TNFD glossary. ESRS also provides an extensive glossary, but some key terms are missing (e.g. mitigation hierarchy). As the GRI glossary only includes terms that are used across more than one Standard, it does hardly include biodiversity-related terms. Terms that are specific to one Topic Standard are usually defined in the guidance of the disclosures or in the introduction.

The TNFD proposes foundational concepts for a market-accessible language system for understanding nature, which are largely consistent with the concepts relating to the environmental standards covered by the ESRS.

TNFD defines **nature** as the natural world, emphasizing the diversity of living organisms, including people, and their interactions with each other and their environment. All disclosure initiatives cover the four **nature realms**: land, ocean, freshwater and atmosphere, although the ESRS and GRI do not make explicit reference to this categorisation. All three disclosure frameworks use the terms '**biodiversity**' and '**ecosystems'** based on the UN Convention on Biological Diversity definitions. The TNFD makes a clear distinction between the concepts of 'nature' and 'biodiversity', with the latter referring to the variability among living organisms across the four nature realms. The ESRS include biodiversity and ecosystems as one of the sustainability matters covered in the topical standards. GRI applies a similar approach.

In addition to the key terms defined above, in its glossary, recommendations and additional guidance, the TNFD defines a range of concepts, and provides an overall architecture for understanding nature-related issues. This includes realms, biomes, environmental assets and ecosystem services which are used as a foundation for understanding nature that can also be employed when reporting in alignment with the ESRS.

ESRS and GRI largely align with these, but some differences remain (there are more, but below examples are based on Table 6):

- ESRS and TNFD consider direct and indirect impact drivers (the latter extensively described in ESRS) while GRI focuses on direct impact drivers
- Realms is only used in TNFD, while biome is not used in ESRS
- Different scope for ecologically sensitive areas between ESRS (more specific) and TNFD/GRI (see also Section 3.1.7).

Table 6: Comparative analysis of concepts and definitions related to nature/biodiversity

Concepts	Definition ESRS	Definition TNFD	Definition GRI
Biodiversity and ecosystems	(Glossary) **Biodiversity**: The variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part. This includes variation in genetic, phenotypic, phylogenetic and functional attributes, as well as changes in abundance and distribution over time and space within and among species, biological communities and ecosystems **Ecosystem**: A dynamic complex of plant, animal and microorganism communities and their non-living environment interacting as a functional unit. A typology of ecosystems is provided by the IUCN Global Ecosystem Typology 2.0.	(Glossary) **Biodiversity**: The variability among living organisms from all sources, including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems. Convention on Biological Diversity (1992) **Ecosystem**: A dynamic complex of plant, animal and microorganism communities and the non-living environment, interacting as a functional unit (CBD, 1992).	(Introduction) **Biodiversity** encompasses the variability of organisms living in terrestrial, marine, and aquatic ecosystems, as well as the ecological complexes they form. It comprises the genetic diversity within species, the variety of species in an area, and the distinct features of entire ecosystems. (adapted from United Nations, Convention on Biological Diversity, 1992.)
Nature	Not included in glossary.	(Glossary) The natural world, with an emphasis on the diversity of living organisms (including people) and their interactions among themselves and with their environment.	(Introduction) Biodiversity is an essential characteristic of nature, which comprises all living and non-living elements on Earth.
Ecological threshold	(Glossary) The point at which a relatively small change in external conditions causes a rapid change in an ecosystem. When an ecological threshold has been passed, the ecosystem may no longer be able to return to its state by means of its inherent resilience	(Glossary) The point at which a relatively small change in external conditions causes a rapid change in an ecosystem. When an ecological threshold has been passed, the ecosystem may no longer be able to return to its state by means of its inherent resilience (IPBES).	Not defined in the GRI Standards. Sustainability thresholds is used (see also Section 3.1.8 in this Thematic Report)
Impact drivers	(Glossary) All the factors that cause changes in nature, anthropogenic assets, nature's contributions to people and a good quality of life. **Direct drivers of change** can be both natural and anthropogenic. They have direct physical (mechanical, chemical, noise, light etc.) and behaviour-affecting impacts on nature. They include, inter alia, climate change, pollution, different types of land use change, invasive alien species and zoonoses, and exploitation**. Indirect impact drivers** operate diffusely by altering and influencing direct drivers (by affecting their level, direction or rate) as well as other indirect drivers. Interactions between indirect and direct drivers create different chains of relationship, attribution, and impacts, which may vary according to type, intensity, duration, and distance. These relationships can also lead to different	(Glossary) **Drivers of nature change**: All external factors that affect nature, anthropogenic assets, nature's contributions to people and good quality of life. They include institutions and governance systems and other **indirect and direct drivers** (both natural and anthropogenic). (IPBES) **Impact drivers**: A measurable quantity of a natural resource that is used as a natural input to production (e.g. the volume of sand and gravel used in construction) or a measurable non-product output of a business activity (e.g., a kilogram of NOx emissions released into the atmosphere by a manufacturing facility).(Capitals Coalition)	(Disclosure 101-6) **Direct drivers of biodiversity loss**: According to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), direct drivers are the drivers that 'unequivocally influence biodiversity and ecosystem processes'. Direct drivers are sometimes referred to as 'pressures' or 'impact drivers'. The IPBES global assessment has identified land and sea use change and the exploitation of natural resources as the main direct drivers, followed by climate change, pollution, and the introduction of invasive alien species.

	types of spill-over effects. Global indirect drivers include economic, demographic, governance, technological and cultural ones. Special attention is given, among indirect drivers, to the role of institutions (both formal and informal) and impacts of the patterns of production, supply and consumption on nature, nature's contributions to people and good quality of life.		
Ecologically sensitive areas	(Glossary) **Biodiversity sensitive area**: Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas ('KBAs'), as well as other protected areas, as referred to in Appendix D of Annex II to Commission Delegated Regulation (EU) 2021/21398 (refers to Taxonomy)	(Strategy D) **Sensitive locations**: Locations where the assets and/or activities in its direct operations – and, where possible, upstream and downstream value chain(s) – interface with nature in areas deemed to be ecologically sensitive: ▪ Areas important for biodiversity; ▪ Areas of high ecosystem integrity; ▪ Areas of rapid decline in ecosystem integrity; ▪ Areas of high physical water risks; ▪ Areas of importance for ecosystem service provision, including benefits to Indigenous Peoples, Local Communities and stakeholders	(GRI 101 Appendix Table 1) 'Criteria for identifying **ecologically sensitive areas'** This covers the following areas: ▪ Biodiversity importance ▪ High ecosystem integrity ▪ Rapid decline in integrity ▪ Ecosystem service delivery importance ▪ Water physical risk Disclosure 101-5 (guidance) makes clear that GRI is aligned with TNFD
State of nature/biodiversity	ESRS does not use the term state of nature or state of biodiversity, but requires relevant metrics for addressing the state of nature (such as ecosystem condition and species related metrics)	(Glossary) The condition and extent of ecosystems, and species population size and extinction risk, including positive or negative changes.(UN, SEEA EA)	(Disclosure 101-7, guidance) **The state of biodiversity** is the holistic quality of the components of biodiversity (genes, species, and ecosystems), and is a function of the condition and size of its components. (adapted from United Nations et al., System of Environmental-Economic Accounting—Ecosystem Accounting (SEEA EA), 2021.
Realms	Not used in ESRS	(Glossary) **Realm**: Major components of the living, natural world that differ fundamentally in ecosystem organization and function: terrestrial (land), freshwater, marine (ocean), subterranean and atmospheric. The TNFD's framework is based on four realms - land, freshwater, ocean and atmosphere. The subterranean realm is included within the land, freshwater and ocean realms	Not used in GRI
Biome	Not used in ESRS	(Glossary) **Biome**: Global-scale zones, generally defined by the type of plant life that they support in response to average rainfall and temperature patterns e.g. tundra, coral reefs or savannas. (IPBES,2019) For the purpose of metrics, biomes are defined in the IUCN Global Ecosystem Typology as the	Not defined in GRI, but used in the guidance related to how to report ecosystem types ' The organization can report ecosystem types using the biomes or ecosystem functional groups in the IUCN Global Ecosystem Typology'

		component of a **realm** united by a few common major ecological drivers that regulate major ecological functions. Biomes are derived from the top-down by subdivision of realms (Level 1)	This implies that under GRI 101, 'biome' is meant to be understood as per the definition from the IUCN GET
Ecosystem assets	(Glossary, under ecosystem extent) contiguous space of a specific ecosystem type characterised by a distinct set of biotic and abiotic components and their interactions.	(Glossary) A form of environmental assets that relate to diverse ecosystems. These are contiguous spaces of a specific ecosystem type characterised by a distinct set of biotic and abiotic components and their interactions.(adapted from UN, SEEA EA)	Not used in GRI
Ecosystem services	(Glossary) The contributions of ecosystems to the benefits that are used in economic and other human activity, respectively the benefits people obtain from ecosystems. In the Millennium Ecosystem Assessment, ecosystem services can be divided into supporting, regulating, provisioning and cultural. The Common International Classification of Ecosystem Services (CICES) classifies types of ecosystems services.	(Glossary) The contributions of ecosystems to the benefits that are used in economic and other human activity.(UN, SEEA EA)	(Guidance under Disclosure 101-8) **Ecosystem services** occur through an ecosystem's normal functioning and can fall into one or more of the following categories: • provisioning services; • regulating and maintenance services; and • cultural services. (adapted from Millenium Ecosystem Assessment and UNSEEA)
Mitigation hierarchy (and conservation hierarchy)	Term 'mitigation hierarchy used in ESRS, but not in glossary. Term 'conservation hierarchy' not used	(Glossary) The **mitigation hierarchy** is the sequence of actions to anticipate and avoid, and where avoidance is not possible, minimise, and, when impacts occur, restore, and where significant residual impacts remain, offset for biodiversity-related risks and impacts on affected communities and the environment. The **conservation hierarchy** goes beyond mitigating impacts, to encompass any activities affecting nature. This means that conservation actions to address historical, systemic and non-attributable biodiversity loss can be accounted for in the same framework as actions to mitigate specific impacts. The TNFD aligns to the SBTN AR3T Framework that covers actions to avoid future impacts, reduce current impacts, regenerate and restore ecosystems, and transform the systems in which companies are embedded. It is built on the mitigation hierarchy set out in the International Financial Corporation's (IFC) Performance Standard 6 and the Conservation Hierarchy.	(Guidance under Disclosure 101-2) **The mitigation hierarchy** consists of steps, including avoidance, minimization, restoration and rehabilitation, and offset. An organization should prioritize actions to avoid negative impacts and minimize those impacts when avoidance is not possible. Restoration and rehabilitation measures should be implemented when negative impacts cannot be avoided or minimized. After applying all other measures, offsetting measures can also be applied to residual negative impacts to achieve no net loss or net gain. Building on the mitigation hierarchy, the Science Based Targets Network (SBTN) Initial Guidance for Business includes an additional step to cover transformative actions, which aim to change the socio-economic systems in which organizations are embedded. Additional conservation actions can be taken to create a positive impact on biodiversity beyond the management of the organization's negative impacts. (adapted from BBOP, IFC Performance Standard 6, SBTN)

Access and benefit sharing	Used in ESRS but not in glossary	Not used in TNFD	(Guidance under Disclosure 101-3) GRI'provides information on how the organization complies with access and benefit-sharing (ABS) regulations and measures regarding access to genetic resources and associated traditional knowledge held by Indigenous Peoples and local communities. These regulations and measures also establish the rules on fair and equitable benefit-sharing arising from the utilization of genetic resources and the associated traditional knowledge'. The guidance also refers to the following authoritative instruments: the Convention on Biological Diversity and the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization

3.1.3 Approach to materiality

Assessing the materiality of sustainability topics is the starting point for all recent sustainability disclosure initiatives. This section covers two aspects, i.e. 1°/ the impacts versus financial focus, and 2°/ the level of guidance offered.

With regards to this materiality assessment, the concept of double materiality was introduced. This has two dimensions, i.e. impact materiality and financial materiality. More detailed descriptions of definitions applied by the different frameworks can be found below.

For materiality specifically, EFRAG has worked to ensure a very high level of alignment between ESRS and the standards of the International Sustainability Standards Board (ISSB) and the Global Reporting Initiative (GRI). From the early development of the draft ESRS by EFRAG, the GRI served as an important reference point, and many of the reporting requirements in ESRS were inspired by the GRI standards.

However, there are differences between the approaches of ESRS, TNFD and GRI. These differences were already described in the report 'Accountability for Nature' (see Table 7). A short overview of the key findings on similarities and differences mainly based on this report, is provided in this paragraph. Input on the Topic standard GRI 101 was added by the authors of this report.

The **definitions of materiality** are aligned between the frameworks, but ESRS prescribes both financial and impact materiality ('double materiality'), TNFD accommodates the different approaches to materiality (with financial materiality as a baseline, and impact materiality included if organisations need or choose to report according to it) and the GRI materiality approach is based on impacts.

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- **ESRS** uses definitions of materiality that span both financial and environmental and social considerations. ESRS require use of double materiality. A sustainability matter is material if it meets the criteria for impact materiality or financial materiality or both. Impact materiality is determined based on whether the sustainability matter is related to a company's impacts (actual or potential) on people and the environment. Financial materiality uses the same definition as ISSB—a matter is considered to be material if omitting, misstating or obscuring information about it could reasonably be expected to influence decisions made by primary users of general purpose financial reports.

- **TNFD** uses a flexible materiality approach — allowing companies to assess and disclose information based on their own materiality preferences or requirements in their jurisdictions. Whether an issue is material will depend on the company's choice of materiality approach, which the TNFD recommends companies set out prior to their assessment. The TNFD disclosure recommendations also outline that companies should clearly state within their reports the materiality approach applied and be consistent across all of their disclosures. TNFD recommends that companies apply the ISSB's definition of materiality as a baseline[24]. Report preparers who want or need (e.g. because of jurisdictional requirement) to report to a different materiality approach may apply an impact materiality approach to identify information in addition. The TNFD recommends the impact materiality definition from GRI for report preparers who want or need to apply an impact materiality process in the absence of any regulatory guidance that may be relevant to the organization.

- **GRI Standards** reflect an environmental and social materiality approach. According to the GRI Standards, a topic is material when it "represents the organisation's most significant impacts on the economy, environment, and people, including impacts on human rights" (GSSB 2021).

[24] ISSB Standards use financial materiality, requiring companies to disclose information that could be relevant for investors and other target report users.

There is differing guidance on the process companies should follow to identify nature-related issues that are material, however ESRS and GRI refer to the LEAP approach by TNFD.

- **Both ESRS and GRI Standards** outline specific aspects of impacts that should be measured to determine the materiality of impacts. For actual negative impacts, the severity of the impact should be considered, determined by (1) scale, (2) scope and (3) irremediable character of the impact[25]. For potential negative impacts, both severity and likelihood should be considered. When assessing positive impacts, materiality is determined by (1) the scale and scope for actual impacts; and (2) the scale, scope, and likelihood for potential impacts.

  Both ESRS (for impact and financial materiality**)** and **GRI 101** (materiality based on impacts) specifically mention the use of thresholds to determine if impacts will be covered, and both **ESRS** as **GRI 101** refer to the LEAP approach by TNFD for materiality assessments.

  GRI 101 and TNFD include guidance on specific tools to determine significance of biodiversity impacts (Encore, SBTN Materiality Tool or SBTN High Impact Commodity List).

- **ESRS**, which also cover risks and opportunities, also specify that the materiality of these should be assessed based on their likelihood of occurrence and the potential magnitude of their financial effects.

- **TNFD** provides guidance on materiality assessment in the LEAP approach. While it does not prescribe a particular set of materiality criteria or thresholds, it offers guidance for both impact materiality assessment (LEAP approach component E4) and risk and opportunity materiality assessment (component A4) and recommends companies base the criteria for what they consider to be material on the definition of materiality that they choose to apply.

  The impact materiality assessment (E4) in LEAP is the relevant step for those organisations that need or want to disclose according to an impact materiality assessment, while component A4 is relevant for disclosures according to financial materiality.

An initial materiality screening to prioritise focus areas is recommended across the frameworks ESRS, TNFD and GRI

- In the **TNFD**'s LEAP approach, an initial scoping and prioritization, is complemented by an assessment of dependency and impact materiality at the last stage of the evaluation phase (E4), after measuring the dependencies and impact. The materiality of risks and opportunities is also assessed in the final stage of the Assess phase of LEAP (A4), while the decision on what information should be disclosed is made during the Prepare phase.

- According to the **ESRS and GRI Standards**, before proceeding with disclosures under individual topic standards, companies are required to conduct a materiality assessment to determine their material topics. One they have identified their material topics, they need to determine which topic standards to use[26] and what to report for each material topic. To report against specific topic standards, companies need to assess which impacts – and for ESRS also which risks and opportunities – are material.

[25] From GRI: Scale: how grave the impact is.// Scope: how widespread the impact is, for example, the number of species affected or the extent of ecosystem damage. // Irremediable character: how hard it is to counteract or make good the resulting harm

[26] There is a difference, as a material topic may not always fit exactly the scope of one Topic Standard and the company may need to use more than one Standard (or conversely, only part of a Standard) to report on the material topics identified

Table 7 Overview of definitions and conceptualization of materiality used in ESRS, TNFD and GRI 101 (Source: 'Accountability for Nature: Comparison of Nature-Related Assessment and Disclosure Frameworks and Standards')[27]

Framework	Materiality applied	Description of the materiality used	What are the criteria defining whether an issue is significant/material[28] or not?
ESRS	Environmental, social and financial materiality	According to ESRS, companies are required to report on sustainability matters based on the double materiality principle, which prescribes that an issue is material if it is relevant from either financial materiality or impact materiality perspective. ESRS outline the following definition of financial materiality: The financial materiality assessment corresponds to the identification of information that is considered material for primary users of general-purpose financial reports in making decisions relating to providing resources to the entity. Information is considered material for primary users of general-purpose financial reports if omitting, misstating or obscuring that information could reasonably be expected to influence decisions that they make on the basis of the undertaking's sustainability statement. ESRS outline the following definition of impact materiality: A sustainability matter is material from an impact perspective when it pertains to the undertaking's material actual or potential, positive, or negative impacts on people or the environment over the short-, medium- and long-term time horizons.	**Impact Materiality:** ■ Actual negative impacts: Severity of the impact (Severity is based on (1) the scale; (2) scope; (3) irremediable character of the impact) ■ Potential negative impacts: Severity and likelihood of the impact. ■ Actual positive impacts: Scale and scope of the impact ■ Potential positive impacts: Scale, scope and likelihood of the impact **Financial Materiality:** ■ likelihood of occurrence ■ the potential magnitude of the financial effects.
TNFD	Flexible	TNFD uses a flexible materiality approach, which supports the reporting needs of all report preparers and report users globally, including their preferences and regulatory requirements regarding materiality. Companies should set out their approach to materiality—aligning to external standards or regulatory requirements where appropriate—to help report users understand the context of the information being presented by the report preparer.	When assessing **financial materiality**, TNFD recommends consistency with the ISSB and TCFD by assessing which risks and opportunities are of the most significant financial effect by estimating magnitude, likelihood, vulnerability, speed of onset and additional criteria of the severity of impacts on nature and impacts to society. If assessing **impact materiality**, TNFD recommends companies align with the criteria set out by GRI, while referring also to the ESRS' impact materiality definition.

[27] The title of the last column of this table has been changed slightly compared to the original table in the Accountability for Nature report. Original title referred to criteria for materiality, while in fact the criteria apply to the significance of actual or potential impacts, risks and opportunities. To identify if a topic is material, there is an additional step (such as step 4 in GRI 3), where the organization prioritizes the issues and set a threshold to determine which impacts will be the focus of reporting.
[28] TNFD and ESRS prefer to use 'materiality criteria' while GRI prefers 'significance criteria'

GRI	Materiality based on the most significant impacts on the economy, environment, and people	The GRI Standards' materiality approach focuses on impacts, enabling companies to report on their most significant impacts on the environment, economy, and people. Material topics are defined by GRI as topics that represent the company's most significant impacts on the economy, environment, and people, including impacts on their human rights.	Criteria for determining the significance of the impacts: ■ Actual negative impacts: Severity of the impact (Severity is based on (1) the scale; (2) scope; (3) irremediable character of the impact) ■ Potential negative impacts: Severity and likelihood of the impact. ■ Actual positive impacts: Scale and scope of the impact ■ Potential positive impacts: Scale, scope and likelihood of the impact

3.1.4 Value chains

The high-level comparison of the approaches around the value chain between ESRS, TNFD and GRI is thoroughly analyzed in the Accountability for Nature report, and below a selection of the key findings can be found. The input from the updated GRI Biodiversity standard (GRI 101) was added to the key findings by the authors of his report.

Most approaches require the assessment and disclosure of the company's nature-related issues within their direct operations as well as upstream and downstream value chains. However, there is variation in the expected level of detail of upstream and downstream disclosures as well as the scope of value chain links expected to be covered.

- **ESRS, TNFD and GRI** set expectations for companies (organization and its business relationships) to assess and disclose not only the nature-related issues in their direct operations ('own operations' in ESRS terminology, 'sites' in GRI terminology) but also in their entire value chain.

- In general, the **ESRS** cross-cutting standards state that in sustainability statements, companies are required to include information on the material impacts, risks and opportunities (and dependencies) associated with their direct operations as well as their business relationships in the upstream and/or downstream value chains. Similarly, in the **GRI** Standards (see Section 2 in GRI 1: Foundation 2021), impact refers to the effect an organization has or could have on the economy, environment, and people, as a result of the organization's activities or business relationships. The **TNFD** recommends that companies disclose on the full set of material nature-related dependencies, impacts, risks and opportunities (DIROs), including climate, of their operations and across their value chains. This includes a consideration of the upstream and downstream value chains. For financial institutions, this includes financed, facilitated, investment and insured activities and assets.

- **TNFD** and **ESRS** provide broad guidance on how companies should prioritize their assessment of value chains to capture all nature-related issues that are relevant to disclose.

- Although **TNFD** recommends that companies disclose all material nature-related issues in their direct operations and value chains, it recognizes that some companies may need to take a "deep and narrow" or "broad and shallow" approach in the early years of their reporting. The value chain coverage should then be expanded over time.

- The **TNFD LEAP** approach recommends that during the Locate phase companies narrow down their value chain focus on parts that are most likely to be associated with nature-related issues using sector, geography and supply chain filters, including the SBTN High Impact Commodity List. TNFD, however, does not specify a cut-off for the proportion of value chain links that can be deprioritized from later stages of the assessment.

- The value chain prioritization outlined in the **ESRS** is closely aligned with **TNFD** recommendations, and **ESRS E2, E3, E4 and E5** all refer to the LEAP approach. **GRI 101** also refers to the LEAP approach, in particular to the Locate and Evaluate phase (in relation to biodiversity impacts).

Under certain circumstances, ESRS, TNFD and GRI 101 allow for a less detailed reporting on the value chain. This includes enabling a lower level of coverage and the use of proxy data.

- Both **ESRS** and **TNFD** prescribe, if companies are not able to collect the necessary information about their upstream and downstream value chain after making a reasonable effort to do so, they can instead estimate it, including using sector-average data and other proxies.

- **ESRS** in addition to this set out a transitional phase for the first three years of a company's sustainability reporting. Companies are allowed to omit value chain information during the transitional phase if it is not available, provided they explain why the information is not available, the efforts made to obtain it and plans to obtain it in the future. When disclosing information on policies, actions and

targets, companies may limit the information on their upstream and downstream value chain to information available in-house and publicly available information.

- **GRI 101:** The Reporting principle (see section 4 in GRI 1) guides the organization in ensuring the quality and proper presentation of the reported information (e.g. see the principle of accuracy). In addition, the disclosures in GRI 101 provide additional information on the type of data that can be reported. If no primary data is available, the organization can estimate the direct drivers and changes to the state of biodiversity, using multi-regional input-output models and lifecycle impact assessments in combination with data on the volume or amount spent on products and services. If an organization reporting in accordance with the GRI Standards (See section 3 Reporting in accordance in GRI 1) cannot comply with a disclosure or with a requirement (e.g., because the required information is not available or complete at the time of reporting), reasons for omission are permitted for all disclosures in GRI 101: Biodiversity 2024.

- For financial institutions, whose nature-related impacts and dependencies are primarily generated through their downstream investment portfolios rather than their direct operations, the **TNFD** has published an additional sector-specific guidance framework to guide financial institutions' reporting on nature-related issues in line with the TNFD Framework ("Additional Guidance for Financial Institutions", September 2023).

3.1.5 Transition plan

Neither the interoperability documents nor the Accountability for Nature report provide specific comparative findings on this characteristic. The below findings are based on the authors' own assessment.

Taking action to strengthen an undertaking's resilience to nature-related changes, developments and uncertainties and to achieve alignment of its **business model and strategy** with the vision of the GBF, is covered by all three disclosure initiatives, but there are important differences.

- Both **ESRS E4** and **TNFD** require to disclose how an organisation's biodiversity and ecosystem impacts, dependencies, risks and opportunities originate from and trigger adaptation of its strategy and business model. Both disclosure initiatives emphasize the importance of understanding the resilience of the undertaking's strategy and business model in relation to biodiversity and ecosystems, and of the compatibility of the undertaking's strategy and business model with regard to relevant local, national and global public policy targets related to biodiversity and ecosystems. **GRI** does not cover resilience of strategy and business model, given GRI's focus on impacts (not on risks and opportunities). However, GRI 2 disclosure 2-22 statement on sustainable development strategy provides information on how the organization's purpose, business strategy, and business model aim to prevent negative impacts and achieve positive impacts on the economy, environment, and people.

- Within **ESRS**, a disclosure requirement regarding a transition plan is only included under ESRS E1 on Climate Change (Disclosure Requirement E1-1 'Transition plan for climate mitigation') and ESRS E4 on Biodiversity and Ecosystems (Disclosure Requirement E4-1 'Transition plan and consideration of biodiversity and ecosystems in strategy and business model'). However, while disclosure of the climate-related transition plan is mandatory, this is not the case for the biodiversity-related transition plan.

- **TNFD** recommends disclosing the effect nature-related dependencies, impacts, risks and opportunities have had on the organisation's business model, value chain, strategy and financial planning, as well as any transition plans or analysis in place. .

- For **GRI**, the description of how an organization ensures that its business model is compatible with the transition to halt and reverse biodiversity loss, is an option (not a recommendation). GRI 3: Material Topics 2021 includes guidance on how 'organizations can also use information from broader enterprise risk management systems', which could include nature-related scenario analysis.

3.1.6 Nature-related impacts, dependencies, risks and opportunities

The high-level comparison of the approaches with regard to nature-related impacts, dependencies, risks and opportunities is thoroughly analyzed in the Accountability for Nature report, and below a selection of the key findings can be found. Input from the updated GRI Biodiversity standard (GRI 101) was added to the key findings by the authors of his report.

Coverage of impacts, dependencies, risks and opportunities is fundamentally different between ESRS/TNFD on the one hand and GRI on the other hand.

- Both the **ESRS and the TNFD** cover the disclosure of **material dependencies and impacts on nature**; and **risks to, and opportunities for the business organisation**. Both initiatives also state that in general, understanding dependencies and impacts on nature is a prerequisite for understanding risks and opportunities to the business.

- **GRI** is focused on **impacts**. GRI only partially covers dependencies and does not cover risks and opportunities at all. This is a key difference.

Assessment of impacts is central to all approaches. ESRS, TNFD and GRI recognize that a comprehensive analysis of business impacts on nature requires looking beyond the **impact drivers/pressures** resulting from business activities. They recommend or require that companies measure the **state of nature** and understand how the impact drivers/pressures resulting from their business activities lead to changes in the flow of ecosystem services and stock of ecosystem assets.

- Within the impact pathway, all three disclosure initiatives use the concept of **impact drivers** to identify how business activities contribute to the change of the state of nature. All approaches refer to the five IPBES direct drivers of biodiversity loss and ecosystem change: natural resource use and exploitation, land- and sea-use change[29], pollution, climate change and introduction of invasive species (IPBES 2019) (Figure 3-1). These are the main impact drivers but there are more (e.g. noise and light distribution), which is explicitly acknowledged by ESRS E4[30] and only indirectly by TNFD (noise and light pollution is mentioned as an additional indicator).

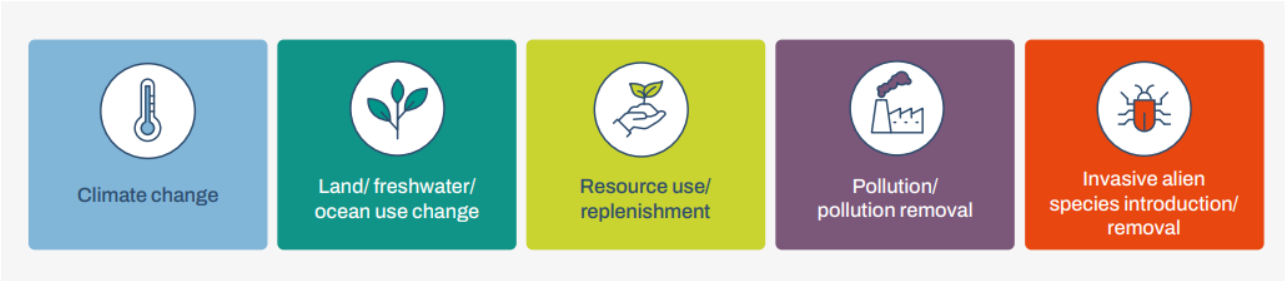

Figure 3-1: The IPBES five drivers of nature change (Source figure: TNFD recommendations)

- **State of nature** assessment is also recognized by all approaches as a necessary part of impact measurement that is expected to include both species- and ecosystem-level assessments. ESRS, GRI and TNFD all acknowledge that in addition to measuring impact drivers/pressures it is also desirable to measure (change of) state of nature, although the latter terminology is not always applied. ESRS does not use the term state of nature or state of biodiversity, but requires relevant metrics for addressing the state of nature (such as ecosystem condition and species related metrics). When it comes to disclosure metrics, ecosystem condition metrics are only required under GRI 101 while species-related metrics are voluntary in each disclosure initiative (see table with comparative overview of metrics in Annex 1). All disclosure frameworks/standards refer to the relevance of a baseline.

[29] TNFD also introduces freshwater-use change
[30] See ESRS E4 Application Requirement AR 4

- All disclosure framework/standards recognise that impacts can be positive or negative, and potential or actual. In their glossaries, GRI and ESRS add that impacts can be short-term or long-term, intended or unintended, and reversible or irreversible. TNFD specifies that impacts can be the result of an organisation's or another party's actions and can be direct, indirect or cumulative. The cumulative character of impacts is also recognized by GRI[31].

The process of identification, assessment and prioritization of impacts, dependencies, risks and opportunities is well aligned between ESRS and TNFD.

- For both the TNFD and ESRS, impacts and dependencies on nature are sources of risks and opportunities to the organisation.

- TNFD is unique[32] with its LEAP framework as additional guidance for supporting the process of identification and assessment of impacts, dependencies, risks and opportunities. TNFD's LEAP approach provides a detailed guidance to companies on how to identify and measure their nature-related impacts and dependencies, and on how this information should feed into the risk and opportunity assessment as well as the disclosure reports. ESRS, GRI and the TNFD itself refer to it as an approach that organisations can use.

- In its disclosure recommendations, TNFD also explicitly recommends describing how identification, assessment and prioritization processes are integrated into existing risk management processes.

The LEAP approach consists of four phases (see Figure 3-2), with the fourth phase addressing the outcome of the process. Figure 3-2 also provides a visual representation of the relevant information in the Application Requirements of ESRS E2-E5.

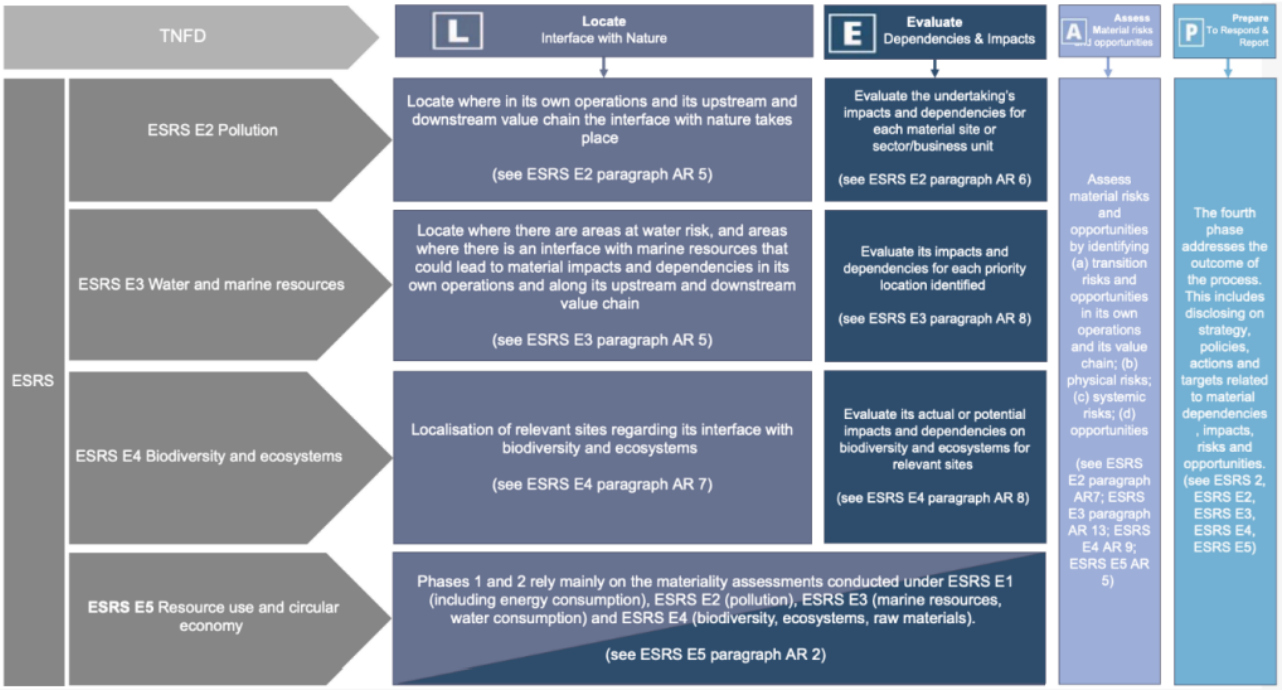

Figure 3-2: The Application Requirements of four environmental ESRS state that the organization may conduct its materiality assessment using the LEAP approach (Source: ESRS-TNFD concordance assessment draft of January 2024)

[31] See guidance on disclosure 101-2

[32] As a risk management and disclosure framework, TNFD has developed more guidance on how to perform such assessments. As sustainability reporting standards, ESRS and GRI set expectations for *reporting*. Sustainability reporting standards build on authoritative references, such as UN instruments, OECD, TNFD etc to develop standards, but it is not their mandate to develop such technical guidance.

ESRS and TNFD cover business **dependencies** on nature. There is increasing recognition that assessing business dependencies requires measuring companies' reliance on the ecosystem services as well as understanding how the ecosystem services and the state of nature supporting it might change.

- Measurement of business dependencies on nature can include different components: (1) measurement of the business's reliance on the ecosystem services, (2) measurement of impact drivers resulting from the business's own activities (3) measurement of external drivers of change, (4) assessment of the state of nature supporting the ecosystem services and (5) assessment of the availability and quality of the ecosystem services (UNEP 2023a). **TNFD** explicitly lists all five components in their recommendations on how business dependencies should be measured.

- The **ESRS** specify that companies should consider how they are affected by their dependencies on biodiversity and ecosystems and how their impact drivers could be affecting the ecosystem services upon which they depend. ESRS standards do not explicitly present measurement of external drivers of change and state of nature as an integral part of evaluating business dependencies on nature. Companies are, however, expected to disclose whether the ecosystem services they depend upon are likely to be disrupted. They are also encouraged to draw on climate and nature scenarios, as part of which, the impacts caused by other stakeholders in the landscape and expected changes in the state of nature would be considered.

- **GRI 101** asks companies to report how the ecosystem services upon which the companies and other stakeholders depend could be affected, but it does not provide a detailed guidance on how companies should measure the size of their dependencies on nature.

Nature-related **risks and opportunities** for business and finance are a fundamental part of approaches like ESRS and TNFD that consider financial materiality and they both adopt similar definitions.

- TNFD defines **risks** as potential threats (effects of uncertainty) posed to an organisation that arise from its and wider society's dependencies and impacts on nature. The ESRS definition of (sustainability-related financial) risks is aligned with the TNFD concept in terms of its effects on the business and their origination from environmental (and social or governance) matters.

- **Opportunities** are defined as potential positive effects on an organisation related to sustainability matters. TNFD further specifies nature-related opportunities as activities that create positive outcomes for both organisations and nature, by creating positive impacts on nature or mitigating negative impacts on nature.

- While nature-related impacts and dependencies have effects on nature and people, nature-related risks and opportunities relate to the assessed company only. When estimating the value of nature-related risks and opportunities faced by a given company, companies are expected to capture how the risks and opportunities relate to them and their performance.

- There are also similar categorizations of risks and opportunities (see Table 8):
  - ESRS and TNFD both differentiate between acute and chronic physical risks, transition risks and systemic risks. Also, the respective categories are largely similar between both disclosure initiatives (legal transition risks under ESRS are captured within liability transition risks under TNFD; as for systemic risks, ecosystem collapse risks under ESRS correspond to ecosystem stability risks under TNFD, while aggregated risk and contagion risk[33] under ESRS correspond to financial stability systemic risks under TNFD).
  - For opportunities, ESRS and TNFD are totally aligned. TNFD provides more guidance as illustrated in Figure 3-3). It's interesting to mention that ESRS and TNFD not only refer to business performance opportunities but also highlight opportunities that benefit nature through companies

[33] **Contagion Risk** (in financial risk management context) is the Risk that adverse events affecting one entity are quickly transmitted to other entities that are in some way related as part of broader network (Open Risk Manual); term is not in ESRS Glossary

improving their sustainability performance, such as ecosystem protection, restoration and regeneration and sustainable use of natural resources.

- While companies are typically expected to disclose the risks and opportunities associated with the most material effects on their financial performance and strategy, ESRS and TNFD recognize that all risks and opportunities associated with significant impacts on nature or society are material or will likely prove financially material to the company over time. ESRS and TNFD both outline that companies should assess the **likelihood and magnitude** of nature-related risks as well as their **type**. These factors should feed into the estimation of the **severity of the risks and opportunities** and their **current and anticipated financial effects**. Although both disclosure initiatives allow companies to determine the exact methodology and criteria for **identifying material risks and opportunities**, they require the companies to (1) align it with the definition of materiality and (2) document the methodology followed as part of their disclosure reports. **TNFD**, which does not prescribe a specific approach to materiality, recommends that all companies (including those using a financial materiality approach) **prioritize risks and opportunities** not only based on their likelihood and magnitude but also based on additional criteria, including the severity of impacts on nature and of implications for society. These additional prioritization criteria will capture the risks and opportunities that may not appear material based on the currently estimated likelihood and magnitude, but which could significantly affect a company's financial position or strategy over short-, medium- or long-term.

Table 8: Comparison between ESRS and TNFD with regard to risks and opportunities categories (Source: Accountability for Nature)

	ESRS	TNFD
Types of risks	**Physical risks**, including: ▪ Acute physical risks ▪ Chronic physical risks **Transition risks**, including: ▪ Policy and Legal ▪ Technology ▪ Market ▪ Reputation **Systemic risks**, including: ▪ Ecosystem collapse risks ▪ Aggregated risk ▪ Contagion risks	**Physical risks**, including: ▪ Acute physical risks ▪ Chronic physical risks **Transition risks**, including: ▪ Policy ▪ Market ▪ Reputation ▪ Technology ▪ Liability **Systemic risks**, including: ▪ Ecosystem stability ▪ Financial stability
Types of opportunities	**Business performance opportunities**, including: ▪ Resource efficiency ▪ Products and services ▪ Markets ▪ Capital flow and financing ▪ Reputational capital **Sustainability performance opportunities**, including: ▪ Ecosystem protection, restoration and regeneration ▪ Sustainable use of natural resources	
Information to be disclosed	For material risks and opportunities: ▪ Anticipated financial effects (For opportunities does not need to be quantified.) ▪ Whether they are likely to materialize in short-, medium- and long-term. ▪ Which impacts and dependencies the risks relate to. ▪ Critical assumptions used to estimate the financial effects, and the level of uncertainty	For material risks and opportunities: ▪ Description of each nature-related risk and opportunity identified ▪ Whether they are likely to materialize in short-, medium and long-term. ▪ How they arise from the company's dependencies and impacts on nature ▪ The TNFD risk and opportunity category to which the risk or opportunity belongs. ▪ Effects on the company's business model, value chain and strategy ▪ Effects on financial position ▪ Quantitative information covering all core global and core sector risk and opportunity metrics on a comply or explain basis, as well as any other relevant metrics. ▪ Related targets and transition plans, if applicable

Figure 3-3: Nature-related opportunity categories (Source: TNFD Recommendations)

3.1.7 Location disclosure requirements

The high-level comparison of the approaches with regard to location is thoroughly analyzed in the Accountability for Nature report, and below a selection of the key findings can be found. Input from the updated GRI Biodiversity standard (GRI 101) was added to the key findings by the authors of his report.

All approaches reflect the importance of location-specific nature-related assessment and disclosure and recommend that companies provide spatial data to capture these locations precisely.

The need for location information is paramount in all approaches.

- All nature-related assessment and disclosure approaches recognize that nature-related dependencies, impacts, risks and opportunities are location specific. The need for information on all locations where a company or its value chain partners have activities, is emphasized across the different approaches. For example, **TNFD's general disclosure** requirements state that the consideration of the **geographic location of the company's interface with nature** should be **integral to the assessment of nature-related issues** and their disclosure if they are material. The LEAP approach guidance recommends companies start their assessment by compiling a list of locations including their direct operations and value chain activities in order to locate their interface with nature.

Location specific disclosure is increasingly required. Some approaches require spatially explicit disclosure with varying degrees of precision for direct operations and upstream and downstream activities.

- For example, when companies disclose their nature-related dependencies and impacts as part of the **TNFD** Strategy A disclosure, the description should encompass the location of the dependency/impact with reference to the location(s) identified in Strategy D and specify whether the dependency/impact is related to the company's direct operations or to its upstream or downstream value chains. TNFD encourages companies to disclose spatial data as part of Strategy D disclosures, if possible, but this is not required (total spatial footprint (km2) is a core metric of TNFD, see metrics table in Annex 1).

- According to the **ESRS**, when companies are disclosing impacts and dependencies, they should break the information down by material site and describe where the sites are located[34]. Further information needs to be disclosed in relation to material sites negatively affecting biodiversity sensitive areas, such as specifying the activities and the biodiversity sensitive areas impacted[35].

- **GRI 101** requires companies to disclose the location of the sites with the most significant impacts on biodiversity. This disclosure should include the location and size in hectares of their sites, along with information related to the ecologically sensitive areas that are in or near these sites. GRI 101 also asks companies to report the products and services in their supply chains that have the most significant impacts on biodiversity and indicate the countries or jurisdictions where they are developed. The standard encourages disclosure of spatial data — recommending companies report on the locations of their direct operation sites using polygon outlines or maps where possible. For the supply chain, the standard acknowledges that spatial data may not be possible to report and requires companies to report the country or jurisdiction where the spatial data are not available while it recommends to report more precise geographic location if available.

Prioritization of locations is often recommended and there is increasing convergence on the criteria used to determine the ecological significance of areas.

- Recognizing companies can have multiple sites but do not necessarily have material nature-related issues in all of them, all approaches recommend a degree of **prioritization** between locations.

- Both **ESRS and GRI 101** are aligned with the location prioritization criteria recommended by TNFD. As part of component L3 of the LEAP approach, **TNFD** asks companies to identify where the value chain activities and direct operations with potentially moderate and high dependencies are located, along with the biomes and specific ecosystems that they interface with. In L4, companies identify where these are in ecologically sensitive locations, based on criteria such as ecosystem integrity, biodiversity importance, water risks and importance for communities (Figure 3-4).

- **GRI 101** puts forward a similar process that companies can follow to identify the locations with the most significant impacts on biodiversity. It recommends companies consider the direct drivers of biodiversity loss, the proximity to ecologically sensitive areas (GRI explicitly signals to be using TNFD's definition of ecologically sensitive areas), and the state of biodiversity.

- **ESRS E4** similarly recommends that companies identify sites that are likely to be material in the early stages of their assessments. It encourages the use of the LEAP approach and prioritizing sites based on integrity and importance of biodiversity and ecosystems. Some of the criteria defining biodiversity-sensitive areas are similar to the criteria for sensitive locations specified by TNFD but some differences remain.

[34] (ESRS 1) When needed for a proper understanding of its material impacts, risks and opportunities, the undertaking shall disaggregate the reported information: (a) by country, when there are significant variations of material impacts, risks and opportunities across countries and when presenting the information at a higher level of aggregation would obscure material information about impacts, risks or opportunities; or (b) by significant site or by significant asset, when material impacts, risks and opportunities are highly dependent on a specific location or asset.

[35] see ESRS E4 paragraphs 16 and 35

There is a divergence among approaches on the need to disclose locations with biodiversity significance that are not expected to be associated with material impacts or dependencies.

- **TNFD** disclosure recommendation Strategy D asks companies to disclose all priority locations in direct operations, upstream and downstream. This includes not only the locations where the company has identified material nature-related issues but also all locations where the company interfaces with ecologically sensitive areas (see Figure 3-4).
- **GRI 101**, on the other hand, requires companies to disclose only the sites with the most significant impacts on biodiversity and ecologically sensitive areas that are in or near these sites.
- **ESRS E4** also requires companies to disclose only own operation sites with material impacts and dependencies and provide information on the ecological status of the areas where they are located. In addition to this, companies are required to disclose any biodiversity-sensitive areas in these sites that are negatively impacted by the company's activities.

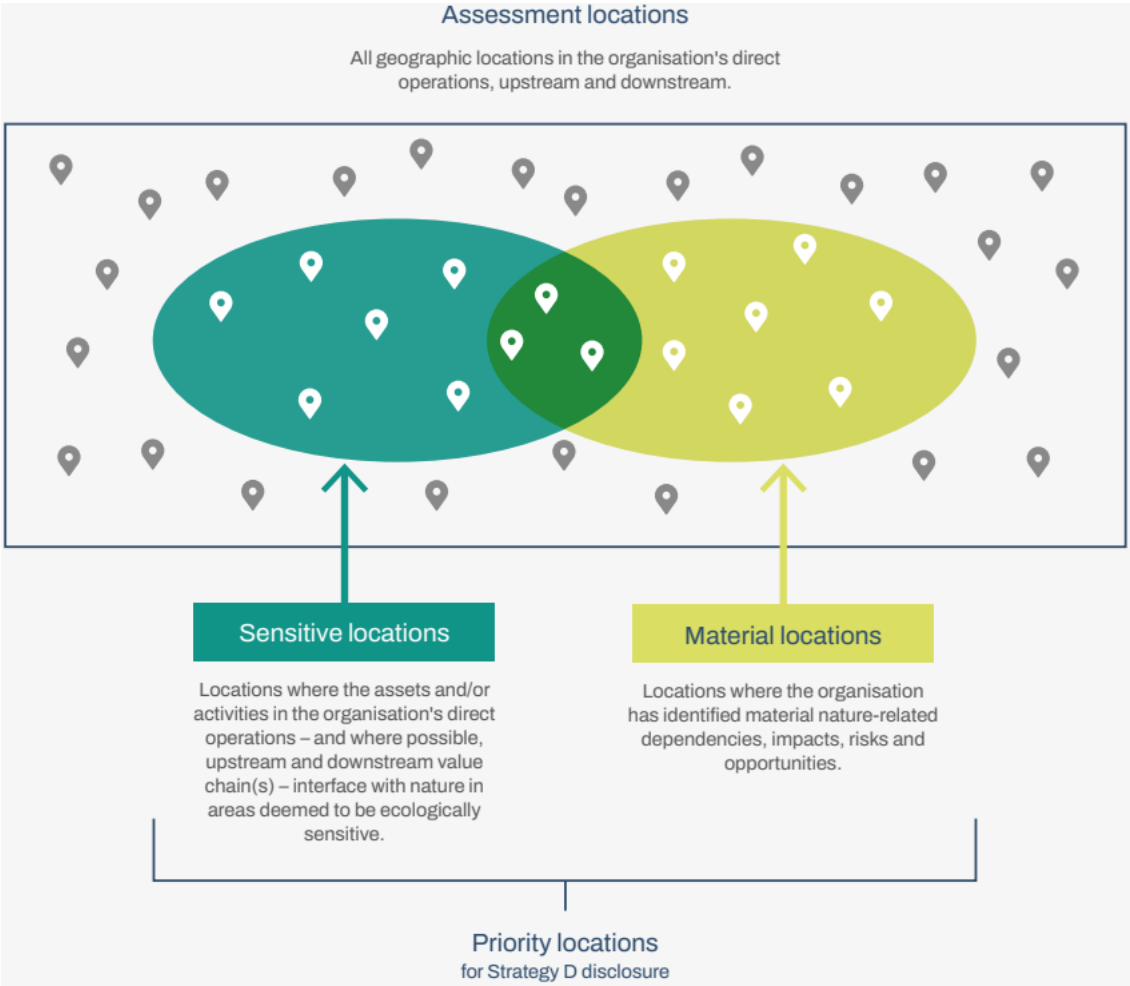

Figure 3-4: Assessment of priority locations – sensitive and material locations (TNFD Recommendations)

3.1.8 Policies and targets

Given the thin line between policies and targets, both are considered jointly. The high-level comparison of the approaches with regard to targets is thoroughly analyzed in the Accountability for Nature report. Below a selection of the key findings can be found. This is complemented by the authors of his report with elements related to policies and with recent information from the updated GRI Biodiversity standard (GRI 101).

The description of required high-level policies and disclosure is well aligned between ESRS, TNFD and GRI.

- **ESRS E4** specifically refers to the GBF, the Planetary Boundaries, relevant aspects of the EU Biodiversity Strategy for 2030 and other biodiversity and ecosystem-related national policies and legislation. **TNFD** refers to whether and how the target aligns with or supports the targets and goals of the GBF, the Sustainable Development Goals, Planetary Boundaries and other global reference environmental treaties, policy goals and system-wide initiatives. **GRI 101** requires disclosure on how the policies and commitments are informed by the 2050 Goals and 2030 Targets of the GBF or other authoritative intergovernmental instruments, and how the goals and targets are informed by scientific consensus (e.g. national strategies and actions plans developed in the context of the CBD, or independent assessment of ecological status of an area.

- In addition to this, ESRS also requires companies to describe how their targets align with the **mitigation hierarchy**.

All approaches require or recommend companies to set targets for strengthening their performance and action on nature-related issues, and regularly report on their progress towards these targets.

- **ESRS, TNFD and GRI** set expectations for companies to report information on whether and how they set **targets** for nature and biodiversity actions. They all encourage, or require, transparency on the targets the company might have and how they are set, with a specific timeframe and clear geographical and value chain scope. They also specify that companies should disclose their short-, medium-, and long-term targets, and demonstrate how these targets align with global policy goals.

The approaches designed to support disclosure are less prescriptive on how companies should set their nature-related targets, and recommend companies follow SBTN or other target-setting guidance.

- **GRI 101** allows companies to follow any approach to target setting that draws on methods supported by scientific evidence. It requires companies to describe the methods they have chosen to identify the targets as well as the metrics they have chosen to set those targets. GRI 101-1 complements what is required under GRI 3[36], which provides guidance on how to report goals and targets. Organizations should report 'whether and how the goals and targets take into account the sustainability context in which the impacts take place (e.g. sustainable development goals and conditions, the limits and demands placed on environmental resources) (see also the Sustainability context principle in GRI 1, which covers sustainability thresholds and how these should be considered by the reporting organizations).

- Although **TNFD** does not require a specific target-setting methodology to be followed in its disclosure recommendations, organizations are required to provide a description of the targets and associated metrics, and the methodology used to set the targets and baseline. TNFD's LEAP approach guidance, however, strongly recommends companies refer to the SBTN methods, and the TNFD has co-developed with the SBTN summary guidance on SBTN's methods for setting science-based targets for nature.

- The **ESRS** do not require a specific target-setting methodology either. Companies are, among other characteristics, required to describe whether they have used **ecological thresholds and allocations** of impact when determining their targets, and whether these thresholds and allocations are based on scientific evidence. ESRS E2, E3 and E5 also reference SBTN as a useful guidance.

While regular reporting on progress toward targets is required, the specific information to be provided as evidence of the progress varies among the approaches.

[36] See 3-3-e-ii (GRI 3)

- **ESRS, GRI, and TNFD** require companies to report the indicators and metrics used to evaluate their progress in achieving the targets as well as baseline data alongside their annual performance data to facilitate easier comparison.

- **TNFD** also asks companies to report any revisions or adjustments to nature-related targets and the justifications for these.

- Both **TNFD and GRI** expect companies to provide an explanation of any instances where the company exceeds or falls short of the target trajectory.

3.1.9 Action plan

The high-level comparison of the approaches with regard to actions is thoroughly analyzed in the Accountability for Nature report, and below a selection of the key findings can be found. Input from the updated GRI Biodiversity standard (GRI 101) was added to the key findings by the authors of his report.

ESRS, TNFD and GRI all require disclosure around 'Actions' on material impacts and include recommendations following the mitigation hierarchy.

- The ESRS require describing key actions and resources in accordance with the mandatory content defined in ESRS 2 MDR-A "Actions and resources in relation to material sustainability matters". The requirements include a list of actions and how their implementation contributes to the achievement of policy objectives and targets, scope, time horizons, information on remedies for those harmed by key material impacts and if applicable, quantitative and qualitative information regarding the progress. Where the implementation of an action plan requires significant operational expenditures and/or capital expenditures (Capex) the undertaking has to disclose a number of financial parameter (resources allocated, including, if applicable, sustainable finance instruments).

  ESRS E4 requires disclosure of biodiversity and ecosystems-related actions and the resources allocated to their implementation. The objective is to enable an understanding of the key actions (taken and planned) that significantly contribute to the achievement of biodiversity and ecosystems-related policy objectives and targets.

  Companies may disclose how it has applied the **mitigation hierarchy** with regard to its actions (avoidance, minimization, restoration/rehabilitation, and compensation or offsets)

- **TNFD** recommends that an organisation should describe the processes and actions it has put in place to respond to the material dependencies, impacts, risks and opportunities it has identified and recommends that, in responding to risks and opportunities, business actions that avoid or minimise negative impacts on nature should be prioritised over pursuit of restoration efforts or mitigation of existing damage through reconstructive or compensatory measures. TNFD recommends that organizations follow SBTN's Action Framework for the mitigation hierarchy, AR3T. The AR3T Framework (Figure 3-5) includes four types of actions that should be followed sequentially: Avoid, Reduce, Regenerate and Restore. It further includes transformative action, which covers the ways organisations can contribute to needed systemic change inside and outside their value chains.

- **GRI 3** (Material topics) requires the organization to explain how it responds to its impacts. It does not require a detailed description of actions taken in relation to each impact. Instead, the organization can provide a high-level overview of how it manages its impacts, and should report examples of actions taken to prevent, mitigate or remediate potential negative impacts. It is also required to report information about the effectiveness of actions.

  In addition, **GRI 101** requires **mandatory reporting on how an organization applies the mitigation hierarchy** by describing actions to avoid and minimize negative impacts, to restore and rehabilitate affected ecosystems (including the goals and how stakeholders are engaged), to offset residual negative impacts and transformative and additional actions taken.

Figure 3-5: The AR3T Framework by SBTN

With regards to **offsets**, GRI 101 requires reporting for each offset the goals, the location, whether and how principles of good offset practices are met, and whether and how the offset is certified or verified by a third party.

3.1.10 Metrics

The high-level comparison of the approaches with regard to metrics is thoroughly analyzed in the Accountability for Nature report, and below a selection of the key findings can be found. Input from the updated GRI Biodiversity standard (GRI 101) was added to the key findings by the authors of his report.

All approaches encourage companies to disclose not only a description of their material nature-related issues but also metrics and their performance against the metrics.

- **ESRS E4** requires the disclosure of metrics related to its material impacts on biodiversity and ecosystems. In some cases, specific metrics are not prescribed, but rather aspects that relevant metrics could measure. ESRS 1 also includes provisions on the use of entity-specific disclosures "when an undertaking concludes that an impact, risk or opportunity is not covered or not covered with sufficient granularity by an ESRS".
- **TNFD** requires an organisation to disclose the indicators and metrics used to measure and manage the material nature-related risks and opportunities described in Strategy A and the material impacts and dependencies described in Strategy B. To achieve this, an organisation should disclose the metrics that are most relevant to and most accurately represent the nature-related risks and opportunities, as well as the nature-related dependencies and impacts on which it is reporting.
- **GRI 101** has no specific disclosure requirement called 'Metrics'. Metrics that should be disclosed are specified under the different disclosures of the standard.

Between the approaches, there is variation in the level of prescriptiveness on the choice of metrics.

While the inclusion of **metrics** is core to assessment and disclosure, there are varying levels of flexibility in the choice of metrics that are required or recommended to disclose across the approaches. ESRS, GRI and TNFD all prescribe some specific metrics that companies need to disclose (prescribed and uniform for all reporting organisations) but expect companies to go beyond these and disclose metrics on all nature-related issues that are material to the reporting company:

- The **GRI** Standards explicitly require disclosure of several metrics if the given nature-related issues are material for the reporting company. The choice of the metrics is defined by its relevance, as impacts can manifest themselves in different ways between companies. One metric may be more relevant to company A to measure its impact on biodiversity while another metric will be relevant for company B.
- **TNFD** has developed a specific metrics architecture (Box 1) which includes assessment and disclosure metrics. The 14 core disclosure metrics are to be disclosed on a comply or explain basis for all companies looking to report in line with the TNFD recommendations. These are complemented with

core disclosure metrics for specific sectors and biomes. The TNFD also provides an extensive list of additional disclosure metrics that organizations should disclose, where relevant, to best represent their material nature-related issues, based on their specific circumstances, and a list of assessment metrics in the LEAP approach guidance. The metrics disclosed should include:
  - All core global and core sector risk and opportunity // impacts and dependencies metrics listed in Annex 1 and in relevant sector guidance reported at the organizational level; and
  - Any other relevant metrics, drawing on the TNFD additional disclosure indicators and metrics listed in Annex 2 and the organization's own assessment metrics as appropriate, reported at the appropriate organizational level (e.g. site, product, service, region or organization).
- **ESRS** prescribe some metrics but, in many cases, give companies the flexibility to select their own so long as they align with the necessary qualitative characteristics of information. Companies reporting against ESRS E4 on biodiversity and ecosystems are required to disclose two specific metrics: (1) the number and (2) the area size (in hectares) of sites owned, leased, or managed in or near biodiversity-sensitive areas that the company is negatively affecting. For other biodiversity and ecosystem sub-topics identified as material, ESRS E4 gives companies the flexibility to choose their own metrics but provides specific recommendations regarding the elements these metrics should cover.
- All disclosure initiatives provide or will provide sector-specific metrics too.

Box 1: TNFD metrics architecture

TNFD has adopted a leading indicator approach, which includes different categories of metrics (*Figure 3-6* and *Figure 3-7*):
- A small set of **core metrics** – 'core global metrics' that apply to all sectors and 'core sector metrics' for each sector – to be disclosed on a comply or explain basis; and
- A larger set of **additional metrics**, which are recommended for disclosure, where relevant, to best represent an organisation's material nature-related issues, based on their specific circumstances

The TNFD's recommended core disclosure metrics are organised around **14 core global indicators** (not only biodiversity), 9 of them relating to impacts and dependencies on nature and 5 of them relating to nature-related risks (3 indicators) and opportunities (2 indicators) to the organization. **Additional disclosure metrics** are provided for impacts and dependencies as well as for risks and opportunities, but now also for responses.

The TNFD's metrics enable assessment and disclosure of positive as well as negative impacts. The core disclosure metrics on impacts are focused on impact driver metrics, but TNFD also acknowledges the importance of understanding changes to the state of nature and ecosystem services by including two so-called **placeholder indicators**, i.e. ecosystem condition and species extinction risk. Reporting on a comply or explain basis is not required for placeholder indicators. TNFD encourages organisations to consider placeholder indicators and report against them where possible. The other placeholder indicator is invasive alien species.

The TNFD's recommended disclosure metrics are listed in Annex 1 (core 'global' disclosure metrics) and Annex 2 (additional disclosure metrics) of the TNFD Recommendations. Annex 2 provides an extensive list of metric categories and metric examples.
Sector-specific metrics form an important part of the TNFD metrics architecture. This reflects the diversity of business models across value chains and their interface with biomes across and within sectors. Metrics that are specific to sectors can help financial institutions to compare organisations within that sector, which often face common nature-related issues. The TNFD's core sector metrics are provided in each sector guidance document[37] (which also includes guidance on the application of the core global disclosure indicators). Where there is not yet TNFD sector guidance, an organisation can refer to industry best practice and guidance from organisations such as GRI or SASB.

TNFD also provides a list of assessment metrics (not intended for disclosure) in the LEAP approach guidance.

[37] at the moment of drafting this report, TNFD has published only draft sector metrics subject to consultation until March 29, 2024

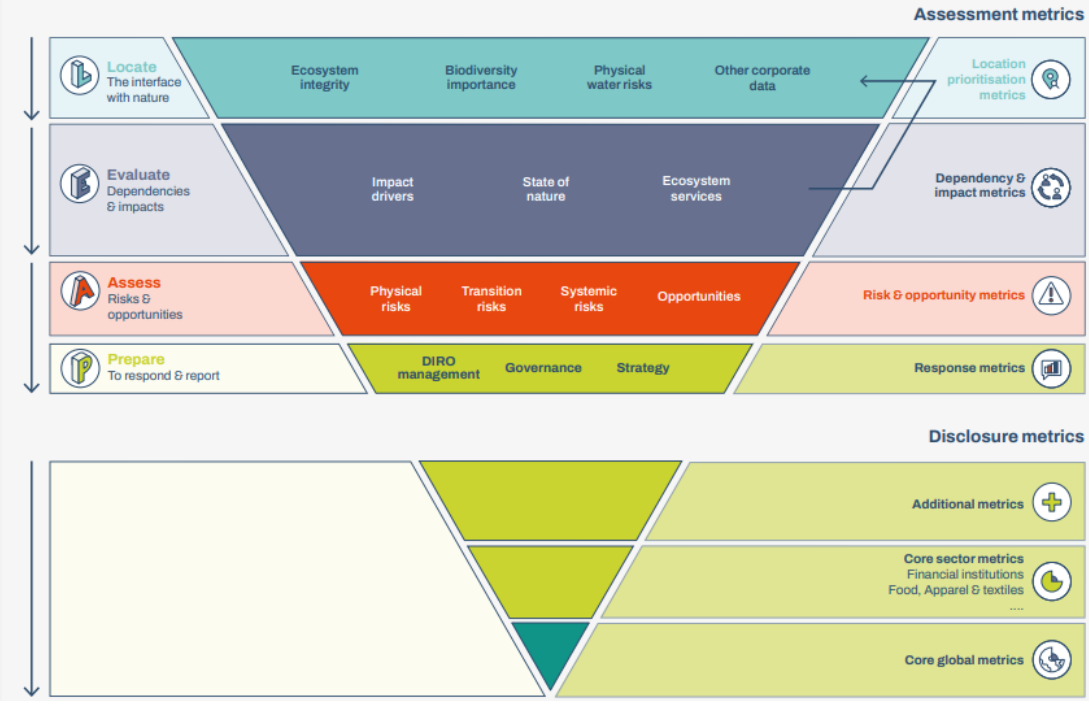

Figure 3-6: TNFD metrics architecture

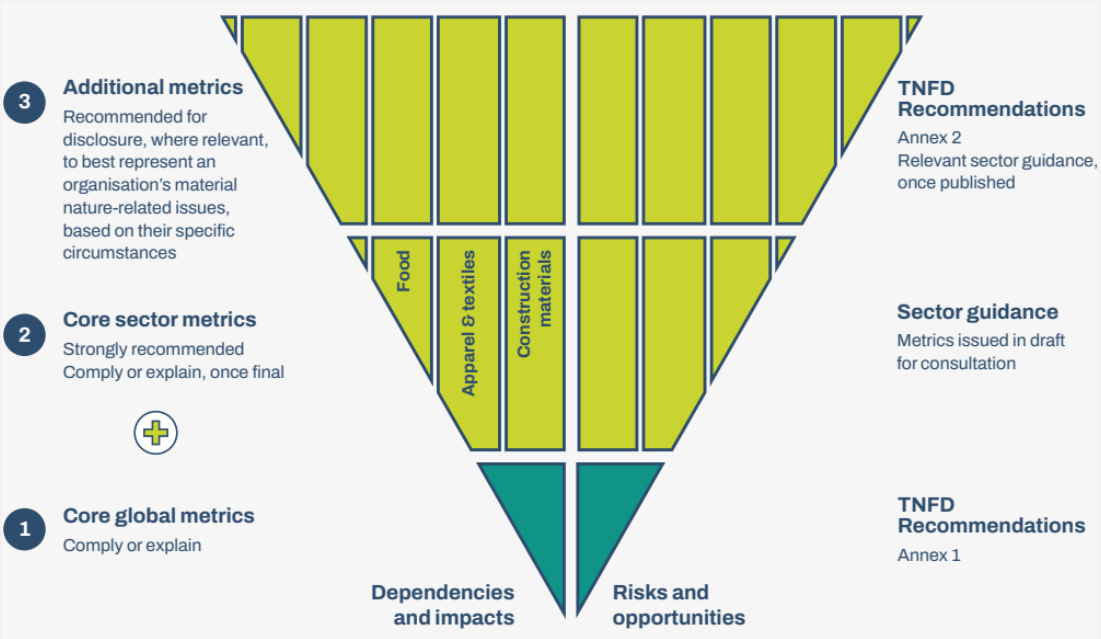

Figure 3-7: TNFD's approach on disclosure metrics

Metrics need to be compliant with a number of principles.

- ESRS and GRI have no specific list of principles related to metrics, but refer to general reporting principles. For **ESRS**, metrics need to be in line with the requirements of ESRS 1, Appendix B on 'Qualitative characteristics of information'. Although this section refers to the whole set of information which is included in the 'sustainability statement', it also applies to the metrics. This Appendix B covers the following issues: relevance, faithful presentation, comparability, verifiability, understandability. Metrics disclosed under **GRI** should be compliant to GRI's reporting principles as specified in GRI 1: Foundation 2021. These reporting principles are accuracy, balance, clarity, comparability, completeness, sustainability context, timeliness and verifiability.

- **TNFD** has developed specific principles related to metrics. Metrics should be:
  - Science-based and provide insights into the consequences of business and finance activities;
  - Be sensitive enough to reflect change on an annual basis;
  - Relevant to the business model and value chain of report preparers, recognising that issues within sectors, business models and value chains can vary significantly;
  - Proportionate, reflecting the practical capacity and cost constraints of report preparers to assemble, assess and report information on an annual reporting cycle basis;
  - Decision-useful to the primary users of corporate sustainability reports, including providing current insights and comparability within and across sectors;
  - Subjectable to independent limited assurance in the medium term; and
  - Aligned to global and national policy goals and targets, such as the indicators and metrics in the GBF measurement framework and other international treaties

  The TNFD Guidance on the LEAP approach includes an extensive section in Annex 2 on how to select suitable metrics for measuring ecosystem condition and species extinction risk.

Overall, metrics-related principles are not fully aligned between ESRS, TNFD and GRI, but differences are not substantial.

The metrics in-depth assessment table contains detailed information on 'information to be disclosed for each metric'. As there is a thin line between reporting principles and information to be disclosed, it is useful to read this section on principles together with the metrics table in Annex 3.

3.1.11 Financial effects

Neither the interoperability documents nor the Accountability for Nature report provide specific comparative findings on this characteristic. The below findings are based on the authors' own assessment.

Financial effects of nature-related risks and opportunities are only covered by ESRS and TNFD. They both require an organisation to disclose the current and anticipated financial effects of its material risks and opportunities on its financial position, financial performance and cash flows. TNFD has developed extensive guidance on assessing and disclosing financial effects related to nature-related risks and opportunities (in its LEAP guidance, see Figure 3-8). This characteristic is out of scope for GRI since it is related to risks and opportunities.

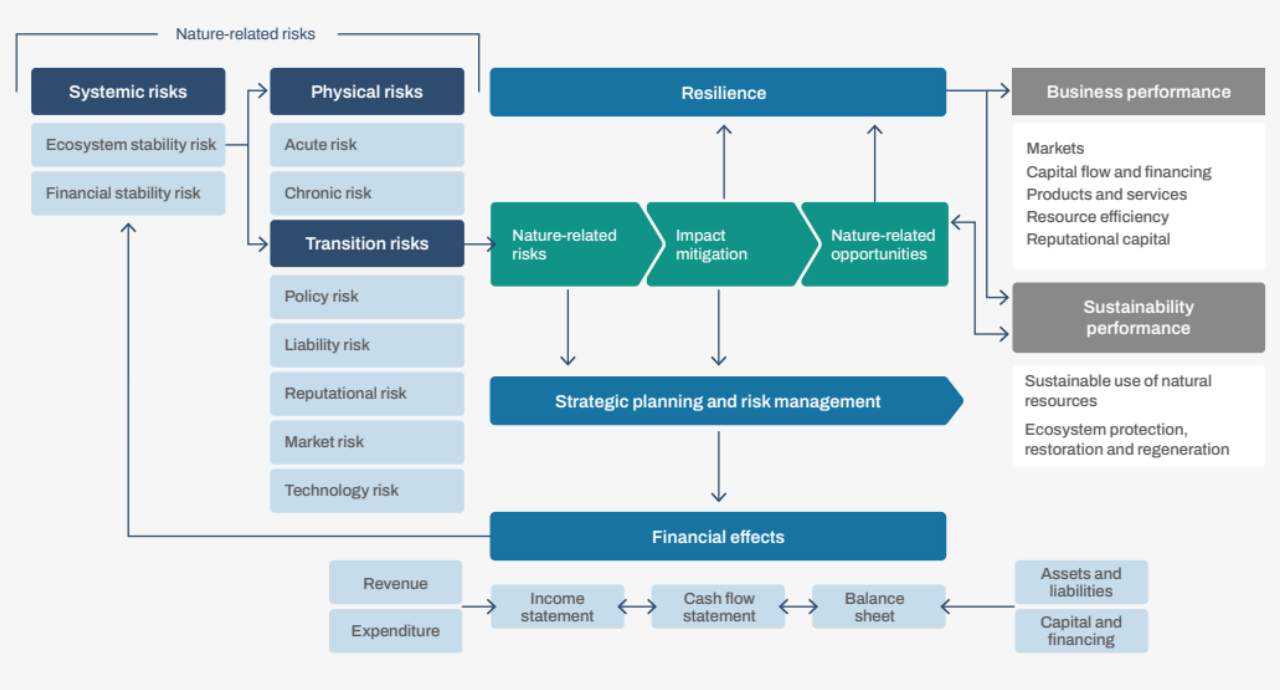

Figure 3-8: Links between nature-related risks and opportunities, business performance and financial effects (Source: TNFD LEAP Guidance)

3.2 In-depth comparative analysis on biodiversity

3.2.1 Approach

This in-depth review on biodiversity covers only those characteristics where the in-depth assessment brings in additional relevant information compared to the high-level assessment. This was not the case for reporting pillars, concepts and definitions, materiality and value chain.

The in-depth analysis on each characteristic is based on detailed comparative tables (Annex 3) clarifying similarities and differences between ESRS, TNFD and GRI. The tables provide a clear conclusion with regard to comparability.

It should be noted that the comparative analysis mainly focuses on the obligatory elements of ESRS (the 'shall') as this will also be the key focus of businesses, at least for the first reporting years. The voluntary elements (the 'may') are covered in a less detailed way. However, where voluntary elements of ESRS E4 are (largely) similar to the TNFD Recommendations or the GRI 101: Biodiversity 2024 standard, this will be mentioned. Table 11 in Annex 2 shows that ESRS E4 has 55 'shall' data points, of which 43 subject to materiality assessment, and 62 'may' data points. In addition, there are a number of obligatory data points for Minimum Disclosure Requirements (MDR) related to Policies, Actions, Targets and Metrics. From the more detailed list of ESRS E4 data points in Table 12 in Annex 2, it is clear that the majority of voluntary data points is linked to the disclosure requirements on the transition plan (E4-1), policies (E4-2), actions (E4-3) and metrics (E4-5).

Disclosure requirements of ESRS and GRI are referenced as DR and specified with the relevant numbering (e.g. DR E4-1 for ESRS and DR 101-7-a for GRI). Specific clauses of ESRS are referenced by their number (e.g. DR E4-6, 43 and 44). Application requirements of ESRS are referenced as AR and specified with the correct numbering. GRI guidance on its disclosure requirements is mentioned with the number of the disclosure requirement, followed by 'guidance'. TNFD Recommendations are referenced by the name of the pillar and the letter of the recommendation (e.g. Strategy B). Specific steps of TNFD's LEAP Framework are referenced by their code (e.g. E3 or A2).

To improve readability and digestibility of the comparative tables in the next sections, disclosure topics are split into subtopics where relevant. For the same reason, the content of the tables in the columns covering the disclosure framework/standards is not always the original text of the respective disclosure initiatives. The authors have tried to balance a pragmatic approach aimed at offering the reader the essence of the information

in a user-friendly way with the need to present as much as possible the correct and complete information. The references to the relevant parts of the disclosure initiatives allow the reader to go through all the details in the original text.

Finally, despite the fact that the comparative approach is based on a distinct set of disclosure characteristics, it must be said that many of these characteristics are cross-referenced throughout the whole text of the respective standards or recommendations (e.g 'value chain' is mentioned throughout the respective disclosure framework/standards). This makes it challenging to select the most relevant parts in the disclosure framework/standards for discussing and comparing these topics.

3.2.2 Clarifications regarding the additional comparative table on disclosure metrics

Disclosure metrics are a key characteristic of the comparative analysis between ESRS E4, TNFD and GRI 101. The in-depth comparative table on metrics in Annex 3 does not provide the right format for comparing the specific disclosure metrics which are required or recommended by the respective disclosure framework/standards. Therefore, an additional table (see Annex 1) has been developed listing all disclosure metrics which are explicitly mentioned by ESRS E4, TNFD and GRI.

The table provides detailed information on typology of metrics (e.g. core metric, additional metric) and obligatory character and adds the correct references. The metrics and indicators in the table are structured according to the following categories:

- Proximity to biodiversity sensitive areas
- Drivers of biodiversity loss: land use change / invasive alien species;
  Note: *drivers of biodiversity loss which are covered in other ESRS topical standards (climate change, pollution, overexploitation) are not included in the table, for none of the disclosure framework/standards)*
- State of biodiversity: ecosystem extent and condition / species
- Ecosystem services
- Responses
  Note: *only TNFD has a specific category of 'response'-related indicators and metrics; however, land use-related metrics under ESRS that measure restored land etc. can also be considered as 'response' metrics and therefore are included under this category in the table; the same applies to a number of GRI 101 indicators*.

Conclusions related to this table are provided in the in-depth comparative table on metrics in Annex 3 and summarized in Table 9). The table provides a clear conclusion with regard to comparability of the different explored disclosure characteristics and the resulting level of effort (low, medium, high) required to move from ESRS E4 compliance to compliance to the corresponding requirements under TNFD and/or GRI 101 and vice versa. Comparability covers two aspects, i.e. 1°/ whether there is a gap in scope, meaning that organizations will have to collect additional information to comply with the other standard/framework, and 2°/ whether the data between the standards/framework is similar or not, meaning that organizations may have to collect additional data to comply with the other framework or standard. Highly comparable characteristics will result in minimal efforts for moving from ESRS E4 compliance to TNFD/GRI 101 compliance or vice versa. Although the focus is on the requirements related to biodiversity, it is clear that the level of alignment between the disclosure framework/standards with regard to cross-cutting disclosure requirements is an important factor for assessing the level of comparability and related efforts.

We acknowledge that there are overlaps between the characteristics. As explained before, it is very hard to completely separate the different characteristics from one another. Therefore, the summary conclusions in the below table should not be considered as mathematical scores that can be summed up into overall scores for the different disclosure initiatives. The summary conclusions only aim to provide clarity in the level of effort to move from ESRS E4 compliance to TNFD or GRI 101 compliance and vice versa.

Table 9 in the conclusions section below.

3.3 Conclusions of the comparative analysis

As a conclusion, the following statements can be made:

- Overall, ESRS E4, TNFD and GRI are **well aligned** on most of the selected characteristics. However, differences remain.
- Both the TNFD recommended disclosures and the ESRS reporting areas are organised around the same four disclosure pillars: Governance, Strategy, Risk and Impact Management, and Metrics and Targets. GRI is largely aligned as it covers governance, strategy, impact management, and metrics and targets. There is a difference in the third pillar, i.e. **nature-related risks and opportunities** is not covered by GRI. This is a key **difference**. GRI 101 has a focus on impacts and to a minor extent on dependencies.
- Despite some minor differences, **concepts and definitions** related to nature, biodiversity and ecosystems are largely aligned between the three disclosure initiatives
- Definitions of **materiality** are aligned between all frameworks. ESRS prescribes both financial and impact materiality, while TNFD prescribes a flexible approach to materiality, starting from financial materiality as a minimum, and impact materiality to be used depending on needs and preference of the company. GRI focusses on materiality based on impacts.
- TNFD is unique with its **LEAP framework** as additional guidance for supporting the process of identification and assessment of impacts, dependencies, risks and opportunities, but both ESRS E4 (as well as ESRS 2, 3 and 5) and GRI 101 refer to it as a voluntary approach.
- ESRS, TNFD and GRI set expectations that companies assess and disclose not only the material nature-related issues in their direct operations but also in their entire **value chain**. Given the challenges related to data collection in the upstream and downstream parts of the value chain, all disclosure frameworks allow for a less detailed reporting on upstream and downstream. This includes enabling a lower level of coverage and the use of proxy data.
- Taking action to strengthen an undertaking's **resilience** to nature-related changes, developments and uncertainties and to achieve alignment of its business model and strategy with the vision of the Kunming-Montreal Global Biodiversity Framework, is covered by all three disclosure initiatives, but there are important differences:
  - the disclosure of **transition plans** according to ESRS E4 is not mandatory.
  - TNFD recommends disclosure of transition plans (condition for compliance to TNFD recommendations).
  - for GRI 101, the description of how an organization ensures that its business model is compatible with the transition to halt and reverse biodiversity loss, is an option, not even a recommendation.
- Assessment of **impacts** is central to all approaches. They all consider actual and potential impacts, as well as negative and positive impacts. Similar criteria on materiality (ESRS, TNFD) or significance (GRI 101) are applied, i.e. severity and likelihood. ESRS E4, TNFD and GRI 101 recognize that a comprehensive analysis of business impacts on nature requires looking both to impact drivers/pressures resulting from business activities and state of nature. They all rely on a similar approach on measuring state of biodiversity (extent and condition of ecosystems, species). All approaches refer to the five IPBES direct drivers of biodiversity loss and ecosystem change. ESRS and TNFD cover business **dependencies** on nature. GRI 101 asks companies to report how ecosystem services and its beneficiaries are affected and this can include the reporting organization itself (indirectly referring to dependencies).
- ESRS and TNFD are well aligned in terms of definitions and categories of **risks**. Both differentiate between acute and chronic physical risks, transition risks and systemic risks. ESRS and TNFD both outline that companies should assess the likelihood and magnitude of nature-related risks as well as their type. ESRS and TNFD are well aligned in terms of **opportunities** too. TNFD provides more guidance. ESRS and TNFD not only refer to business performance opportunities but also highlight opportunities that benefit nature, such as ecosystem protection, restoration and regeneration and sustainable use of natural resources. GRI doesn't cover opportunities.
- The factor '**location**' is very important in each of the disclosure initiatives. The **TNFD** uses the definition of **'priority' locations**. This includes not only the locations where the company has identified material nature-related issues but also all locations where the company interfaces with **ecologically sensitive areas**. ESRS and GRI ask to disclose 'material' sites or locations, including sensitive locations as a sub-set of this list. While TNFD and GRI are fully aligned regarding the definition of 'sensitive location', the **ESRS definition of a biodiversity sensitive area** is **more specific**, as it refers to protected areas or key biodiversity areas identified in certain regulations or frameworks. There is also a difference with

regard to the value chain. TNFD recommends disclosing all priority locations in direct operations, upstream and downstream. GRI requires disclosure of locations in direct operations and in the supply chain (at country or jurisdiction level). ESRS E4 requires this only for direct operations.

- The description of required high-level **policies** and disclosure is well aligned between ESRS E4, TNFD and GRI 101. They all recommend to disclose whether and how targets are aligned with or informed by the **GBF**. ESRS E4 and TNFD recommend alignment with the **Planetary Boundaries**. ESRS E4 requires to disclose if the organisation has adopted sustainable land/agriculture practices or policies, sustainable oceans / seas practices or policies to address deforestation. Both other frameworks do not specify particular policies.
- **Target** types are quite similar between ESRS and TNFD, as in both cases they should cover all material nature-related impacts, dependencies, risks and opportunities. Again, within GRI targets are related to impacts. All disclosure initiatives provide additional information on which type of targets are in scope. On this point, TNFD considers both **process-related targets** (impact drivers, state of nature, ecosystem services, business processes, …) and **policy-related targets** (e.g. GBF, planetary Boundaries). It's worth mentioning here that TNFD has co-developed with the SBTN summary guidance on SBTN's methods for setting science-based targets for nature. ESRS E4 refers to similar policy targets but adds specific EU-related references (such as EU Biodiversity Strategy, EU Taxonomy). GRI 101 refers to (optional) goals and targets to achieve net positive impact, no net loss and net gain of biodiversity, or to **contribute to nature positive** goals. Specific requirements of ESRS E4 are related to reporting of offsets and to linking the targets to the layers of the mitigation hierarchy.
- Both ESRS E4 and TNFD refer to the concept of **ecological thresholds,** while GRI uses the concept of sustainability thresholds which also applies to biodiversity. Within ESRS E4 this is linked to targets, while TNFD applies this concept in the process of identifying, assessing and prioritising nature-related DIRO. If the company is applying thresholds, ESRS E4 requires to disclose a number of additional specifications.
- ESRS E4, TNFD and GRI 101 are quite aligned in terms of disclosure requirements on **actions**. They all adhere to the **mitigation hierarchy** but vary to some extent with regard to the required disclosure. GRI 101 is most demanding as it makes a description of how a company applies the mitigation hierarchy, mandatory. All frameworks require disclosure on offsets. GRI has a mandatory disclosure metric on geographical location of offsets while TNFD has an 'additional' disclosure metric (value of offsets). Finally, it's worth mentioning that TNFD and GRI 101 both ask to report on transformative action while there is no reference to this type of actions in ESRS E4.
- ESRS, GRI and TNFD all prescribe some specific **metrics** that companies need to disclose but expect companies to go beyond these and disclose metrics on all nature-related issues that are material to the reporting company. In contrast to the well-structured architecture of indicators and metrics, applied by TNFD, ESRS and GRI do not apply a specific categorization of metrics.
- There are **many overlaps in terms of the indicators** between ESRS E4, TNFD and GRI 101, mainly in the fields of land use, invasive alien species, ecosystem extent and condition, and species. In terms of the **metrics** (the way indicators are measured) there are **important differences** which have a substantial impact on the efforts for data collection. TNFD has a series of obligatory and quite prescriptive indicators and metrics related to land and sea use change, which also include high-risk natural commodities. Not all areas are covered by every disclosure initiative or are not covered at the same level of granularity. As an example, while ESRS E4 contains disclosure requirements related to ecosystem services, it does not prescribe the reporting of specific metrics on that topic. Proximity to biodiversity sensitive areas is not included as a specific disclosure metric under TNFD although this information is covered for identifying priority locations. Disclosure on species (e.g. extinction risk, population size) remains voluntary under each of the disclosure initiatives, A final observation is that in contrast to ESRS E4, the number of obligatory disclosure metrics under GRI 101 is relatively high (although this is highly dependent on the specific circumstances of the organization such as number of relevant direct drivers).
- In line with the differences in terms of reporting on the value chain (see above), ESRS E4 only asks for metrics' information to be disclosed for own operations, while TNFD requires metrics information for the organisation's direct operations, and – to the extent possible – upstream and downstream value chain(s) and GRI requires metrics information for its sites as well as products and services in its supply chain.
- Both ESRS and TNFD require an organisation to disclose the current and anticipated **financial effects** of its material risks and opportunities on its financial position, financial performance and cash flows. TNFD has developed extensive guidance on assessing and disclosing financial effects related to

nature-related risks and opportunities (in its LEAP guidance). This characteristic is out of scope for GRI since it is related to risks and opportunities.

These outcomes are summarized in the table below (see Table 9). The table provides a clear conclusion with regard to comparability of the different explored disclosure characteristics and the resulting level of effort (low, medium, high) required to move from ESRS E4 compliance to compliance to the corresponding requirements under TNFD and/or GRI 101 and vice versa. Comparability covers two aspects, i.e. 1°/ whether there is a gap in scope, meaning that organizations will have to collect additional information to comply with the other standard/framework, and 2°/ whether the data between the standards/framework is similar or not, meaning that organizations may have to collect additional data to comply with the other framework or standard. Highly comparable characteristics will result in minimal efforts for moving from ESRS E4 compliance to TNFD/GRI 101 compliance or vice versa. Although the focus is on the requirements related to biodiversity, it is clear that the level of alignment between the disclosure framework/standards with regard to cross-cutting disclosure requirements is an important factor for assessing the level of comparability and related efforts.

We acknowledge that there are overlaps between the characteristics. As explained before, it is very hard to completely separate the different characteristics from one another. Therefore, the summary conclusions in the below table should not be considered as mathematical scores that can be summed up into overall scores for the different disclosure initiatives. The summary conclusions only aim to provide clarity in the level of effort to move from ESRS E4 compliance to TNFD or GRI 101 compliance and vice versa.

Table 9: Summary of conclusions regarding the comparative analysis on biodiversity between ESRS E4, TNFD (at least its biodiversity-relevant elements) and GRI 101 (level of effort is highlighted in text with italic + underscore and indicated with color code: dark green (low efforts), medium green (medium efforts), light green (large efforts))

CHARACTERISTICS	Level of effort moving between ESRS E4 and TNFD		Level of effort moving between ESRS E4 and GR 101	
Reporting pillars and disclosure topics	From ESRS	To ESRS	From ESRS	To ESRS To ESRS
Both the TNFD recommended disclosures and the ESRS reporting areas are organised around the same four disclosure pillars: Governance, Strategy, Risk and Impact Management, and Metrics and Targets. GRI is *largely aligned* as it covers governance, strategy, impact management, and metrics and targets, *hence the low effort indication in the upper right column for moving from GRI to ESRS E4*. There is a difference in the third pillar, i.e. risk and opportunity management is not covered by GRI. *This is an important obstacle to overcome when moving from GRI to ESRS, hence the high effort indication in the lower right column.* All 14 of the disclosures recommended by the TNFD are addressed in the ESRS. All disclosure requirements under ESRS E4 are covered by TNFD. *As a consequence, moving from ESRS to TNFD and vice versa goes smoothly.* GRI 101 includes a fully developed disclosure topic 'access and benefit-sharing' which is only covered to a minor extent by ESRS E4 and not explicitly covered by TNFD (only indirectly as part of requirement to involve local communities and Indigenous Peoples). *This explains the moderate effort to move from ESRS E4 to GRI 101* although it should be noted that organizations do not need to report disclosures that are not relevant (see GRI 1, reporting in accordance section). When ABS is not relevant (which will be the case for some sectors), organizations will not need to report on ABS. meaning the compatibility is not as different as this suggests.				
Concepts and definitions	From ESRS	To ESRS	From ESRS	To ESRS
Despite some minor differences, concepts and definitions related to nature, biodiversity and ecosystems are largely aligned between the three disclosure initiatives.				
Approach to materiality	From ESRS	To ESRS	From ESRS	To ESRS
The definitions of materiality are aligned between the frameworks. ESRS prescribes both financial and impact materiality, while TNFD prescribes a flexible approach to materiality, starting from financial materiality as a minimum, and impact materiality to be used depending on needs and preference of the company. However, virtually all companies subject to CSRD would be applying double materiality when approaching TNFD, which makes it fully compatible. In this sense, TNFD fully embeds the materiality approach of ESRS. GRI focusses on materiality based on impacts and not on financial materiality, which explains the higher level of effort to move to ESRS E4. There is differing guidance on the process companies should follow to identify nature-related issues that are material, however ESRS and GRI refer to the LEAP approach by TNFD.				
Approach to value chain	From ESRS	To ESRS	From ESRS	To ESRS
ESRS, TNFD and GRI set expectations that companies assess and disclose not only the nature-related issues in their direct operations ('own' operations in ESRS terminology) but also in their entire value chain. Given the challenges related to data collection in the upstream and downstream parts of the value chain, ESRS, TNFD and GRI 101 allow for a less detailed reporting on upstream and downstream. This includes enabling a lower level of coverage and the use of proxy data. However, there is variation in the expected level of detail of upstream and downstream disclosures as well as the scope of value chain links expected to be covered. GRI 101 requires an organization to explain how it has determined which products and services in its supply chain have the most significant actual and potential impacts on biodiversity (direct operations and upstream (suppliers)) and recommends to provide additional information on both the supply chain and the downstream value chain, if available. ESRS E4 only asks for metrics to be disclosed for direct operations, and not all data points require information for all segments of the value chain (see disclosure requirement E4-5, data points 42-45 on impacts drivers and ecosystem condition for instance, which are only to be reported for an undertaking's own operations). *This clarifies the higher level of effort to move from ESRS E4 to TNFD and GRI.*				
Transition plan				
Resilience of strategy and business model	From ESRS	To ESRS	From ESRS	To ESRS

CHARACTERISTICS	Level of effort moving between ESRS E4 and TNFD	Level of effort moving between ESRS E4 and GR 101

Both ESRS E4 and TNFD require to disclose how its biodiversity and ecosystem impacts, dependencies, risks and opportunities originate from and trigger adaptation of its strategy and business model. Both disclosure initiatives emphasize the importance of understanding the resilience of the undertaking's strategy and business model in relation to biodiversity and ecosystems, and of the compatibility of the undertaking's strategy and business model with regard to relevant local, national and global public policy targets related to biodiversity and ecosystems. Moving from ESRS to TNFD and vice versa should not require efforts. GRI does not cover resilience of strategy and business model, given GRI's focus on impacts and to a minor extent on dependencies (not on risks and opportunities), *hence the higher effort to move from GRI to ESRS*.

Transition plan	From ESRS	To ESRS	From ESRS	To ESRS

Taking action to strengthen an undertaking's resilience to nature-related changes, developments and uncertainties and to achieve alignment of its business model and strategy with the vision of the Kunming-Montreal Global Biodiversity Framework, is covered by all three disclosure initiatives, but there are important differences. The disclosure of transition plans according to ESRS E4 is not mandatory. TNFD recommends disclosure of transition plans in Strategy B and recommends disclosing the current and anticipated effects of the identified risks and opportunities on its business model and value chain and disclosing processes and actions it has put in place to respond to the material dependencies, impacts, risks and opportunities it has identified. Both ESRS E4 (for those organizations that have decided to disclose a transition plan) and TNFD are quite prescriptive on the contents of the transition plan but are not fully aligned. *So, apart from the fact that moving from ESRS to TNFD requires effective disclosure of the transition plan (as for ESRS it is not mandatory), there are also efforts required to comply with contents requirements (see for instance link to Taxonomy in ESRS E4 transition plan)*. *The latter also applies to moving from TNFD to ESRS*. For GRI 101, the description of how an organization ensures that its business model is compatible with the transition to halt and reverse biodiversity loss, is an option, not even a recommendation. *Hence the higher effort to move to ESRS E4*.

Impacts, dependencies, risks and opportunities

Identification and assessment process	From ESRS	To ESRS	From ESRS	To ESRS

Acknowledging the key difference in scope as already covered under 'reporting pillars' (i.e. risks and opportunities not covered by GRI), this assessment purely focuses on the process for identifying and assessing biodiversity-related DIRO (and for GRI only impacts/dependencies). All disclosure framework/standards emphasize the need to cover the whole value chain (see above 'value chain'). TNFD explicitly recommends describing how identification, assessment and prioritization processes are integrated into existing risk management processes, which is not the case for ESRS E4 *but this hurdle should not require much effort when moving from ESRS to TNFD*. TNFD also provides clear instructions on how this process applies differently to direct operations and upstream/downstream. TNFD is unique with its LEAP framework as additional guidance for supporting the process of identification and assessment of DIRO, but both ESRS E4 (as well as ESRS 2, 3 and 5) and GRI 101 refer to it as a voluntary approach, although to different levels of extent (ESRS E4 refers to first 3 phases because LEAP is recommended for the materiality assessment process, while GRI 101 only refers to the first 2 phases – which is totally in line with its focus on impacts).

Impacts	From ESRS	To ESRS	From ESRS	To ESRS

Assessment of impacts is central to all approaches. They all consider actual and potential impacts, as well as negative and positive impacts. GRI's criteria for significance (severity, likelihood, etc.) have been copied by ESRS and TNFD. All initiatives ESRS, TNFD and GRI recognize that a comprehensive analysis of business impacts on nature requires looking beyond the impact drivers/pressures resulting from business activities. They recommend or require that companies measure the state of nature and understand how the impact drivers/pressures resulting from their business activities lead to changes in the flow of ecosystem services and stock of ecosystem assets. All approaches refer to the five IPBES direct drivers of biodiversity loss and ecosystem change: natural resource use and exploitation, land- and sea-use change, pollution, climate change and introduction of invasive species (IPBES 2019). These are the main impact drivers but there are more (e.g. noise and light distribution), which is explicitly acknowledged only by ESRS E4 (reference to 'others' in AR4). State of nature assessment is also recognized by all approaches as a necessary part of impact measurement that is expected to include both species- and ecosystem-level assessments. ESRS E4, TNFD and GRI rely on a similar approach on measuring state of biodiversity (extent and condition of ecosystems, species). *In terms of impacts, moving between ESRS E4 and TNFD/GRI should go smoothly*.

Dependencies	From ESRS	To ESRS	From ESRS	To ESRS

CHARACTERISTICS	Level of effort moving between ESRS E4 and TNFD		Level of effort moving between ESRS E4 and GR 101	
ESRS and TNFD cover business dependencies on nature. The connections between a company's dependencies and its impacts as well as considerations of the state of nature and external drivers of change in the location are increasingly considered to be a part of the measurement of business dependencies on nature. ESRS does not provide detailed guidance on nature-related dependencies, which is different from TNFD (LEAP guidance). However, ESRS E4 refers to LEAP. GRI 101 asks companies to report how ecosystem services and its beneficiaries are affected and this can include the reporting organization itself. However, it does not provide detailed guidance on how companies should measure the size of their dependencies on nature and doesn't refer to the relevant phases of LEAP, *hence the higher effort*.				
Risks	**From ESRS**	**To ESRS**	From ESRS	To ESRS
ESRS and TNFD are *well aligned* in terms of definitions and categories of risk. Both differentiate between acute and chronic physical risks, transition risks and systemic risks. ESRS and TNFD both outline that companies should assess the likelihood and magnitude of nature-related risks as well as their type. GRI doesn't cover risks. This has been scored before (reporting pillars), *so this is left blank*.				
Opportunities	**From ESRS**	**To ESRS**	From ESRS	To ESRS
ESRS and TNFD are *totally aligned* in terms of opportunities. TNFD provides more guidance. ESRS and TNFD not only refer to business performance opportunities but also highlight opportunities that benefit nature through companies improving their sustainability performance, such as ecosystem protection, restoration and regeneration and sustainable use of natural resources. GRI doesn't cover opportunities. This has been scored before (reporting pillars), *so this is left blank*.				
Location	**From ESRS**	**To ESRS**	**From ESRS**	**To ESRS**
The TNFD uses the definition of 'priority' locations. This includes not only the locations where the company has identified material nature-related issues but also all locations where the company interfaces with ecologically sensitive areas. ESRS and GRI ask to disclose 'material' sites or locations, including sensitive locations as a sub-set of this list. *So, TNFD covers a broader set of locations*. While TNFD and GRI are fully aligned with regard to the definition of 'sensitive location', the ESRS definition of a biodiversity sensitive area is more specific, as it refers to protected areas or key biodiversity areas identified in certain regulations or frameworks. *This will result in more efforts for moving from ESRS E4 to TNFD and to GRI*. There is also a difference regarding the value chain. TNFD recommends disclosing all priority locations in direct operations, upstream and downstream. GRI requires disclosure of locations in direct operations and in the supply chain (at country or jurisdiction level). ESRS E4 requires this only for direct operations. *Which is a major difference in terms of efforts*. In terms of the information to be disclosed, while ESRS is not referring to spatial data, TNFD recommends the use of spatial data and GRI 101 encourages disclosure of spatial data — recommending companies report on the locations of their direct operation sites using polygon outlines or maps where possible.				
Policies and targets				
Policies	**From ESRS**	**To ESRS**	**From ESRS**	**To ESRS**
The description of required high-level policies and disclosure is *well aligned* between ESRS E4, TNFD and GRI 101. They all recommend to disclose whether and how targets are aligned with or informed by the GBF. ESRS E4 and TNFD recommend alignment with the Planetary Boundaries. ESRS E4 requires to disclose if the organisation has adopted sustainable land/agriculture practices or policies, sustainable oceans / seas practices or policies to address deforestation. Both other frameworks do not specify particular policies.				
Type and contents of targets	**From ESRS**	**To ESRS**	**From ESRS**	**To ESRS**
Target types are quite similar between ESRS and TNFD, as in both cases they should cover all material nature-related impacts, dependencies, risks and opportunities. Again, GRI targets are related to impacts. All disclosure initiatives provide additional information on which type of targets are in scope. On this point, TNFD considers both process-related targets (impact drivers, state of nature, ecosystem services, business processes, etc) and policy-related targets (e.g. GBF, planetary Boundaries[38]). ESRS E4 refers to similar policy targets but adds specific EU-related context (such as EU Biodiversity Strategy, EU Taxonomy). GRI 101 refers to (optional) goals and targets to achieve net positive impact, no net loss and net gain of biodiversity, or to contribute to nature positive goals. Specific requirements of ESRS E4 are				

[38] TNFD has co-developed with the SBTN summary guidance on SBTN's methods for setting science-based targets for nature

CHARACTERISTICS	Level of effort moving between ESRS E4 and TNFD		Level of effort moving between ESRS E4 and GR 101	
related to reporting of offsets and to linking the targets to the layers of the mitigation hierarchy. Also, ESRS E4 puts emphasis on ecological thresholds and allocation of impacts (see below). *So, several nuances between the different initiatives will require some efforts when moving from one scheme to another.* Overall, there is a high correlation between ESRS and TNFD requirements in terms of the required content description of targets although differences remain. GRI is less detailed. .				
Ecological thresholds	**From ESRS**	**To ESRS**	**From ESRS**	**To ESRS**
Both ESRS E4 and TNFD refer to the concept of ecological thresholds, while GRI applies the concept of sustainability thresholds which also applies to biodiversity. Within ESRS E4 this is linked to targets, while TNFD applies this concept in the process of identifying, assessing and prioritising nature-related DIRO. If the company is disclosing thresholds, ESRS requires to disclose a number of additional specifications.				
Action plan	**From ESRS**	**To ESRS**	**From ESRS**	**To ESRS**
ESRS, TNFD and GRI are quite aligned in terms of disclosure requirements on actions. They all adhere to the mitigation hierarchy but vary to some extent with regard to the required disclosure. *GRI 101 is most demanding* as it makes a description of how a company applies the mitigation hierarchy, mandatory. All frameworks require disclosure on offsets. GRI has a mandatory disclosure metric on geographical location of offsets while TNFD has an 'additional' disclosure metric (value of offsets). Finally, it's worth mentioning that TNFD and GRI both ask to report on transformative action while there is no explicit reference to this type of actions in ESRS[39]. *This might require some additional efforts when moving from ESRS E4 to either TNFD or GRI 101.*				
Metrics				
Structure of metrics	**From ESRS**	**To ESRS**	**From ESRS**	**To ESRS**
ESRS, GRI and TNFD all prescribe some specific metrics that companies need to disclose but expect companies to go beyond these and disclose metrics on all nature-related issues that are material to the reporting company. In contrast to the well-structured architecture of indicators and metrics, applied by TNFD, ESRS and GRI do not apply a specific categorization of metrics. *The TNFD categorization of metrics is not a barrier for moving from ESRS E4 to TNFD*.				
Principles of metrics	**From ESRS**	**To ESRS**	**From ESRS**	**To ESRS**
ESRS and GRI have no specific list of principles related to metrics, but refer to general reporting principles TNFD applies specific principles on metrics and has detailed guidance in place for selection of suitable metrics. Overall, metrics-related principles are not fully aligned between ESRS, TNFD and GRI, but *differences are not substantial and not an obstacle for moving from ESRS to TNFD or GRI and vice versa*.				
Alignment of metrics	**From ESRS**	**To ESRS**	**From ESRS**	**To ESRS**
There are many overlaps in terms of the indicators between ESRS E4, TNFD and GRI 101, mainly in the fields of land use, invasive alien species, ecosystem extent and condition, and species. In terms of the metrics (the way indicators are measured) there are *important differences which have a substantial impact on the efforts for data collection*. TNFD has a series of obligatory and quite prescriptive indicators and metrics related to land and sea use change, which also include high-risk natural commodities. Not all areas are covered by every disclosure initiative or are not covered at the same level of granularity. As an example, while ESRS E4 contains disclosure requirements related to ecosystem services, it does not prescribe the reporting of specific metrics on that topic; proximity to biodiversity sensitive areas is not included as a specific disclosure metric under TNFD although this information is covered by it). Disclosure on species (e.g. extinction risk, population size) remains voluntary under each of the disclosure initiatives, A final observation is that in contrast to ESRS E4, the number of obligatory disclosure metrics under GRI 101 is relatively high, *which might translate into additional efforts to move from ESRS E4 to GRI 101* (even if acknowledging that this number is highly dependent on the specific circumstances of the organization such as number of relevant direct drivers[40]).				

[39] Although ESRS E4 AR 20 f could be interpreted as transformative action

[40] Depending on an organisation's activities, ABS (access and benefit sharing) might be relevant or not. Same for the number of relevant impact drivers. However, this applies to all disclosure initiatives.

CHARACTERISTICS	Level of effort moving between ESRS E4 and TNFD		Level of effort moving between ESRS E4 and GR 101	
Information to be disclosed per metric	**From ESRS**	**To ESRS**	**From ESRS**	**To ESRS**
Overall, the type of information to be disclosed per metric is quite extensive. The type of information to be disclosed under GRI 101 is not prescribed at the level of metrics but only at the general level of information to be disclosed.				
Financial effects	**From ESRS**	**To ESRS**	**From ESRS**	**To ESRS**
Both ESRS and TNFD require an organisation to disclose the current and anticipated financial effects of its material risks and opportunities on its financial position, financial performance and cash flows. TNFD has developed extensive guidance on assessing and disclosing financial effects related to nature-related risks and opportunities (in its LEAP guidance). This characteristic is out of scope for GRI since it is related to risks and opportunities, *hence the higher effort*.				

4 COMPARATIVE ANALYSIS FOR FINANCE SECTOR

The conclusions of the comparative analysis of ESRS E4, TNFD and GRI 101 under Section 3 are highly relevant for financial institutions too. On top of these disclosure initiatives, finance institutions are subject to additional disclosure initiatives which are specific for the finance sector, in particular the SFDR (sustainable Finance Disclosure Regulation) for EU-based financial institutions and Art 29 of the French Climate and Energy Law for financial institutions with activities in France. This section starts with a specific discussion on each of these initiatives[41], followed by a concise conclusion.

4.1 ESRS E4

The CSRD is mandatory for financial institutions that fulfil the criteria (see 2.1). Specific reporting according to ESRS E4 is only mandatory if the undertaking has categorized biodiversity as material. For financial institutions it will be hard to justify that biodiversity is not material (see for instance the Kunming Montreal Global Biodiversity Framework with specific objectives for the finance sector), which means that financial institutions will have to disclose their **material** biodiversity-related impacts, risks and opportunities.

Material biodiversity-related impacts, risks and opportunities for financial institutions are typically related to their products and services (downstream). Despite the current version of ESRS E4 only asks for metrics to be disclosed for direct operations, other disclosures (e.g. process to identify material impacts and dependencies) would need to include value chain considerations. Downstream is well covered under disclosure requirement E4-1 which imposes undertakings to disclose its actions to strengthen its **resilience** to nature-related changes, developments and uncertainties and to achieve alignment of its business model and strategy with the vision of the Kunming-Montreal Global Biodiversity Framework (GBF). The description of resilience shall include (a) resilience to biodiversity and ecosystems-related physical, transition and systemic risks; (b) the scope of the resilience analysis in relation to the undertaking's own operations and its upstream and downstream value chain; (c) the key assumptions made; (d) the time horizons used; (e) the results of the resilience analysis; and (f) the involvement of stakeholders. However, disclosure of the **transition plan** which describes how the undertaking will improve and, ultimately, achieve alignment of its business model and strategy with the vision of the GBF and its relevant goals and targets, the EU Biodiversity Strategy for 2030, and with respecting planetary boundaries related to biosphere integrity and land-system change, is not mandatory.

EFRAG is currently in the process of developing draft sector-specific standards. They will provide additional disclosure requirements for companies within a particular sector that are not covered, or not sufficiently covered, by the sector-agnostic standards. Financial institutions sector standards are under development.

4.2 TNFD

The Taskforce for Nature related Financial Disclosures was established to encourage and facilitate a shift in the mindset and behaviour of companies and financial institutions through enterprise and portfolio risk management and mainstream corporate reporting. Building on the market's experience with climate-related reporting over the past decade and the work of the Task Force on Climate-related Financial Disclosures (TCFD), the TNFD recommends 14 disclosure recommendations to promote the provision of clear, comparable and consistent information by companies to investors and other providers of capital. So, from the outset the development of the TNFD recommendations has focused very much on the financial sector. This is reflected in many ways:

- The recommendations and guidance are relevant to a wide range of market participants and market enablers, but the finance community is quite prominent in the list: corporates, investors and financial institutions, regulators, stock exchanges, assurance and accounting firms, data providers, credit rating agencies and financial service providers.
- Throughout the recommendations, TNFD is frequently addressing the finance sector alongside the corporate sector e.g. 'analysis of downstream value chains for financial institutions should include financed, facilitated, investment and insured activities and assets' (in TNFD General Requirements)

[41] CDP not covered for the same reasons as described in previous sections, i.e. the announced remake of nature related disclosures over the coming years.

- Additional guidance for financial institutions was published together with the publication of the Recommendations in September 2023. In December 2023, a discussion paper on biodiversity footprinting approaches for financial institutions was published (open for consultation until end of March 2024). The additional guidance for financial institutions on the TNFD's recommended disclosures includes guidance on both the TNFD recommended disclosures and the TNFD metrics architecture for financial institutions, including a set of proposed TNFD core disclosure metrics for financial institutions.

With regard to disclosure metrics, in contrast to ESRS E4, TNFD covers the whole value chain (see metrics table in Annex 1). In light of the current data limitations for financial institutions to report the TNFD core global metrics for their portfolios, the Taskforce proposes an adaptation of the TNFD disclosure metrics architecture for financial institutions. These are described in the additional guidance for financial institutions. Apart from the core metrics on risks and opportunities, described in Annex 1 of the TNFD Recommendations, financial institutions should report on two core sector disclosure metrics to support financial institutions' disclosure of their **exposure to sectors with material nature-related dependencies and impacts**, and **exposure to sensitive locations**. The core cross-sector metrics on dependencies and impacts should also be reported by financial institutions, with the recognition that these may require a gradual reporting over time as data becomes available from investees, clients and customers.

TNFD also recommends that financial institutions disclose, where relevant, additional metrics aligned with the drivers of nature change, in order to best represent the institution's material nature-related issues, based on its specific circumstances. In this context, TNFD also refers to the Sustainable Finance Disclosure Regulation (SFDR) which provides examples of such additional metrics. The additional guidance for financial institutions includes a table that maps the SFDR adverse impact metrics to the drivers of nature change and selected TNFD core global metrics.

In terms of the transition plan, TNFD recommends disclosure of transition plans in Strategy B and recommends disclosing the current and anticipated effects of the identified risks and opportunities on its business model and value chain and disclosing processes and actions it has put in place to respond to the material dependencies, impacts, risks and opportunities it has identified. The additional guidance on finance provides further guidance on the possible contents of such transition plan.

4.3 GRI 101

GRI 101 is a voluntary disclosure standard on biodiversity, focused on impacts. GRI 101 does not focus on risks and dependencies. Disclosure on downstream is recommended (if data are available), not required. For GRI 101, the description of how an organization ensures that its business model is compatible with the transition to halt and reverse biodiversity loss, is optional.

GRI develops sector standards. The development of a sector standard on financial services is currently under way.

4.4 SFDR

The SFDR lays down harmonised rules for financial market participants (FMPs) and financial advisers (FAs) on transparency regarding the integration of sustainability risks and the consideration of adverse sustainability impacts in their processes and the provision of sustainability-related information with respect to financial products. The regulation makes a clear distinction between outside-in sustainability risks (environmental, social or governance (ESG) events or conditions that, if they occur, could cause an actual or a potential material negative impact on the value of an investment) – which corresponds to financial materiality – and adverse impacts on sustainability factors (negative externalities on ESG conditions) – which corresponds to impact materiality. The regulation also clarifies the potential positive sustainability impacts of investing.

SFDR requires FI to disclose both entity level performance and product level performance.

Entity level transparency / transparency by financial market participants and financial advisers

Financial market participants and financial advisers must publish (on their websites) information on how they consider the negative externalities of their business models, namely the **principal adverse impacts** (**PAI**) of investment decisions or financial advice on ESG sustainability (or information explaining why they consider

there to be no such negative impact), as well as on how they integrate sustainability risks into their investment decision-making process and financial advice.

Financial product transparency

Sustainable financial products with various degrees of ambition have been developed to date. This is why this regulation **distinguishes between** the transparency requirements for financial products that promote environmental or social characteristics (Art 8), and financial products that aim to have a positive impact on the environment and on society (Art 9). Both categories of financial products must explain how their ESG sustainability is to be achieved in pre-contractual financial product-related documents* and has been achieved in periodic financial product-related documents*.

The RTS (Regulatory Technical Standards) specify the content, methodologies and presentation of the information in pre-contractual documents, on websites and in periodic reports relating to:

- sustainability indicators and adverse sustainability impacts;
- the principle of 'do no significant harm';
- the promotion of environmental or social characteristics and sustainable investment objectives.

There is no specific biodiversity section within the SFDR. Some of the Principal Adverse indicators and additional indicators cover disclosure metrics which are related to biodiversity (see *Table 3*). ESRS E4 and SFDR are quite well aligned in terms of terminology. The SFDR core indicator 'areas negatively affecting biodiversity sensitive areas' is quite similar to one of ESRS E4's mandatory indicator (see metrics table in Annex 1) while a similar definition is used for biodiversity sensitive areas. As mentioned above (see section 4.2), the TNFD additional guidance for financial institutions includes a cross-reference table between the SFDR PAI metrics and the proposed sector metrics by TNFD.

While the SFDR disclosure requirements at entity level are overlapping with those of ESRS and TNFD (although less detailed and therefore less demanding), the transparency requirements on financial products are specific to SFDR. However, a recent consultation on the SFDR has revealed there is quite some market demand for substantial adaptations of the regulation or its regulatory technical standards.

4.5 Art 29

This decree – which only applies to financial institutions, including banks, investors and insurers, whose assets under management exceed 500 million euros and who are active in France – obliges financial market players to publish information on the consideration of environmental, social and governance criteria in their investment policy, and on the means implemented to contribute to the energy and ecological transition. The inclusion of biodiversity in this text provides a boost to the recognition of this issue by financial institutions and, by extension, by businesses. It requires financial institutions to disclose their assets complying with EU Taxonomy criteria and to measure their impact on biodiversity, prompting changes in investment strategies to reduce this impact.

In particular (see Section 2.6 for more information) the following information needs to be reported:

- Information on the **strategy for alignment with long-term biodiversity goals,** specifying the scope of the value chain selected, which shall include targets set for 2030 and every five years thereafter for the following; this includes:
  - d) an assessment of compliance with the goals listed in the Convention on Biological Diversity (which includes alignment with the objectives of the Kunming Montreal Global Biodiversity Framework);
  - e) an analysis of the contribution to reducing the primary pressures and impacts on biodiversity as defined by IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services);
  - f) the use of a **biodiversity footprint indicator** and, where applicable, how this indicator is used to measure compliance with international biodiversity targets.
- Information on approaches to taking environmental, social and governance quality criteria into account when managing **physical, transition-related and liability risks related to climate change and biodiversity**. On the biodiversity-related risks, the following information needs to be disclosed:
  - c) a clear distinction between the main risks arising from impacts caused by the investment strategy and the main risks arising from the biodiversity dependencies of the assets and activities in which the entity has invested. For each risk identified, the entity shall indicate the scope of the value chain used;

d) an indication of whether the risk is specifically related to the area of activity or geographical area of the underlying asset.

This decree obliges financial institutions to select and apply a biodiversity footprinting method, which is unique compared to the other biodiversity-related disclosure initiatives. The close link between climate and biodiversity in this decree is worth mentioning too.

4.6 Conclusion

Financial institutions are subject to two regulatory disclosure initiatives, i.e. CSRD and SFDR, and with Art 29 of the French Climate and Energy Law, even three if they are operating in France. On top of that, despite their voluntary character, the TNFD Recommendations are highly relevant for the whole financial sector. GRI is developing a sector standard on financial services.

Given their mandatory character, EU-based financial institutions are doing efforts to comply with CSRD and SFDR but given the high level of alignment which has been achieved between CSRD and TNFD, it's clear that TNFD's additional guidance for financial institutions will facilitate these preparatory efforts.

ANNEX 1: DETAILED COMPARISON OF ESRS E4, TNFD AND GRI BIODIVERSITY METRICS

The metrics and indicators in the table are structured according to the following categories:

- Proximity to biodiversity sensitive areas
- Drivers of biodiversity loss: land use change / (over)exploitation / invasive alien species; drivers of biodiversity loss which are covered in other ESRS topical standards (climate change, pollution) are not included in the table, although both TNFD and GRI 101 have such metrics
- State of biodiversity: ecosystem extent and condition / species
- Ecosystem services
- Responses

Mandatory metrics are marked in bold.
For each of the disclosure initiatives, relevant metrics grouped per category are listed. These are listed according to their numbering in the disclosure initiative, **so there is no specific correspondence between metrics on a same row**.

It must be noted that a lack of disclosure metrics on specific categories, does not automatically mean that there are no disclosure requirements on these categories. As an example, ESRS E4 does not provide disclosure metrics on ecosystem services but has specific disclosure requirements on ecosystem services[42].

A final remark is that indicators and metrics related to climate change and pollution, although both key drivers of biodiversity loss, are not included in this table.

Table 10: Detailed comparative table on biodiversity-related metrics (ESRS E4, TNFD, GRI 101) (obligatory disclosures are marked in bold)

ESRS E4		TNFD		GRI	
Metric *(based on EFRAG list of datapoints related to E4-5)*	Ref in DR E4-5	Core indicator (C), Placeholder indicator (P), Additional indicator (A), Metric (M), Example metric (EM), Guidance (G)	Ref in TNFD Rec.	Indicators and metrics	Ref in GRI 101
!! ESRS E4 only asks for metrics' information to be disclosed for own operations (para 37 of ESRS E4)		***TNFD requires metrics information for the organisation's direct operations, and – to the extent possible – upstream and downstream value chain(s)***		***GRI requires metrics information for its sites as well as products and services in its supply chain***	
Proximity to biodiversity sensitive areas					
Number of sites owned, leased or managed in or near protected areas or key biodiversity areas that undertaking is negatively affecting	35	**Note:** although screening of proximity of locations to biodiversity sensitive areas is key within TNFD, a specific disclosure indicator or metric is not provided. **Strategy D: "**Disclose the locations of assets and/or activities in the organisation's direct operations and, where possible, upstream and		**Location and size in hectares of its sites with the most significant impacts on biodiversity**	101-5-a
Area of sites owned, leased or managed in or near protected areas or key biodiversity areas that undertaking is negatively affecting	35			**For each site reported under 101-5-a, report whether it is in or near an ecologically sensitive area, the distance to these areas, and whether these are:** ▪ **areas of biodiversity importance;** ▪ **areas of high ecosystem integrity;**	101-5-b

[42] Ecosystem services disclosure requirements in ESRS E4 are included in paragraph 17, AR 4 and AR 8

		downstream value chain(s) that meet the criteria for **priority locations**." Priority locations are locations that are: • **Material locations**: Locations where an organisation has identified material nature-related dependencies, impacts, risks and opportunities in its direct operations and upstream and downstream value chain(s); and/or • **Sensitive locations**: Locations where the assets and/or activities in its direct operations – and, where possible, upstream and downstream value chain(s) – interface with nature in: • Areas important for biodiversity; and/or • Areas of high ecosystem integrity; and/or • Areas of rapid decline in ecosystem integrity; and/or • Areas of high physical water risks; and/or • Areas of importance for ecosystem service provision, including benefits to Indigenous Peoples, Local Communities and stakeholders		▪ **areas of rapid decline in ecosystem integrity;** ▪ **areas of high physical water risks;** ▪ **areas important for the delivery of ecosystem service benefits to Indigenous Peoples, local communities, and other stakeholders**	
Drivers of biodiversity loss: land and sea use (change)					
Land-use based on Life Cycle Assessment	36	**C: Total spatial footprint** **M: Total spatial footprint (km2) (sum of):** • **Total surface area controlled/ managed by the organisation, where the organisation has control (km2);** • **Total disturbed area (km2); and** **Total rehabilitated/restored area (km2).**	C1.0	**Natural ecosystem conversion (including extent and specification of ecosystem type before and after conversion)**	101-6-a-i
Metrics considered relevant on land-use change, freshwater-use change and (or) sea-use change	38	**C: Extent of land/freshwater/ocean ecosystem use change** **M: Extent of land/freshwater/ocean ecosystem use change (km2) by:** • **Type of ecosystem; and** • **Type of business activity.**	C1.1	**Conversion from one intensively used or modified ecosystem to another (including extent and specification of ecosystem type before and after conversion)**	101-6-a-ii
Conversion over time of land cover	38a	**C: Extent of land/freshwater/ocean ecosystem use change** **M: Extent of land/freshwater/ocean ecosystem conserved or restored (km2), split into:** • **Voluntary; and** • **Required by statutes or regulations.**	C1.1		
changes over time in management of ecosystem	38b	**C: Extent of land/freshwater/ocean ecosystem use change** **M: Extent of land/freshwater/ocean ecosystem that is sustainably managed (km2) by:** • **Type of ecosystem; and** • **Type of business activity**	C1.1		

changes in spatial configuration of landscape	38c	**C: Quantity of high-risk natural commodities[43] sourced from land/ocean/freshwater** **M: Quantity of high-risk natural commodities (tonnes) sourced from land/ocean/freshwater, split into types, including proportion of total natural commodities.**	C3.1		
changes in ecosystem structural connectivity	38d	**C: Quantity of high-risk natural commodities sourced from land/ocean/freshwater** **M: Quantity of high-risk natural commodities (tonnes) sourced under a sustainable management plan or certification programme, including proportion of total high-risk natural commodities.**	C3.1		
(changes in) functional connectivity	38e				
Total use of land area	AR 34a				
Total sealed area	AR 34b				
Drivers of biodiversity loss: (over)exploitation[44]					
No specific metric on (over)exploitation although indirectly covered by 40 *b to 40d (see below)*		A: Use of wild species EM: Quantity of wild species (tonnes and/or number of individual specimens, by species) extracted from natural habitats for commercial purposes	A3.5	**For each site reported under 101-5-a where its activities lead or could lead to the exploitation of natural resources, report:** **i. for each wild species harvested, the quantity, the type, and extinction risk**	101-6-b
Drivers of biodiversity loss: invasive alien species					
How pathways of introduction and spread of invasive alien species and risks posed by invasive alien species are managed	39	P: Measures against unintentional introduction of invasive alien species (IAS) M: Proportion of high-risk activities operated under appropriate measures to prevent unintentional introduction of IAS, or low-risk designed activities.	C4.0	for each site reported under 101-5-a where its activities lead or could lead to the introduction of invasive alien species, describe how invasive alien species are or may be introduced;	101-6-d
Number of invasive alien species	AR 32	A: Number/extent of unintentionally introduced species, varieties or strains EM: Number/extent of unintentionally introduced species, varieties or strains in areas owned, operated, used or financed in priority areas (absolute, presence/absence and/or number removed).	A4.0		
Area covered by invasive alien species	AR 32				
State of biodiversity: ecosystem extent and condition					
metrics considered relevant (state of species)	40	P: Ecosystem condition	C5.0	**For each site reported under 101-5-a, report the following information on affected or potentially**	

[43] Users should refer to the Science Based Targets Network (SBTN) High Impact Commodity List (HICL) and indicate what proportion of these commodities represent threatened and CITES listed species (Source: TNFD Recommendations)

[44] Could also be placed within the category 'ecosystem services' as exploitation of wild species is a provisioning service

		M: For those organisations that choose to report on state of nature metrics, the TNFD encourages them to report the following indicators, and to refer to the TNFD additional guidance on measurement of the state of nature in Annex 2 of the LEAP approach: • Level of ecosystem condition by type of ecosystem and business activity; • Species extinction risk. There are a number of different measurement options for these indicators. The TNFD does not currently specify one metric as there is no single metric that will capture all relevant dimensions of changes to the state of nature and a consensus is still developing.		**affected ecosystems: i. the ecosystem type for the base year; ii. the ecosystem size in hectares for the base year; iii. the ecosystem condition for the base year and the current reporting period**	
ecosystem area coverage	41 a	A: Ecosystem condition EM: Level of ecosystem condition by type of ecosystem and business activity – see Annex 2 of the LEAP Guidance.	A5.0		
quality of ecosystems relative to pre-determined reference state	41 b (i)	A: Ecosystem extent EM: Quantitative measure of ecosystem extent, e.g. change in habitat cover (km2).	A5.1		
structural components of ecosystem condition	41 b (iii)	A: Ecosystem connectivity EM: Quantitative measure of ecosystem connectivity	A5.2		
State of biodiversity: species					
population size, range within specific ecosystems and extinction risk	40b	P: Species extinction risk M: see 'P: Ecosystem condition'	C5.0	species, extinction risk, population size	101-7
Information about species at global extinction risk	40d	A: Species extinction risk EM: see Annex 2 in LEAP Guidance	A5.3	The organization can report information for the following species: ▪ Species whose local or overall populations have or could be changed significantly. ▪ Species that are legally protected by local, national, or international laws and conventions (e.g., species listed in one of the CITES Appendices). ▪ Species that are recognized as a priority species at the local, national, or international level (e.g., species listed as threatened on the international IUCN Red List or species that trigger a Key Biodiversity Area designation). ▪ Species that have a critical role in the ecosystem (e.g., keystone species).	101-7
changes in number of individuals of species within specific area	40c	A: Species population size EM: Quantitative measure of species population size	A5.4		
threat status of species and how activities or pressures may affect threat status	40 d (i)				
change in relevant habitat for threatened species as proxy for impact on local populations extinction risk	40 d (ii)				
multiple species within ecosystem	41 b (ii)				

				▪ Species that have a significant cultural or economic role for stakeholders (e.g., hunting, harvesting, pollination)	
Ecosystem services					
		A: Ecosystem services the organisation has an impact on: measurement of the change in the availability and quality of the ecosystem services G: Guidance on measuring changes in ecosystem services in the TNFD additional guidance on the LEAP approach	A6.0	**For each site reported under 101-5-a, list of ecosystem services affected or potentially affected by the organization's activities**	101-8-a
		A: Ecosystem services the organisation depends on: measurement of the change in the availability and quality of the ecosystem services G: Guidance on measuring changes in ecosystem services in the TNFD additional guidance on the LEAP approach	A6.1	**For each site reported under 101-5-a, list of beneficiaries affected or potentially affected by the organization's activities**	101-8-a
Responses					
Nature-oriented area on site	AR 34c	A: Value of investment in projects that avoid or reduce negative nature impacts or conserve or restore ecosystems or species where impacts cannot be avoided	A21.0	**For each site with the most significant impacts on biodiversity:** **i. the size in hectares of the area under restoration or rehabilitation;** **ii. the size in hectares of the area restored or rehabilitated;**	101-2-b
Nature-oriented area off site	AR 34d	A: Proportion of sites producing and effectively implementing nature action plans.	A23.0	**Geographic location of offsets**	101-2-c
Size and location of all habitat areas protected or restored, whether directly or indirectly controlled by the undertaking, and whether the success of the restoration measure was or is approved by independent external professionals	AR 26a*	A: Restoration of negatively affected species and ecosystems (investment and extent (km2)) split into ecosystem/biome type and split into: • Required by regulation; • Required by certifier; and • Voluntary.	A23.2	**List sites with the most significant impacts on biodiversity which have a biodiversity management plan**	101-2-d
Recreated surfaces (environments in which management initiatives are implemented so as to create a habitat on a site where it did not exist initially)	AR 26b*	A: Extent (km2), duration (years) and monitoring frequency (count/year) of ecosystem restoration and/or species restoration projects.	A23.3		
Number or percentage of projects / sites whose ecological integrity was improved (e.g., installation of fish passes, wildlife corridors).	AR 26c*	A: Mandatory credit market schemes: Value of total biodiversity offsets purchased and sold by type and scope (geographies, activities)	A23.6		
		A: Value invested in voluntary ecosystem and/or species restoration	A24.0		
		A: Extent (km2), duration (years) and monitoring frequency (count/year) of voluntary ecosystem and/or species restoration projects	A24.1		
		A: Value of investment in additional conservation actions split into type of action and type of ecosystem/biome applied to	A24.2		

		A: Voluntary credit market schemes: Value of total biodiversity offsets purchased and sold by type and scope (geographies, activities).	A24.4		

* ESRS E4 AR 26 (“Measurable targets related to biodiversity and ecosystems may be expressed as …”) is about measurable targets but implicitly requires similar metrics. Therefore, we have included these in this table although they are not included in the EFRAG List of Datapoints.

ANNEX 2: ESRS DATAPOINTS

Table 11: Statistics on the number of "Shall" datapoints and "May" datapoints for each ESRS

ESRS - DELEGATED ACT (31 JULY 2023)				
Number of "shall" DPs (without MDR-PAT&M)				Number of "may" DPs
ESRS	Irrespective of MA	Subject to MA	Total	
ESRS 2	134		134*	12
E1	16	177	193	15
E2	3	41	44	19
E3	3	24	27	18
E4	12	43	55	62
E5	8	54	62	19
S1		131	131	58
S2		48	48	21
S3		46	46	22
S4		44	44	23
G1		39	39	10
TOTAL	**176**	**647**	**823**	**279**
TOTAL DP (%)	21%	79%	100%	

***7 DPs** are excluded from the count as subject to phased in (ESRS 2 BP2 par. 17)

+

ESRS - DELEGATED ACT (31 JULY 2023)
MINIMUM DISCLOSURE REQUIREMENTS (MDR-PAT&M) PER SUSTAINABILITY MATTER AND PER PAT*

	DPs
MDR-P	6
MDR-A	10
MDR-T	13
MDR-M	3

This table illustrates the datapoints in relation with Minimum Disclosure Requirements (MDR) on Policies, Actions, Targets and Metrics (PAT&M) according to ESRS 2 Chapter 4.2. These are considered for the disclosures when the undertaking has adopted PAT related to material sustainability matters.

*Excluded DPs to be reported if the undertaking has not adopted policies and/or actions or set any measurable outcome-oriented targets (ESRS 2 chapter 4.2 MDR)

Table 12: EFRAG list of ESRS E4 datapoints (orange rows are voluntary disclosures)

ESRS	DR	Paragraph	Related AR	Name	Data Type
E4	SBM-3	16 a		List of material sites in own operation	narrative
E4	SBM-3	16 a i)		Activities related to sites located in or near biodiversity-sensitive areas negatively affect these areas where conclusions or necessary mitigation measures have not been implemented or are ongoing	narrative
E4	SBM-3	16 a ii)		breakdown of material sites located in or near biodiversity-sensitive area	narrative
E4	SBM-3	16 a iii)		Disclosure of biodiversity-sensitive areas impacted	narrative
E4	SBM-3	16 b		Material negative impacts with regards to land degradation, desertification or soil sealing have been identified	semi-narrative
E4	SBM-3	16 c		Own operations affect threatened species	semi-narrative
E4	IRO-1	17 a	AR 4-AR 9	Disclosure of whether and how actual and potential impacts on biodiversity and ecosystems at own site locations and in value chain have been identified and assessed	narrative
E4	IRO-1	17 b	AR 8	Disclosure of whether and how dependencies on biodiversity and ecosystems and their services have been identified and assessed at own site locations and in value chain	narrative
E4	IRO-1	17 c	AR 9	Disclosure of whether and how transition and physical risks and opportunities related to biodiversity and ecosystems have been identified and assessed	narrative
E4	IRO-1	17 d	AR 9	Disclosure of whether and how systemic risks to own business model have been considered	narrative
E4	IRO-1	17 d	AR 9	Disclosure of whether and how systemic risks to society have been considered in assessment of biodiversity and ecosystems-related risks	narrative
E4	IRO-1	17 e		Disclosure of whether and how consultations with affected communities on sustainability assessments of shared biological resources and ecosystems have been conducted	narrative
E4	IRO-1	17 e (i)		Disclosure of whether and how specific sites, raw materials production or sourcing with negative or potential negative impacts on affected communities	narrative
E4	IRO-1	17 e (ii)		Disclosure of whether and how communities were involved in materiality assessment	narrative
E4	IRO-1	17 e (iii)		Disclosure of whether and how negative impacts on priority ecosystem services of relevance to affected communities may be avoided	narrative
E4	IRO-1	17 e (iii)		Disclosure of plans to minimise unavoidable negative impacts and implement mitigation measures that aim to maintain value and functionality of priority services	narrative
E4	IRO-1	18		Business model(s) has been verified using range of biodiversity and ecosystems scenarios, or other scenarios with modelling of biodiversity and ecosystems related consequences, with different possible pathways	narrative
E4	IRO-1	18 a		Disclosure of why considered scenarios were taken into consideration	narrative
E4	IRO-1	18 b		Disclosure of how considered scenarios are updated according to evolving conditions and emerging trends	narrative

ESRS	DR	Paragraph	Related AR	Name	Data Type
E4	IRO-1	18 c		Scenarios are informed by expectations in authoritative intergovernmental instruments and by scientific consensus	semi-narrative
E4	IRO-1	19a	AR 7d	Undertaking has sites located in or near biodiversity-sensitive areas	semi-narrative
E4	IRO-1	19a	AR 7d	Activities related to sites located in or near biodiversity-sensitive areas negatively affect these areas by leading to deterioration of natural habitats and habitats of species and to disturbance of species for which protected area has been designated	semi-narrative
E4	IRO-1	19b		It has been concluded that it is necessary to implement biodiversity mitigation measures	semi-narrative
E4	E4-1	13 a	AR 2- AR 3	Disclosure of resilience of current business model(s) and strategy to biodiversity and ecosystems-related physical, transition and systemic risks and opportunities	narrative
E4	E4-1	13 b	AR 2- AR 3	Disclosure of scope of resilience analysis along own operations and related upstream and downstream value chain	narrative
E4	E4-1	13 c	AR 2- AR 3	Disclosure of key assumptions made (biodiversity and ecosystems)	narrative
E4	E4-1	13 d	AR 2- AR 3	Disclosure of time horizons used for analysis (biodiversity and ecosystems)	narrative
E4	E4-1	13 e	AR 2- AR 3	Disclosure of results of resilience analysis (biodiversity and ecosystems)	narrative
E4	E4-1	13 f	AR 2- AR 3	Disclosure of involvement of stakeholders (biodiversity and ecosystems)	narrative
E4	E4-1	15	AR 2- AR 3	Disclosure of transition plan to improve and achieve alignment of its business model and value chain	narrative
E4	E4-1	AR 1 a		Explanation of how strategy and business model will be adjusted to improve and, ultimately, achieve alignment with relevant local, national and global public policy goals	narrative
E4	E4-1	AR 1 b		Include information about its own operations and explain how it is responding to material impacts in its related value chain	narrative
E4	E4-1	AR 1 c		Explanation of how b strategy interacts with transition plan	narrative
E4	E4-1	AR 1 d		Disclosure of contribution to impact drivers and possible mitigation actions following mitigation hierarchy and main path-dependencies and locked-in assets and resources that are associated with biodiversity and ecosystems change	narrative
E4	E4-1	AR 1 e		Explanation and quantification of investments and funding supporting the implementation of its transition plan	narrative
E4	E4-1	AR 1 f		Disclosure of objectives or plans for aligning economic activities (revenues, CapEx)	narrative
E4	E4-1	AR 1 g		Biodiversity offsets are part of transition plan	narrative
E4	E4-1	AR 1 h		Information about how process of implementing and updating transition plan is managed	narrative
E4	E4-1	AR 1 i		Administrative, management and supervisory bodies have approved transition plan	narrative
E4	E4-1	AR 1 j		Indication of metrics and related tools used to measure progress that are integrated in measurement approach (biodiversity and ecosystems)	narrative

ESRS	DR	Paragraph	Related AR	Name	Data Type
E4	E4-1	AR 1 k		Indication of current challenges and limitations to draft plan in relation to areas of significant impact and actions company is taking to address them (biodiversity and ecosystems)	narrative
E4	E4-2	22		Policies to manage material impacts, risks, dependencies and opportunities related to biodiversity and ecosystems [see ESRS 2 - MDR-P]	MDR-P
E4	E4-2	23 a		Disclosure on whether and how biodiversity and ecosystems-related policies relate to matters reported in E4 AR4	narrative
E4	E4-2	23 b		Explanation of whether and how biodiversity and ecosystems-related policy relates to material biodiversity and ecosystems-related impacts	narrative
E4	E4-2	23 c		Explanation of whether and how biodiversity and ecosystems-related policy relates to material dependencies and material physical and transition risks and opportunities	narrative
E4	E4-2	23 d		Explanation of whether and how biodiversity and ecosystems-related policy supports traceability of products, components and raw materials with significant actual or potential impacts on biodiversity and ecosystems along value chain	narrative
E4	E4-2	23 e		Explanation of whether and how biodiversity and ecosystems-related policy addresses production, sourcing or consumption from ecosystems that are managed to maintain or enhance conditions for biodiversity	narrative
E4	E4-2	23 f	AR 14- AR 15	Explanation of whether and how biodiversity and ecosystems-related policy addresses social consequences of biodiversity and ecosystems-related impacts	narrative
E4	E4-2	AR 12		Disclosure of how policy refers to production, sourcing or consumption of raw materials	narrative
E4	E4-2	AR 12 a		Disclosure of how policy refers to policies limiting procurement from suppliers that cannot demonstrate that they are not contributing to significant conversion of protected areas or key biodiversity areas	narrative
E4	E4-2	AR 12 b		Disclosure of how policy refers to recognised standards or third-party certifications overseen by regulators	narrative
E4	E4-2	AR 12 c		Disclosure of how policy addresses raw materials originating from ecosystems that have been managed to maintain or enhance conditions for biodiversity, as demonstrated by regular monitoring and reporting of biodiversity status and gains or losses	narrative
E4	E4-2	AR 16		Disclosure of how the policy enables to a), b), c) and d)	narrative
E4	E4-2	AR 17 a		Third-party standard of conduct used in policy is objective and achievable based on scientific approach to identifying issues and realistic in assessing how these issues can be addressed under variety of practical circumstances	semi-narrative
E4	E4-2	AR 17 b		Third-party standard of conduct used in policy is developed or maintained through process of ongoing consultation with relevant stakeholders with balanced input from all relevant stakeholder groups with no group holding undue authority or veto power over content	semi-narrative
E4	E4-2	AR 17 c		Third-party standard of conduct used in policy encourages step-wise approach and continuous improvement in standard and its application of better management practices and requires establishment of meaningful targets and specific milestones to indicate progress against principles and criteria over time	semi-narrative

ESRS	DR	Paragraph	Related AR	Name	Data Type
E4	E4-2	AR 17 d		Third-party standard of conduct used in policy is verifiable through independent certifying or verifying bodies, which have defined and rigorous assessment procedures that avoid conflicts of interest and are compliant with ISO guidance on accreditation and verification procedures or Article 5(2) of Regulation (EC) No 765/2008	semi-narrative
E4	E4-2	AR 17 e		Third-party standard of conduct used in policy conforms to ISEAL Code of Good Practice	semi-narrative
E4	E4-2	24 a		Biodiversity and ecosystem protection policy covering operational sites owned, leased, managed in or near protected area or biodiversity-sensitive area outside protected areas has been adopted	semi-narrative
E4	E4-2	24 b		Sustainable land or agriculture practices or policies have been adopted	semi-narrative
E4	E4-2	24 c		Sustainable oceans or seas practices or policies have been adopted	semi-narrative
E4	E4-2	24 d		Policies to address deforestation have been adopted	semi-narrative
ESRS 2		62		Disclosures to be reported in case the undertaking has not adopted policies	
E4	E4-3	27		Actions and resources in relation to biodiversity and ecosystems [see ESRS 2 - MDR-A]	MDR-A
E4	E4-3	28 a	AR 19	Disclosure on how the mitigation hierarchy has been applied with regard to biodiversity and ecosystem actions	narrative
E4	E4-3	28 b		Biodiversity offsets were used in action plan	semi-narrative
E4	E4-3	28 b (i)		Disclosure of aim of biodiversity offset and key performance indicators used	narrative
E4	E4-3	28 b (ii)	AR 18	Financing effects (direct and indirect costs) of biodiversity offsets	Monetary
E4	E4-3	28 b (iii)		Description of biodiversity offsets	narrative
E4	E4-3	28 c	AR 21	Description of whether and how local and indigenous knowledge and nature-based solutions have been incorporated into biodiversity and ecosystems-related action	narrative
E4	E4-3	AR 20 a		Disclosure of key stakeholders involved and how they are involved, key stakeholders negatively or positively impacted by action and how they are impacted	narrative
E4	E4-3	AR 20 b		Explanation of need for appropriate consultations and need to respect decisions of affected communities	narrative
E4	E4-3	AR 20 c		Description of whether key action may induce significant negative sustainability impacts (biodiversity and ecosystems)	narrative
E4	E4-3	AR 20 d		Explanation of whether the key action is intended to be a one-time initiative or systematic practice	narrative
E4	E4-3	AR 20 e		Key action plan is carried out only by undertaking (individual action) using its resources (biodiversity and ecosystems)	semi-narrative
E4	E4-3	AR 20 e		Key action plan is part of wider action plan (collective action), of which undertaking is member (biodiversity and ecosystems)	semi-narrative
E4	E4-3	AR 20 f		Additional information about project, its sponsors and other participants (biodiversity and ecosystems)	narrative
ESRS 2		62		Disclosures to be reported if the undertaking has not adopted actions	
E4	E4-4	29	AR 23	Tracking effectiveness of policies and actions through targets [see ESRS 2 MDR-T]	MDR-T
E4	E4-4	32 a		Ecological threshold and allocation of impacts to undertaking were applied when setting target (biodiversity and ecosystems)	semi-narrative

ESRS	DR	Paragraph	Related AR	Name	Data Type
E4	E4-4	32 a i)		Disclosure of ecological threshold identified and methodology used to identify threshold (biodiversity and ecosystems)	narrative
E4	E4-4	32 a ii)		Disclosure of how entity-specific threshold was determined (biodiversity and ecosystems)	narrative
E4	E4-4	32 a iii)		Disclosure of how responsibility for respecting identified ecological threshold is allocated (biodiversity and ecosystems)	narrative
E4	E4-4	32 b		Target is informed by relevant aspect of EU Biodiversity Strategy for 2030	semi-narrative
E4	E4-4	32 c		Disclosure of how the targets relate to the biodiversity and ecosystem impacts, dependencies, risks and opportunities identified in relation to own operations and upstream and downstream value chain	narrative
E4	E4-4	32 d		Disclosure of the geographical scope of the targets	narrative
E4	E4-4	32 e		Biodiversity offsets were used in setting target	semi-narrative
E4	E4-4	32 f		Layer in mitigation hierarchy to which target can be allocated (biodiversity and ecosystems)	semi-narrative
E4	E4-4	AR 22		The target addresses shortcomings related to the Substantial Contribution criteria	semi-narrative
ESRS 2		81		Disclosures to be reported if the undertaking has not adopted targets	
E4	E4-5	35		Number of sites owned, leased or managed in or near protected areas or key biodiversity areas that undertaking is negatively affecting	Integer
E4	E4-5	35		Area of sites owned, leased or managed in or near protected areas or key biodiversity areas that undertaking is negatively affecting	Area
E4	E4-5	36		Disclosure of land-use based on Life Cycle Assessment	narrative
E4	E4-5	38		Disclosure of metrics considered relevant (land-use change, freshwater-use change and (or) sea-use change)	narrative
E4	E4-5	38 a		Disclosure of conversion over time of land cover	narrative
E4	E4-5	38 b		Disclosure of changes over time in management of ecosystem	narrative
E4	E4-5	38 c		Disclosure of changes in spatial configuration of landscape	narrative
E4	E4-5	38 d		Disclosure of changes in ecosystem structural connectivity	narrative
E4	E4-5	38 e		Disclosure of functional connectivity	narrative
E4	E4-5	AR 34 a		Total use of land area	Area
E4	E4-5	AR 34 b		Total sealed area	Area
E4	E4-5	AR 34 c		Nature-oriented area on site	Area
E4	E4-5	AR 34 d		Nature-oriented area off site	Area
E4	E4-5	39		Disclosure of how pathways of introduction and spread of invasive alien species and risks posed by invasive alien species are managed	narrative
E4	E4-5	AR 32		Number of invasive alien species	Integer

ESRS	DR	Paragraph	Related AR	Name	Data Type
E4	E4-5	AR 32		Area covered by invasive alien species	Area
E4	E4-5	40		Disclosure of metrics considered relevant (state of species)	narrative
E4	E4-5	40 a		Disclosure of paragraph in another environment-related standard in which metric is referred to	narrative
E4	E4-5	40 b		Disclosure of population size, range within specific ecosystems and extinction risk	narrative
E4	E4-5	40 c		Disclosure of changes in number of individuals of species within specific area	narrative
E4	E4-5	40 d		Information about species at global extinction risk	narrative
E4	E4-5	40 d (i)		Disclosure of threat status of species and how activities or pressures may affect threat status	narrative
E4	E4-5	40 d (ii)		Disclosure of change in relevant habitat for threatened species as proxy for impact on local populationâ€™s extinction risk	narrative
E4	E4-5	41 a		Disclosure of ecosystem area coverage	narrative
E4	E4-5	41 b (i)		Disclosure of quality of ecosystems relative to pre-determined reference state	narrative
E4	E4-5	41 b (ii)		Disclosure of multiple species within ecosystem	narrative
E4	E4-5	41 b (iii)		Disclosure of structural components of ecosystem condition	narrative
E4	E4-6	45 a	AR 40	Disclosure of quantitative information about potential financial effects of material risks and opportunities arising from biodiversity- and ecosystem-related impacts and dependencies	Monetary
E4	E4-6	45 a		Disclosure of qualitative information about potential financial effects of material risks and opportunities arising from biodiversity- and ecosystem-related impacts and dependencies	narrative
E4	E4-6	45 b		Description of effects considered, related impacts and dependencies (biodiversity and ecosystems)	narrative
E4	E4-6	45 c		Disclosure of critical assumptions used in estimates of financial effects of material risks and opportunities arising from biodiversity- and ecosystem-related impacts and dependencies	narrative
E4	E4-6	AR 39		Description of related products and services at risk (biodiversity and ecosystems) over the short-, medium- and long-term	narrative
E4	E4-6	AR 39		Explanation of how financial amounts are estimated and critical assumptions made (biodiversity and ecosystems)	narrative/monetary

ANNEX 3: IN-DEPTH COMPARATIVE ANALYSIS ON BIODIVERSITY BETWEEN ESRS, TNFD AND GRI

1. Transition plan related to strategy and business model

TRANSITION PLAN			
	CSRD ESRS 1, 2, E4	**TNFD**	**GRI**
Document references	ESRS E4 (DR E4-1 and AR 1 to 3)	Strategy B and C	D 101 – 2-a-v and resp. guidance
1. Resilience of strategy and business model	DR E4-1 imposes ('shall') the undertaking to disclose how its biodiversity and ecosystem impacts, dependencies, risks and opportunities originate from and trigger adaptation of its **strategy** and **business model**. The objective of this DR is to enable an understanding of the **resilience** of the undertaking's strategy and business model in relation to biodiversity and ecosystems, and of the **compatibility** of the undertaking's strategy and business model with regard to relevant local, national and global **public policy targets** related to biodiversity and ecosystems. The **description of resilience** shall include (a) resilience to biodiversity and ecosystems-related physical, transition and systemic risks; (b) the scope of the resilience analysis in relation to the undertaking's own operations and its upstream and downstream value chain; (c) the key assumptions made; (d) the time horizons used; (e) the results of the resilience analysis; and (f) the involvement of stakeholders.	(***Strategy C***). The organisation should disclose information on the **resilience** of its **strategy**, **business model** and **value chain** to nature-related changes, developments and uncertainties, taking into consideration the organisation's nature-related risks and opportunities identified in ***Strategy A*** (see Figure 2-1). The organisation should use nature-related **scenario analysis** to assess its strategy resilience, using an approach that is commensurate with the organisation's circumstances. The organisation should describe: **a)** the ways in which it believes its strategy, business model and value chain may be affected over the short, medium and long term by key trends and critical uncertainties regarding (i) physical risks associated with nature loss and possible tipping points in locations material to its business model and value chain (as identified in Strategy D); (ii) a range of transition risks, such as changes in government policy and regulation, litigation risk and shifting consumer expectations, and the degree of alignment or misalignment of those transition risk uncertainties; **b)** how its strategies might change to address such potential trends and uncertainties, including a description of how the organisation took into consideration location specificity;	*Resilience of strategy and business model not covered.*

		c) the potential effects, if assessed, of an increased level and/or increased rate of change of nature-related risks and opportunities on financial performance (i.e. revenues and expenses) and financial position (i.e. assets and liabilities) over the short, medium and long term; **d)** the resources and capacity the organisation has, or plans to put in place, to adapt and make identified changes to its strategy to address future changes in the potential effects of nature-related risks and opportunities; **e)** Its use of scenario tools and methodologies, if any, to inform its thinking about the resilience of its strategy, including a brief description of the scenario narratives used, the time horizons considered and the key insights gained.	
Conclusion	**Both ESRS E4 and TNFD require to disclose how its biodiversity and ecosystem impacts, dependencies, risks and opportunities originate from and trigger adaptation of its strategy and business model. Both disclosure initiatives emphasize the importance of understanding the resilience of the undertaking's strategy and business model in relation to biodiversity and ecosystems, and of the compatibility of the undertaking's strategy and business model with regard to relevant local, national and global public policy targets related to biodiversity and ecosystems. GRI does not cover resilience of strategy and business model, given GRI's focus on impacts and to a minor extent on dependencies (not on risks and opportunities).**		
2. Transition plan	The undertaking **may** disclose its **transition plan** to improve and, ultimately**, achieve alignment** of its business model and strategy with the **vision of the Kunming-Montreal Global Biodiversity Framework** and its relevant goals and targets, the **EU Biodiversity Strategy for 2030**, and with respecting **planetary boundaries** related to biosphere integrity and land-system change. (AR 1) If disclosing a transition plan, the undertaking may: **(a)** explain how it will adjust its strategy and business model to improve and, ultimately, achieve alignment with relevant local, national and global public policy goals and targets related to biodiversity and ecosystems including the KunmingMontreal Global Biodiversity Framework, the EU Biodiversity Strategy for 2030, the EU Birds and Habitats Directives, and, as appropriate, planetary	(**Strategy B**) B. Describe the effect nature-related dependencies, impacts, risks and opportunities have had on the organisation's business model, value chain, strategy and financial planning, as well as any **transition plans** or analysis in place. The organisation should describe how the nature-related dependencies, impacts, risks and opportunities identified in Strategy A have affected its business model, value chain, strategy and financial position. Organisations that have made nature-related commitments, set nature-related targets and/or made nature transition plans to address nature-related dependencies, impacts, risks and opportunities should describe their commitments, how they will	The organization can describe how it ensures that its **business model** is compatible with the **transition** to halt and reverse biodiversity loss or the steps taken to transition to a circular economy. The organization can also describe actions that advance the sustainable use of biodiversity, for example, promoting farming practices that support biodiversity.

boundaries related to biosphere integrity and land-system change;
(b) include information about its own operations and also explain how it is responding to material impacts in its upstream and downstream value chain
(c) explain how its strategy interacts with its transition plan;
(d) explain how it contributes to addressing biodiversity and ecosystem impact drivers and its possible mitigation actions following the mitigation hierarchy and the main path-dependencies and locked-in assets and resources (e.g., plants, raw materials) that are associated with biodiversity and ecosystems change;
(e) explain and quantify its investments and funding supporting the implementation of its transition plan, with a reference to the key performance indicators of **Taxonomy-aligned CapEx**, and where relevant the CapEx plans, that the undertaking discloses in accordance with Commission Delegated Regulation (EU) 2021/2178;
(f) if it has economic activities that are covered by delegated regulations on biodiversity under the Taxonomy Regulation, explain any objective or plans (CapEX, CapEx plans) that it has for aligning its economic activities (revenues, CapEx) with the criteria established in those delegated regulations;
(g) explain how biodiversity offsets are used as part of the transition plan, and if so, where the offsets are planned to be used, the extent of use in relation to the overall transition plan, and whether the mitigation hierarchy was considered;
(h) explain how the process of implementing and updating the transition plan is managed;
(i) explain how it measures progress, namely indicate the metrics and methodologies it uses for that purpose;
(j) indicate whether the administrative, management and supervisory bodies have approved the transition plan; and
(k) indicate current challenges and limitations to draft a plan in relation to areas of significant impact and how the company is addressing those challenges.

achieve them and how they are aligned to GBF goals and targets. A non-exhaustive list of indicators and metrics that demonstrate the response of organisations to nature-related dependencies, impacts, risks and opportunities is provided in Annex 2.

	AR 2 and 3 cover **targets** the transition plan should consider such as the targets of the EU Biodiversity Strategy and targets related to relevant SDGs (SDG 2 on sustainable agriculture, SDG 6 on sustainable water management and SDG 14 and 15 related to marine biodiversity and biodiversity on land.
Conclusion	**Taking action to strengthen an undertaking's resilience to nature-related changes, developments and uncertainties and to achieve alignment of its business model and strategy with the vision of the Kunming-Montreal Global Biodiversity Framework, is covered by all three disclosure initiatives, but there are important differences. The disclosure of transition plans according to ESRS E4 is not mandatory. TNFD recommends disclosure of transition plans in Strategy B and recommends disclosing the current and anticipated effects of the identified risks and opportunities on its business model and value chain and disclosing processes and actions it has put in place to respond to the material dependencies, impacts, risks and opportunities it has identified. Both ESRS E4 (for those organizations that have decided to disclose a transition plan) and TNFD are quite prescriptive on the contents of the transition plan but are not fully aligned. So, apart from the fact that moving from ESRS to TNFD requires effective disclosure of the transition plan (as for ESRS it is not mandatory), there are also efforts required to comply with contents requirements (see for instance link to Taxonomy in ESRS E4 transition plan). The latter also applies to moving from TNFD to ESRS. For GRI 101, the description of how an organization ensures that its business model is compatible with the transition to halt and reverse biodiversity loss, is just an option, not even a recommendation.**

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2. Impacts, dependencies, risks and opportunities

IMPACTS , DEPENDENCIES, RISKS AND OPPORTUNITIES			
	CSRD ESRS 1, 2, E4	**TNFD**	**GRI**
Document references	ESRS 2 IRO 1 ESRS E4 DR related to ESRS 2 IRO 1 ESRS E4 (AR4 to AR10) ESRS Glossary	Strategy A Risk and impact management A(i), A(ii), B, C TNFD Recommendations Annex 2 on how to measure changes in the state of nature TNFD LEAP Guidance	Disclosure 101-4 Identification of biodiversity impacts Disclosure 101-8 Ecosystem services
1. Identification and assessment process	(AR 5) When assessing the materiality of impacts, dependencies, risks and opportunities the undertaking shall consider the provisions in ESRS 2 IRO-1 and ESRS 1 Chapter 3 Double materiality as the basis for sustainability disclosures and describe its considerations ESRS 2 IRO 1 (51). The undertaking shall disclose its process to identify its impacts, risks and opportunities and to assess which ones are **material**. DR related to ESRS 2 IRO-1 covers the description of processes to identify and assess material biodiversity and ecosystem-related **impacts, risks, dependencies and opportunities**. (17) The description of the process shall include whether and how the undertaking: a) identified and assessed **actual and potential impacts** on biodiversity and ecosystems at own site locations and in the upstream and downstream value chain, including **assessment criteria** applied; b) identified and assessed **dependencies** on biodiversity and ecosystems and their services at own site locations and in the upstream and downstream value chain, including **assessment criteria** applied, and, if this assessment includes ecosystem services that are disrupted or likely to be; c) identified and assessed **transition and physical risks and opportunities** related to biodiversity and	The organisation should describe the **material nature-related dependencies and impacts** the organisation has identified in its direct operations and upstream and downstream value chain(s) over the short, medium and long term. The organisation should disclose the following information for **material impacts**: ▪ location of the impact with reference to the location(s) identified in Strategy D (see table 'location'); ▪ impact pathway(s), including i/ the organisation's impact driver(s) and any external factors that are affecting the state of nature; ii/ how these impact drivers and external trends lead to changes in the state of nature in these location(s); and iii/ how the availability of ecosystem services is affected; ▪ relevant metrics disclosed in Metrics and Targets B; The organisation should disclose the following information for **material dependencies**: ▪ location of the dependency, with reference to the locations identified in Strategy D ▪ dependency pathway, including i/ the environmental asset(s) and ecosystem service(s) the organisation depends on; ii/ the associated impact driver(s) and external factors that are affecting the state of nature	GRI only covers impacts, not dependencies, risks and opportunities. The organization shall explain how it has determined which of its **sites** and which **products and services in its supply chain** have the most significant actual and potential impacts on biodiversity. The organization can additionally report the information for entities downstream in its value chain. The organization should describe the methods used and the assumptions made to determine which of its sites and which products and services in its supply chain have the **most significant actual and potential impacts** on biodiversity. It is up to the organization to set the **threshold** to determine which sites and which products and services in its supply chain have the most significant impacts on biodiversity. The organization should describe any limitations or exclusions, for example, whether it has excluded certain parts of its supply chain when identifying the impacts. The organization can refer to the Scoping and Locate phases of the **LEAP** approach for more

ecosystems, including **assessment criteria** applied based on its impacts and dependencies;

d) considered **systemic risks**;

e) conducted **consultations** with affected communities on sustainability assessments of shared biological resources and ecosystems and in particular:

i. when a site, a raw material production or sourcing is likely to negatively impact biodiversity and ecosystems, the identification of the **specific sites, raw materials production or sourcing with negative or potentially negative impacts on affected communities**;

ii. when affected communities are likely to be impacted, the undertaking, shall disclose how these communities were involved in the materiality assessment; and

iii. with respect to **impacts on ecosystem services** of relevance to affected communities in its own operations, the undertaking shall indicate how negative impacts may be avoided. If these impacts are unavoidable, the undertaking may indicate its plans to minimise them and implement mitigation measures that aim to maintain the value and functionality of priority services.

(18). The undertaking may disclose whether and how it has used biodiversity and ecosystems **scenario analysis** to inform the identification and assessment of material risks and opportunities over **short-, medium- and long-term time horizons**.

(19). The undertaking shall specifically disclose:

a) whether it has sites located in or near biodiversity-sensitive areas and whether activities related to these sites negatively affect these areas

b) whether it has been concluded that it is necessary to implement biodiversity mitigation measures, such as those identified in the Birds and Habitats Directives, IFC PS 6, etc.

and availability of ecosystem services; iii/ the relevant metrics disclosed in Metrics and Targets B;

The organization should disclose a description of any **interconnections** between the organisation's **dependencies and impacts**.

The organisation should describe the **material risks and opportunities** it has identified that could affect its business model, value chain, strategy and financial position and how these arise from its dependencies and impacts on nature.

The organisation should disclose:

- A description of each nature-related risk and opportunity identified by the organisation across each time horizon (short, medium and long term), with reference to the relevant metrics disclosed in Metrics and Targets A;
- the TNFD risk and opportunity category to which the risk or opportunity belongs, including whether a risk is a physical or transition risk.

On the process of identification, assessment and prioritization of material DIRO, the TNFD applies specific disclosure requirements for direct operations (Risk and impact management A(i)) and for upstream and downstream value chain(s) (Risk and impact management A(ii)) (see Table 13 below),.

The organisation should describe its processes for **managing** nature-related DIRO. This should include information about:

• inputs and parameters used by organisation;

• **risk management tools** the organisation uses to assess the organisation's **overall risk profile** in light of those risks;

• how nature-related risks are **monitored**.

guidance on locating where impacts are most likely to be present and significant.

To identify and assess the significance of its impacts on biodiversity, the organization should identify and measure the direct drivers associated with the activities in its operations and its supply chain, as well as identify and measure the changes to the state of biodiversity. It can also identify changes in the provision of ecosystem services.

To determine which of the impacts are most significant, the organization should assess the severity and likelihood of the impacts (see Section 3.1.3 on Materiality).

	(AR 6). The undertaking shall assess the materiality of biodiversity and ecosystems in its own operations and its upstream and downstream value chain and may conduct its materiality assessment in line with the first three phases of the **LEAP approach**: Locate (AR 7), Evaluate (AR 8) and Assess (AR 9).	The organisation should describe whether and how its processes for identifying, assessing, prioritising and monitoring nature-related risks are **integrated** into its **overall risk management process**. TNFD has developed an integrated approach for the identification, assessment and management of nature-related issues for use by a wide range of corporates and financial institutions: the **LEAP approach**.(see Figure 2-2). It involves four phases of assessment:1/ **Locate** the interfaces with nature across geographies, sectors and value chains; 2/ **Evaluate** dependencies and impacts on nature; 3/ **Assess** nature-related risks and opportunities to your organisation; and 4/ **Prepare** to respond to nature-related risks and opportunities.	
Conclusion	**A major difference between GRI and both other disclosure framework/standards is its unique focus on impacts (and to a minor extent on dependencies). GRI doesn't cover risks and opportunities. In terms of the process for identifying and assessing biodiversity-related DIRO (and for GRI only impacts/dependencies), all disclosure framework/standards emphasize the need to cover the whole value chain. TNFD explicitly recommends describing how identification, assessment and prioritization processes are integrated into existing risk management processes. TNFD also provides clear instructions on how this process applies differently to direct operations and upstream/downstream. TNFD is unique with its LEAP framework as additional guidance for supporting the process of identification and assessment of DIRO, but both ESRS E4 and GRI 101 refer to it as a voluntary approach, although to different levels of extent (ESRS E4 refers to first 3 phases because LEAP is recommended for the materiality assessment process, while GRI 101 only refers to the first phase).**		
2. Further specifications on impacts	(AR4) The **materiality assessment** under ESRS E4 includes the undertaking's (a) contribution to direct **impact drivers** on biodiversity loss: i. climate change; ii. land-use change (e.g., land artificialisation), freshwater-use change and sea-use change; iii. direct exploitation; iv. invasive alien species; v. pollution; and vi. others.	The organisation should disclose the following information for **material impacts**: ▪ location of the impact with reference to the location(s) identified in Strategy D (see table 'location' below); impact pathway(s), including i/ the organisation's impact driver(s) and any external factors that are affecting the state of nature; ii/ how these impact drivers and external trends lead to changes in the state of nature in these location(s); and iii/ how the availability of ecosystem services is affected	The GRI 101 standard has introduced two new disclosures with relevance to impacts: ▪ Requirement to report on the direct drivers of biodiversity loss: land and sea use change, exploitation of natural resources, pollution, and invasive alien species (Disclosure 101-6). Although less accurate than direct measurements of changes in the state of biodiversity (i.e., changes to ecosystems and species), information on direct drivers of biodiversity loss helps understand how

	(b) impacts on the state of species (i.e., species population size, species global extinction risk); (c) impacts on the extent and condition of ecosystems including through land degradation, desertification and soil sealing); and (d) impacts and dependencies on ecosystem services.	TNFD works with (similar) Impact drivers: ▪ Climate Change ▪ Land/freshwater/ocean use change ▪ Resource use/replenishment ▪ Pollution/pollution removal ▪ Invasive alien species introduction/removal TNFD's LEAP Guidance provides further background information and guidance on nature-related impacts, dependencies and how this relates to risks and opportunities. TNFD Recommendations Annex 2 provides further guidance on how to measure change of state of nature.	an organization affects biodiversity. In turn, it informs which actions an organization needs to take to manage its impacts on biodiversity. ▪ Requirement to report on the changes to the state of biodiversity (Disclosure 101-7). Requirements have been included to report the type, size, and condition of ecosystems affected or potentially affected by an organization.
Conclusion	**Assessment of impacts is central to all approaches. They all consider actual and potential impacts, as well as negative and positive impacts. All initiatives ESRS, TNFD and GRI recognize that a comprehensive analysis of business impacts on nature requires looking to both impact drivers/pressures resulting from business activities and state of nature. All approaches refer to the five IPBES direct drivers of biodiversity loss and ecosystem change: natural resource use and exploitation, land- and sea-use change, pollution, climate change and introduction of invasive species (IPBES 2019). These are the main impact drivers but there are more (e.g. noise and light distribution), which is explicitly acknowledged only by ESRS E4 (reference to 'others' in AR4). State of nature assessment is also recognized by all approaches as a necessary part of impact measurement that is expected to include both species- and ecosystem-level assessments. ESRS E4, TNFD and GRI rely on a similar approach on measuring state of biodiversity (extent and condition of ecosystems, species).**		
3.Further specifications on dependencies	No further specifications	TNFD's LEAP Guidance provides further background information and guidance on nature-related impacts, dependencies and how this relates to risks and opportunities	(DR 101-8) The organization shall **a/** for each site reported under 101-5-a, list the ecosystem services and beneficiaries affected or potentially affected by the organization's activities, and **b/** explain how the ecosystem services and beneficiaries are or could be affected by the organization's activities. Beneficiaries can include Indigenous Peoples, local communities, and other organizations. The reporting organization can also be one of the beneficiaries GRI 101 does not provide a detailed guidance on how companies should measure the size of their dependencies on nature..

Conclusion	**ESRS does not provide detailed guidance on nature-related dependencies, which is different from TNFD (LEAP guidance). However, ESRS E4 refers to LEAP. GRI 101 asks companies to report how ecosystem services and its beneficiaries are affected and this can include the reporting organization itself. However, it does not provide detailed guidance on how companies should measure the size of their dependencies on nature.**		
4. Further specifications on Risks	**Definition** 'risks': "Sustainability-related risks with negative financial effects arising from environmental, social or governance matters that may negatively affect the undertaking's financial position, financial performance, cash flows, access to finance or cost of capital in the short, medium or long term." AR 9. In Phase 3, to assess its material risks and opportunities based on the results of Phases 1 and 2, the undertaking may consider the following categories: a) Physical risks, i.e. i. acute risks, and ii. chronic risks (*examples are provided for both*) b) Transition risks, including I. policy and legal, ii. technology, iii..market, and iv. Reputation (*examples are provided for all; it must be noted that the examples on 'technology' are rather opportunities than risks*) c) Systemic risks (*examples are provided)*	**Definition** nature-related risks: "In line with ISO, the TNFD defines nature-related risks as potential threats (effects of uncertainty) posed to an organisation that arise from its and wider society's dependencies and impacts on nature." TNFD's LEAP Guidance provides further background information and guidance on nature-related risks and opportunities	Not covered in GRI 101
Conclusion	**ESRS and TNFD are well aligned in terms of definitions and categories of risk. Both differentiate between acute and chronic physical risks, transition risks and systemic risks. ESRS and TNFD both outline that companies should assess the likelihood and magnitude of nature-related risks as well as their type. GRI doesn't cover risks**		
5.Further specifications on opportunities	**Definition**: 'opportunities': "Sustainability-related opportunities with positive financial effects." AR 9. In Phase 3, to assess its material risks and opportunities based on the results of Phases 1 and 2, the undertaking may consider the following categories: (d) opportunities, including for example:	**Definition** 'nature-related opportunities': "Activities that create positive outcomes for organisations and nature by creating positive impacts on nature or mitigating negative impacts on nature. Nature-related opportunities are generated through impacts and dependencies on nature, and can occur: ▪ When organisations avoid, reduce, mitigate or manage nature-related risks, for example, connected to the loss of nature and	Not covered in GRI 101

	i. business performance categories: resource efficiency; products and services; markets; capital flow and financing; reputational capital; and ii. sustainability performance categories: ecosystem protection, restoration and regeneration; sustainable use of natural resources.	ecosystem services that the organisation and society depend on; ▪ Through the strategic transformation of business models, products, services, markets and investments that actively work to reverse the loss of nature, including by restoration, regeneration of nature and implementation of nature-based solutions." TNFD's LEAP Guidance provides further background information and guidance on nature-related risks and opportunities
Conclusion	**ESRS and TNFD are totally aligned in terms of opportunities. TNFD provides more guidance. ESRS and TNFD not only refer to business performance opportunities but also highlight opportunities that benefit nature through companies improving their sustainability performance, such as ecosystem protection, restoration and regeneration and sustainable use of natural resources. GRI doesn't cover opportunities**	

Table 13: Differences between TNFD disclosure requirements on processes for identification, assessment and prioritisation of nature-related DIRO in direct operations and in upstream and downstream value chain(s)

Direct operations (TNFD Recommendations pillar 'Risk and Impact management' A(i))	Upstream and downstream (TNFD Recommendations pillar 'Risk and Impact management' A(i))
The description should include: ▪ **How the organisation identifies existing and emerging** nature-related dependencies, impacts, risks and opportunities that may be material to the organisation, including factors such as: ○ The materiality definitions and application guidance used with respect to the organisation's materiality assessment; ○ The degree of location-specificity used (e.g. site-specific, local, sub-national), taking into account the differences in dependencies, impacts, risks and opportunities across locations; ○ The timescales considered; ○ Whether and how ecological thresholds and tipping points were considered; ○ The frequency of assessment; ○ Whether and how existing and emerging policy changes and regulatory requirements related to climate change and nature loss were considered (e.g. restrictions on water or land use).	The description should include: ▪ How the organisation defines the value chain(s), its scope and constituent elements; ▪ The scope of the value chain(s) considered; ▪ How the organisation determines which elements of the value chain(s) are to be assessed (e.g. based on the TNFD's additional guidance; the commodities used; products, locations, processes; and/or degree of influence over the issue); ▪ The elements of the value chain(s) selected for assessment using this process; ▪ How the organisation reviews its approach to identifying elements of the value chain(s) for assessment to reflect new, emerging and changing risks and opportunities that may affect the organisation; ▪ **How the organisation assesses** dependencies, impacts, risks and opportunities associated with its value chain(s): ○ The materiality definitions and application guidance used with respect to the organisation's materiality assessment; ○ The timescales considered for the assessment; ○ Whether and how ecological thresholds and tipping points have been considered;

	○ The degree of location-specificity achieved and the implications for the analysis, including: • an assessment of the quality of the data used and the implications for the analysis; • the improvements in data quality, traceability and location-specificity achieved since the disclosure in prior periods; • which data are obtained directly from suppliers or customers and which are estimated; • the methodology and data sources used when data are not obtained directly from suppliers or customers, including the use of proxy data; • the strategy to increase data quality, traceability and location-specificity over time, the barriers to such improvements and the approach to overcoming those barriers.
The description should include: ▪ How the organisation assesses nature-related risks and opportunities for the **magnitude of potential effects** on the organisation, including processes for assessing the potential size and scope of identified nature-related risks and opportunities and the **likelihood of the effects of those risks**, based on its understanding of how nature-related risks and opportunities originate from the identified dependencies and impacts	The description should include: ▪ How the organisation assesses nature-related risks and opportunities in its value chain(s) based on the **magnitude of potential effects** on the organisation, including processes for assessing the potential size and scope of identified nature-related risks and opportunities and the **likelihood of the effects of those risks**, based on its understanding of how nature-related risks and opportunities originate from the identified dependencies and impacts;
The description should include: ▪ How the organisation determines the **relative significance** of nature-related risks and opportunities in relation to other risks and opportunities and **prioritises** risks and opportunities to inform risk and opportunity responses and risk and opportunity management decision-making.	The description should include: ▪ How the organisation determines the **relative significance** of nature-related risks and opportunities in its value chain(s) in relation to other risks and opportunities, including processes for **prioritising** risks and opportunities to inform risk and opportunity responses and risk and opportunity management decision-making
The organisation should disclose: ▪ a assessment of the quality of the data used and the implications for the analysis; ▪ a description of any improvements made to data quality since the previous disclosure period and plans to improve data quality over time; ▪ the methodology and information sources used for key data not obtained directly from the organisation's operations; ▪ definitions of the risk terminology used, or references to existing risk classification frameworks used, where appropriate and relevant to understanding the process followed	

3. Location

LOCATION			
	CSRD ESRS 1, 2, E4	**TNFD**	**GRI**
Document references	DR SBM 3 DR related to ESRS 2 IRO-1	General Requirements Strategy D	DR 101-4 DR 101-5
1. Which locations?	(16) The undertaking shall disclose: (a) a list of material sites in its own operations, including sites under its operational control, based on the results of paragraph 17(a) (i.e. "The description of the process shall include whether and how the undertaking identified and assessed actual and potential impacts on biodiversity and ecosystems at own site locations and in the upstream and downstream value chain, including assessment criteria applied;"). The undertaking shall disclose these locations by: **i.** specifying the activities negatively affecting biodiversity sensitive areas; **ii.** providing a breakdown of sites according to the impacts and dependencies identified, and to the ecological status of the areas (with reference to the specific ecosystem baseline level) where they are located; and **iii.** specifying the **biodiversity-sensitive areas** impacted, for users to be able to determine the location and the responsible competent authority with regards to the activities specified in paragraph 16(a) i. (19 a). The undertaking shall specifically disclose whether it has sites located in or near biodiversity-sensitive areas and whether activities related to these sites negatively affect these areas. (AR6) The undertaking shall assess the materiality of biodiversity and ecosystems in its own operations and its upstream and downstream value chain, and may conduct its materiality assessment in line with the first three phases of the LEAP approach: Locate (paragraph AR 7), Evaluate (paragraph AR 8) and Assess (paragraph AR 9)	(General) Consideration of the geographic location of the organisation's interfaces with nature – through direct operations as well as upstream and downstream value chain(s) – should be central to the organisation's assessment of its nature-related issues, and where material, to its disclosure statements. This is an important difference from the analysis of climate through Scope 1, 2 and 3 emissions. The location-specific character of nature-related issues underscores why it is important that report preparers provide material information in a manner that enables primary users of general purpose financial reports and other stakeholders to understand the connection between assessed dependencies, impacts, risks and opportunities. When disclosing information about material nature-related issues by geographic location, the organisation should disaggregate information to the extent possible. Organisations are encouraged to improve the level of geolocation precision over time as data and traceability improve. TNFD requires to disclose the locations of assets and/or activities in the organisation's direct operations and, where possible, upstream and downstream value chain(s) that meet the criteria for **priority locations**. As illustrated in Figure 3-4, priority locations are locations that are: ▪ **Material locations**: Locations where an organisation has identified material nature-related dependencies, impacts, risks and	(DR 101-4)The organization should describe the methods used and the assumptions made to determine which of its sites and which products and services in its supply chain have the most significant actual and potential impacts on biodiversity. It is up to the organization to set the threshold to determine which sites and which products and services in its supply chain have the most significant impacts on biodiversity. The organization should assess which of its sites are in or near ecologically sensitive areas. If the organization has information about the location of its suppliers, it can also assess which of those suppliers are in or near ecologically sensitive areas.. (DR 101-4) Sites include sites owned, leased, or managed by the organization and locations where it conducts its activities. Sites also include those for which future operations have been announced but not yet started, as well as those no longer active. Sites include subsurface infrastructures under the land or seabed surface, such as underground mining tunnels, cables, and pipelines. GRI specifies criteria for identifying ecologically sensitive areas in Table 1 in the Annex of the GRI 101:Biodiversity 2024 standard. These criteria apply to the same 5 categories of sensitive areas as listed by TNFD.

	According to the ESRS Glossary a '**biodiversity sensitive area**' belongs to one f the following categories: Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas ('KBAs'), as well as other protected areas, as referred to in Appendix D of Annex II to Commission Delegated Regulation (EU) 2021/21398 (*which is the Taxonomy*). .	opportunities in its direct operations and upstream and downstream value chain(s); and/or ▪ **Sensitive locations**: Locations where the assets and/or activities in its direct operations – and, where possible, upstream and downstream value chain(s) – interface with nature in: ✓ areas important for biodiversity; ✓ areas of high ecosystem integrity; ✓ areas of rapid decline in ecosystem integrity; ✓ areas of high physical water risks; ✓ areas of importance for ecosystem service provision, including benefits to Indigenous Peoples, Local Communities and stakeholders	
Conclusion	**The TNFD uses the definition of 'priority' locations. This includes not only the locations where the company has identified material nature-related issues but also all locations where the company interfaces with ecologically sensitive areas. ESRS and GRI ask to disclose 'material' sites or locations, including sensitive locations as a sub-set of this list. While TNFD and GRI are fully aligned with regard to the definition of 'sensitive location', the ESRS definition of a biodiversity sensitive area is more specific, as it refers to protected areas or key biodiversity areas identified in certain regulations or frameworks.**		
2.Required information to be disclosed on locations	(35) If the undertaking identified sites located in or near biodiversity-sensitive areas that it is negatively affecting (see paragraph 19(a)), the undertaking shall disclose the number and area (in hectares) of sites owned, leased or managed in or near these protected areas or key biodiversity areas. For datapoints specified in paragraphs 38 to 41, the undertaking shall consider its **own operations**. Datapoints 38 to 41 refer to disclosure metrics.related to land and sea use (change), invasive alien species, species, ecosystem extent and condition. These are specified in the table in Annex 1 (with reference to articles 38 to 41).	An organisation should provide: ▪ A list and/or spatial map of the locations where the organisation has assets and/or activities: o in its direct operations and upstream and downstream value chain(s), where material nature-related dependencies, impacts, risks and opportunities have been identified, and whether any of these locations meet the criteria for sensitive locations; o in its direct operations and, where possible upstream and downstream value chain(s), that are in sensitive locations as defined above.	(DR 101-5) The organization shall: a. report the location and size in hectares of its sites with the most significant impacts on biodiversity; b. for each site reported under 101-5-a, report whether it is in or near an **ecologically sensitive area**, the distance to these areas, and whether these are: i. areas of biodiversity importance; ii. areas of high ecosystem integrity; iii. areas of rapid decline in ecosystem integrity; iv. areas of high physical water risks; v. areas important for the delivery of ecosystem service benefits to

		▪ A description of how the organisation has defined sensitive locations, with reference to the tools, data sources, indicators, metrics ▪ A description of the process followed to identify priority locations for disclosure; ▪ A description of the level of geographic specificity achieved, if and how locations have been aggregated, and the rationale for any aggregation, ▪ The organisations intentions to improve or expand its location assessment activities over the short, medium and long term.	Indigenous Peoples, local communities, and other stakeholders; c. report the activities that take place in each site reported under 101-5-a; d. report the products and services in its supply chain with the most significant impacts on biodiversity and the countries or jurisdictions where the activities associated with these products and services take place. The organization should use **polygon outlines or maps** to report on the location of its sites with the most significant impacts on biodiversity. If available, the organization should also report the names and coordinates of its sites.
Conclusion	**In terms of the information to be disclosed, while ESRS is not referring to spatial data, TNFD recommends the use of spatial data and GRI 101 strongly encourages disclosure of spatial data — recommending companies report on the locations of their direct operation sites using polygon outlines or maps where possible.**		

4. Policies and targets

POLICIES			
	CSRD ESRS 1, 2, E4	**TNFD**	**GRI**
Document references	ESRS 2 MDR-P, MDR-T and AR 24-26 ESRS 4 (E4-1 and AR 2–3) ESRS 4 (E4-4 and AR 22-26)	Strategy C LEAP Guidance Section 7.5	DR 101-1
1.Policies	(E4-1) The undertaking may disclose its transition plan to improve and, ultimately, achieve alignment of its business model and strategy with the vision of the Kunming-Montreal Global Biodiversity Framework and its relevant goals and targets, the EU Biodiversity Strategy for 2030, and with	6.5.3 When performing the prioritisation and assessment of nature-related risks and opportunities, organisations should consider whether, and to what extent, the risk or opportunity affects progress on societal environmental priorities or goals, including, at the global scale, towards the targets of the UN Convention	(101-1) The organization shall: a. describe its policies or commitments to halt and reverse biodiversity loss, and how these are informed by the **2050 Goals and 2030 Targets in the Kunming-Montreal Global Biodiversity Framework**;

	respecting planetary boundaries related to biosphere integrity and land-system change. (E4-2) (**23) In addition to the provisions of ESRS 2 MDR-P the undertaking shall describe whether and how its biodiversity and ecosystems-related policies:** (d) support **traceability of products, components and raw materials with material actual or potential impacts** on biodiversity and ecosystems along the value chain; **24) The undertaking shall specifically disclose whether it has adopted:** (b) **sustainable land / agriculture practices** or policies (c) sustainable **oceans / seas** practices or policies; and (d) policies to address **deforestation**	on Biological Diversity's **Kunming-Montreal Global Biodiversity Framework (GBF**), the safe operating spaces of planetary boundaries and safe and just earth system boundaries, and the Sustainable Development Goals (SDGs) 7.5.2 The TNFD strongly recommends that organisations set targets that align with the goals and targets of the **Kunming-Montreal Global Biodiversity Framework** A(ii) The strategy to increase data quality, traceability and location-specificity over time, the barriers to such improvements and the approach to overcoming those barriers.
Conclusion	**ESRS E4, TNFD and GRI recommend alignment with GBF. ESRS E4 and TNFD recommend alignment with the Planetary Boundaries. ESRS requires to disclose if the organisation has adopted sustainable land/agriculture practices or policies, sustainable oceans / seas practices or policies policies to address deforestation. Both other frameworks do not specify particular policies.**	

2.Target types and description

DR E4-4 requires an undertaking to disclose the targets it has set on biodiversity and ecosystems (29). The objective is to allow an understanding of the targets the undertaking has adopted to support its biodiversity and ecosystems policies and address its material related impacts, dependencies, risks and opportunities (30)

(31). The description of the targets shall follow the mandatory content defined in ESRS 2 MDR-T 'Tracking effectiveness of policies and actions through targets'. These Minimum Disclosure Requirements do not only apply to biodiversity but are listed below given their high relevance for biodiversity too. For each target, the disclosure shall include the following information (80):

a) link to the policy objectives;
b) target level to be achieved, and, if in absolute or relative terms and in which unit it is measured (see also AR26 which provides examples of measurable targets; AR26 voluntary disclosures have been included in the metrics table in Annex 2 of this report);
c) the scope of the target (the undertaking's activities, its upstream and/or downstream value chain and geographical boundaries);
d) the baseline value and base year;
e) the target period and any interim targets;
f) the methodologies and assumptions used to define targets, including where applicable, the selected scenario, data sources, alignment with national, EU or international policy goals;
g) whether the undertaking's targets are based on conclusive scientific evidence;
h) stakeholders involved in target setting
i) any changes in targets and corresponding metrics, data sources, etc. .
j) performance against disclosed targets, including information on how the target is monitored and reviewed.

(32). The disclosure shall include the following biodiversity specific information:

The organisation should describe the targets and goals it has established to manage its nature-related dependencies, impacts, risks and opportunities, and disclose performance against these targets and goals.
Targets in scope include:

- Targets for changes to impact drivers;
- Targets to improve or maintain the flow of ecosystem services
- Targets to halt and reverse nature loss and improve or maintain the state of nature;
- Targets for changes to business activities and processes correlated with dependencies and impacts;
- Enterprise-level targets directly or indirectly affecting nature-related dependencies, impacts, risks and opportunities (e.g. increased circularity).
- Other targets to address nature-related dependencies, impacts, risks or opportunities.

In all cases, targets should be specific and timebound, quantified with metrics that can be suitably measured and are relevant to the organisation's strategy or risk management plans, including the pursuit of opportunities

Disclosures for each target should include:

- the strategy or risk management objective the target seeks to address
- the metric used to quantify the target and monitor performance
- the targeted value of the metric
- the baseline year and level of the metric
- the timeframe for achieving the target
- interim targets or target trajectory
- methodology to set the target and baseline, including whether external standards were used for setting the target and whether these use a science-based approach;

The organisation shall

> **c.** report the goals and targets to halt and reverse biodiversity loss, whether they are informed by scientific consensus, the base year, and the indicators used to evaluate progress.

Guidance to 101-c: To halt and reverse biodiversity loss, the organization may have goals and targets to achieve **net positive impact, no net loss and net gain of biodiversity**, or to contribute to **nature positive goals**.

Guidance to 101-1-c

The organization should explain how it has defined these concepts and list the sources used to inform its definition.

When reporting on goals and targets, the organization should report how the goals and targets are set. For example, it can use the Science Based Targets Network (SBTN) target-setting tools and guidance or the SBTN and the TNFD Guidance for corporates on science-based targets for nature.

The organization should report how scientific consensus informed its goals and targets. For example, it can use national biodiversity strategies and action plans developed in the context of the Convention on Biological Diversity, or independent assessments of the ecological status of an area.

The organization should also report the baseline for the goals and targets and the timeline for achieving the goals and targets.

a) whether ecological thresholds and allocations of impacts to the undertaking were applied when setting targets (see below 2. Thresholds).
b) whether the targets are informed by, and/or aligned with the Kunming-Montreal Global Biodiversity Framework, relevant aspects of the EU Biodiversity Strategy for 2030 and other biodiversity and ecosystem-related national policies and legislation;
c) how the targets relate to the impacts, dependencies, risks and opportunities identified by the undertaking in relation to its own operations and its upstream and downstream value chain;
d) the geographical scope of the targets, if relevant
e) whether or not the undertaking used biodiversity offsets in setting its targets; and
f) to which of the layers of the mitigation hierarchy the target can be allocated (i.e., avoidance, minimisation, restoration and rehabilitation, compensation or offsets).

AR 22. The undertaking may specify whether the target addresses shortcomings related to the Substantial Contribution criteria for Biodiversity as defined in the delegated acts of the EU Taxonomy Regulation. Where the Do No Significant Harm (DNSH) criteria for Biodiversity as defined in delegated acts of the EU Taxonomy Regulation are not met, the undertaking may specify whether the target addresses shortcomings related those DNSH criteria.

- performance against the target relative to the baseline or reference condition on a historical and current year basis, updated annually, and expected performance against targets for the following year, if appropriate
- If the organisation exceeded or fell short of the target trajectory or is projected to do so, an explanation of the reasons and disclosure of any resulting adjustment or resetting of targets from the prior period; and
- whether and how the target aligns with or supports the targets and goals of the Kunming–Montreal Global Biodiversity Framework, the Paris Agreement on climate change, the SDGs, Planetary Boundaries and other global reference environmental treaties, policy goals and system-wide initiatives

Conclusion	**Target types are quite similar between ESRS and TNFD, as in both cases they should cover all material nature-related impacts, dependencies, risks and opportunities. Again, within GRI targets are related to impacts. All disclosure initiatives provide additional information on which type of targets are in scope. On this point, TNFD considers both process-related targets (impact drivers, state of nature, ecosystem services, business processes, …) as policy-related targets (e.g. GBF, planetary Boundaries) in scope of its recommendation. ESRS E4 refers to similar policy targets such as GBF and Planetary Boundaries but adds specific EU-related context (such as EU Biodiversity Strategy, EU Taxonomy). GRI 101 refers to goals and targets to achieve net positive impact, no net loss and net gain of biodiversity, or to contribute to nature positive goals. Specific requirements of ESRS E4 are related to reporting of offsets and to linking the targets to the layers of the mitigation hierarchy. Also, ESRS E4 puts emphasis on ecological thresholds and allocation of impacts (see below). Overall, there is a high correlation between ESRS and TNFD requirements in terms of the required content description of targets. GRI is less detailed.**		
3. Thresholds	In ESRS 4, ecological thresholds and allocation of impacts are mentioned in the context of target setting: (32 a). The disclosure shall include whether ecological thresholds and allocations of impacts to the undertaking were applied when setting targets. If so, the undertaking shall specify: i. the ecological thresholds identified and the methodology used to identify such thresholds; ii. whether or not the thresholds are entity-specific and if so, how they were determined; and iii. how responsibility for respecting identified ecological thresholds is allocated in the undertaking	In the description on the organisation's processes for identifying, assessing and prioritising nature-related dependencies, impacts, risks and opportunities, it is recommended to include whether and how ecological thresholds and tipping points have been considered. Useful information on thresholds and tipping points is provided in the LEAP Guidance (e.g. Box 15 in Section 5.5.4).	No reference to ecological thresholds.
Conclusion	**In contrast to GRI 101, both ESRS E4 and TNFD refer to the concept of thresholds. Within ESRS E4 this is linked to targets, while TNFD applies this concept in the process of identifying, assessing and prioritising nature-related DIRO. If the company is disclosing thresholds, ESRS requires to disclose a number of additional specifications.** .		

5. Action plan

ACTION PLAN			
	CSRD ESRS 1, 2, E4	**TNFD**	**GRI**
Document references	ESRS E4 E4-3		Disclosure 101-2 Management of biodiversity impacts
	(25) The undertaking shall disclose its biodiversity and ecosystems-related actions and the resources allocated to their implementation. 26. The objective of this Disclosure Requirement is to enable an understanding of the keyactions taken and planned that significantly contribute to the achievement of biodiversity and ecosystems-related policy objectives and targets. The undertaking: (a) may disclose how it has applied **the mitigation hierarchy** with regard to its actions (avoidance, minimisation, restoration/rehabilitation, and compensation or offsets); (b) shall disclose whether it used **biodiversity offsets** in its action plans. If the actions contain biodiversity offsets, the undertaking shall include the following information: i. the aim of the offset and key performance indicators used; ii. the financing effects (direct and indirect costs) of biodiversity offsets in monetary terms; and; a description of offsets including area, type, the quality criteria applied and the standards that the biodiversity offsets comply with; (c) shall describe whether and how it has incorporated **local and indigenous knowledge**	The TNFD recommends that organisations follow SBTN's Action Framework for the **mitigation hierarchy**, AR3T. The AR3T Framework includes four types of actions that should be followed sequentially: Avoid, Reduce, Regenerate and Restore. It further includes **transformative action**, which covers the ways organisations can contribute to needed systemic change inside and outside their value chains. With regards to **offsets**: TNFD adds the additional disclosure metric included under DIRO management: "Mandatory credit market schemes: Value of total biodiversity offsets purchased and sold by type and scope (geographies, activities)."	(101-2) The organization shall: **a/** report how it applies the **mitigation hierarchy** by describing actions: i. to **avoid** negative impacts on biodiversity; ii. to **minimize** negative impacts on biodiversity that were not avoided; iii. to **restore and rehabilitate** affected ecosystems, including the goals of the restoration and rehabilitation, and how stakeholders are engaged iv. to **offset** residual negative impacts on biodiversity; v. **transformative actions** taken and **additional conservation actions** taken; With reference to 101-2-a-iii, report for each site with the most significant impacts on biodiversity: i. the size in hectares of the area under restoration or rehabilitation; ii. the size in hectares of the area restored or rehabilitated; c. with reference to 101-2-a-iv, report for each offset: i. the goals; ii. the geographic location; iii. whether and how principles of good offset practices are met;

	and **nature-based solutions** into biodiversity and ecosystems-related actions. AR 18 to AR 21 provide more detailed prescriptions on for instance avoidance actions (the undertaking may disclose whether it considers an “avoidance” action plan), whether the key action plan is carried out only by the undertaking, using the undertaking’s resources, or whether it is part of a wider initiative to which the undertaking significantly contributes, etc. .	iii. whether and how the offset is certified or verified by a third party; b. list which of its sites with the most significant impacts on biodiversity have a biodiversity management plan and explain why the other sites do not have a management plan; c. describe how it enhances synergies and reduces trade-offs between actions taken to manage its biodiversity and climate change impacts; describe how it ensures that the actions taken to manage its impacts on biodiversity avoid and minimize negative impacts and maximize positive impacts for stakeholders
Conclusion	**ESRS, TNFD and GRI are quite aligned in terms of disclosure requirements on actions. They all adhere to the mitigation hierarchy but vary to some extent with regard to the required disclosure. GRI 101 is most demanding as it makes a description of how a company applies the mitigation hierarchy, mandatory. All frameworks require disclosure on offsets. GRI has a mandatory disclosure metric on geographical location of offsets while TNFD has an ‘additional’ disclosure metric (value of offsets). Finally, it’s worth mentioning that TNFD and GRI both ask to report on transformative action while there is no reference to this type of actions in ESRS.** .	

6. Metrics

METRICS			
	CSRD ESRS 1, 2, E4	**TNFD**	**GRI**
Document references	ESRS E4 (E4-5 and AR 27 to 38).	Targets and Metrics pillar A (risks and opportunities) and B (impacts and dependencies). Annex 1 of TNFD Recommendations (core 'global' disclosure metrics) Annex 2 of TNFD Recommendations (additional disclosure metrics)	GRI 101 DR 101-1 / 101-2 / 101-5 / 101-6 / 101-7 / 101-8
1. Level of synergies between metrics			
	ESRS E4 metrics cover the following topics (see Annex 1): location near biodiversity sensitive areas (obligatory), land use (partially obligatory), invasive alien species, ecosystem extent and condition, and species. Obligatory disclosures under DR E4-5 are limited (only 3 metrics, see Annex 1 and Annex 2). Within DR E4-5, the majority are voluntary disclosures. And many of these voluntary disclosures relate to direct operations (39 to 41). These metrics cover information on species extinction risk, habitat cover, ecosystem condition, connectivity, etc, which is in some cases further specified under AR 29 to AR 38. There are no disclosure metrics on ecosystem services.	The TNFD metrics that are most relevant for biodiversity cover the following topics (see Annexes 1 and 2): land use ('core'), invasive alien species, ecosystem extent and condition, species population size and extinction risk, ecosystem services and responses. Also under TNFD obligatory biodiversity related disclosure metrics are limited. TNFD has a series of 'core' and quite prescriptive indicators and metrics related to land and sea use change, which also includes high-risk natural commodities.	GRI metrics cover all categories, specified in Annex 1: location near biodiversity sensitive areas (obligatory), land use (obligatory), invasive alien species, ecosystem extent and condition (obligatory), species, ecosystem services (obligatory) and responses (obligatory). The number of obligatory disclosure metrics is relatively high.
Conclusion	**There are many overlaps in terms of the indicators between ESRS E4, TNFD and GRI, mainly in the fields of land use, invasive alien species, ecosystem extent and condition, and species. In terms of the metrics (the way indicators are measured) there are important differences which have a substantial impact on the efforts for data collection. TNFD has a series of 'core' indicators which all organisations are expected to report, including prescriptive indicators and metrics related to land and sea use change, which also includes high-risk natural commodities. There are also a number of areas which are not covered by every disclosure initiative (no disclosure metrics on ecosystem services under ESRS E4 although this information is required to assess dependencies; proximity to biodiversity sensitive areas is not included as a specific disclosure metric under TNFD although this information is covered by it). Disclosure on species remains voluntary under each of the disclosure initiatives, A final observation is that the number of obligatory disclosure metrics under GRI 101 is relatively high.**		

2. Information to be disclosed for each metric

The generic Minimum Disclosure Requirements (MDR) on metrics in **ESRS 2 Metrics MDR-M** (DR para. 73 – 77) need to be respected, such as:

- the requirement to disclose any metrics that it uses to evaluate performance and effectiveness of its actions to manage material sustainability matters (material impacts, risks or opportunities)
- the requirement to not only include metrics defined in ESRS, but also metrics identified on an entity-specific basis, whether taken from other sources or developed by the undertaking itself
- the requirement to disclose the methodologies and significant assumptions behind the metric, including the limitations of the methodologies used; as well as whether the measurement of the metric is validated by an external body other than the assurance provider and, if so, Ih body.

Furthermore, **E4-5 AR 27 to 28** are relevant.
(AR 27). The undertaking shall consider and may describe:

- a) the methodologies and metrics used and an explanation for why these methodologies and metrics are selected, as well as their assumptions, limitations and uncertainties, and any changes in methodologies made over time and why they occurred;
- b) the scope of the metrics and methodologies, for example: i. undertaking, site, brand, commodity, corporate business unit, activity; ii. Aspects (as set out in paragraph AR 4) covered.
- c) the biodiversity components of the metrics: species specific, ecosystem specific;
- d) the geographies covered by the methodology and an explanation of why any relevant geographies were omitted;
- e) how the metrics integrate ecological thresholds (e.g., the biosphere integrity and land-system change, planetary boundaries) and allocations;
- f) the frequency of monitoring, key metrics being monitored, and the baseline condition/value and

Metrics on impacts and dependencies should cover the organization's **impact drivers** associated with each material dependency and impact identified in Strategy A, indicating what the impact driver is (i.e. the type of pollutant emitted), the magnitude (i.e. the quantity of pollutant) and the location in which the impact driver occurs, with reference to Strategy D.

TNFD also recommends that the organization considers disclosing other elements of the dependency and impact pathway (qualitatively if quantitative metrics are not yet available) including: a) changes in the **state of nature** (e.g. ecosystem condition and extent, and species population size and extinction risk); b) changes in the availability of **ecosystem services**; c) actions, policies and strategies to manage these impacts and dependencies; d) aggregated impact drivers for the organization's direct operations, and upstream and downstream value chain(s) to the extent possible, and by product or service line if material.

Metrics should be reported:

- Against a clear and transparent baseline and/or reference condition where possible
- Separately for negative and positive impacts, not on a net basis
- With reference to whether they relate to the organization's direct operations, upstream value chain(s) or downstream value chain(s);
- With an absolute figure, the rate of change, and an intensity/efficiency ratio.

The organization should also disclose:

- If and how metrics have been aggregated, in line with general requirement 3 ('location of nature-related issues') and including the

Metrics disclosed under GRI should be compliant to GRI's reporting principles as specified in GRI 1: Foundation 2021. These reporting principles are accuracy, balance, clarity, comparability, completeness, sustainability context, timeliness and verifiability.

baseline year/period, as well as the reference period;

- g) whether these metrics rely on primary data, secondary data, modelled data or on expert judgement, or a mixture of these
- h) an indication of which action is measured and monitored via the metrics and how they relate to the achievement of targets;
- i) whether metrics are mandatory (required by legislation) or voluntary. If they are mandatory, the undertaking may indicate the relevant legislation; if voluntary, the undertaking may refer to any voluntary standard or procedure used; and
- j) whether the metrics are informed by or correspond to expectations or recommendations of relevant and authoritative national, EU-level or intergovernmental guidelines, policies, legislation or agreements, such as the Convention for Biological Diversity (CBD) or IPBES.

(AR 28) The undertaking shall disclose metrics that are verifiable and technically and scientifically robust considering the appropriate time scales geographies. To ensure that the metric is relevant there should be a clear relationship between the indicator and the purpose of the measurement. Uncertainties should be reduced as far as possible. Data or mechanisms used should be supported by well-established organisations and updated over time. Robust modelled data and expert judgment can be used where data gaps exist. The methodology shall be sufficiently detailed to allow for meaningful comparison of impacts and mitigation activities over time.

AR 29 requires the use of a baseline when metrics are used for measuring progress towards a target

scientific justification for aggregating metrics and/or locations (e.g. ecological equivalency or industry best practice with references), the methodologies used and any limitations or assumptions;

- A description of the methodologies, tools and data platforms used to obtain key data; the assumptions, tools and data platforms used to calculate or estimate nature-related indicators and metrics; and any limitations, including a lack of data or the use of proxy data and industry averages; and
- When appropriate, forward-looking nature-related indicators and metrics, consistent with its business or strategic planning time horizons.

Where possible, metrics should cover:

- Financial information about the effects of nature related risks and opportunities on the organization (see below);Insight into how the organization monitors actions, policies and strategies to manage risks and opportunities.

Indicators and metrics should also be disclosed for historical periods, including prior year comparisons to allow for trend analysis. When appropriate, the organization should disclose forward-looking nature-related indicators and metrics, consistent with its business or strategic planning time horizons.

The organisation should describe the methodologies and assumptions used to calculate or estimate nature related indicators and metrics, including any limitations.

Conclusion	**Overall, the type of information to be disclosed per metric is quite extensive (in particular under ESRS E4, although disclosure of much of the described information is voluntary) but largely similar to TNFD, despite some minor differences. The type of information to be disclosed under GRI 101 is not prescribed at the level of metrics but only at the general level of information to be disclosed.**

7. Financial effects

FINANCIAL EFFECTS			
	CSRD ESRS 1, 2, E4	**TNFD**	**GRI**
Document references	ESRS 2 SBM 3 ESRS E4-6	Strategy B	
Financial effects	48. The undertaking shall disclose: (d) the **current financial effects** of the undertaking's material **risks and opportunities** on its financial position, financial performance and cash flows and the material risks and opportunities for which there is a significant risk of a material adjustment within the next annual reporting period to the carrying amounts of assets and liabilities reported in the related financial statements; (e) the **anticipated financial effects** of the undertaking's material **risks and opportunities** on its financial position, financial performance and cash flows over the short-, medium- and long-term, including the reasonably expected time horizons for those effects. This shall include how the undertaking expects its financial position, financial performance and cash flows to change over the short, medium- and long-term, given its strategy to manage risks and opportunities, taking into consideration: i. its investment and disposal plans (for example, capital expenditure, major acquisitions and divestments, joint ventures, business transformation, innovation, new business areas and asset retirements), including plans the undertaking is not contractually committed to; and ii. its planned sources of funding to implement its strategy. 42. The undertaking shall disclose its anticipated financial effects of material biodiversity- and ecosystem-related risks and opportunities.	Risk management processes will need to be adjusted in the way risks are measured, possibly using and developing new methods to prioritise nature-related risks and opportunities, and **estimate the financial effects of these for the organisation to understand which could be disclosed as part of the materiality assessment.** The assessment of material risks and opportunities is based on estimation of the financial effects of these risks and opportunities on the business. Nature-related risks and opportunities have financial effects for an organisation through changes to: • Revenue, expenses and capital expenditure; • Access to and cost of capital (through, for example, re-ratings of its credit risk or insurance premiums); and • Carrying amount of assets and liabilities on the balance sheet. These transmission channels can have a positive or negative effect on credit, operational, market, liquidity, liability, reputational and strategic risk Strategy B The organisation should describe the **current and anticipated effects** of **nature-related risks and opportunities** on its financial position, performance and cashflow, including:	

43. The information required by paragraph 42 is in addition to the information on current financial effects on the entity's financial position, financial performance and cash flows for the reporting period required under ESRS 2 SBM-3 para 48 (d).

44. The objective of this Disclosure Requirement is to provide an understanding of:

(a) anticipated financial effects due to material risks arising from biodiversity- and ecosystem-related impacts and dependencies and how these risks have (or could reasonably be expected to have) a material influence on the undertaking's financial position, financial performance and cash flows over the short-, medium- and long-term; and

(b) anticipated financial effects due to material opportunities related to biodiversity- and ecosystem.

45. The disclosure shall include:

(a) a quantification of the anticipated financial effects in monetary terms before considering biodiversity and ecosystems-related actions or where not possible without undue cost or effort, qualitative information. For financial effects arising from material opportunities, a quantification is not required if it would result in disclosure that does not meet the qualitative characteristics of information (see ESRS 1 Appendix B Qualitative characteristics of information). The quantification of the anticipated financial effects in monetary terms may be a single amount or a range;

(b) a description of the effects considered, the impacts and dependencies to which they relate and the time horizons in which they are likely to materialise; and

- How the nature-related risks and opportunities have affected the financial position of the organisation in the reporting period
- The anticipated effects on revenues, expenses, cashflows, asset and liability values and funding sources over the short, medium and long term;
- Whether the organisation anticipates any significant investments or asset disposals as a result of the nature-related risks and opportunities identified;
- How nature-related risks and opportunities serve as an input to their financial planning processes

TNFD Recommendations Section 4.1 (The TNFD metrics architecture: A leading indicators approach)

Translating an evaluation of nature-related dependencies and impacts into an assessment of financial risks and opportunities is currently a challenging area for many organisations, in particular quantitatively identifying all points of contact with nature and translating biophysical metrics into financial values. When reporting risk and opportunity metrics, organisations are encouraged to describe where they are unable to measure the financial effects of a material dependency or impact and provide their best estimates.

TNFD LEAP Guidance Section 6.7.1. Financial effects of nature-related risks and opportunities

The measurement and prioritisation of nature-related risks and opportunities (in A2 and A3) helps the organisation understand the implications such risks and opportunities may have on its financial position, financial performance and cash flows (financial effects). This can be in the form of quantitative or qualitative information.

	(c) the critical assumptions used to quantify the anticipated financial effects as well as the sources and the level of uncertainty of those assumptions. AR 39. The undertaking may include an assessment of its related products and services at risk over the short-, medium- and long-term, explaining how these are defined, how financial amounts are estimated, and which critical assumptions are made. AR 40. The quantification of the anticipated financial effects in monetary terms under paragraph 45(a) may be a single amount or a range.	Determining the financial implications of nature-related risks and opportunities generally involves an organisation assessing its: • Potential for damages or benefits from identified risks and opportunities; • Planned responses; and • Response effectiveness. Forward-looking analysis is also important and can be informed by scenario analysis (see the TNFD scenarios analysis guidance for the TNFD's proposed approach to scenarios).
Conclusion	**Both ESRS and TNFD require an organisation to disclose the current and anticipated financial effects of its material risks and opportunities on its financial position, financial performance and cash flows. TNFD has developed extensive guidance on assessing and disclosing financial effects related to nature-related risks and opportunities (in its LEAP guidance). This characteristic is out of scope for GRI since it is related to risks and opportunities.**	

COLOPHON

TITLE REPORT

Thematic Report on Biodiversity disclosure initiatives

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ABOUT THE EU B@B PLATFORM

The EU B@B Platform is a forum for dialogue and policy interface to discuss the links between business and biodiversity at EU level. It was set up by the European Commission with the aim to work with and help businesses integrate natural capital and biodiversity considerations into business practices. The EU B@B Platform focuses its work on three thematic workstreams: Methods, Pioneers and Mainstreaming. ICF is supporting the European Commission in running the EU B@B Platform since 2013. Arcadis is leading the Methods Workstream.